SUCCESS AT SCALE IN CHARTER SCHOOLING

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Foreword

Teachers may be the most important element of an effective school, but does that mean that K-12 improvement must wait on the ability of schools or systems to recruit, nurture, and retain outstanding teachers? Such a strategy implies that widespread excellence hinges on the ability of publicly funded school systems to attract more than 3.3 million superstars—or more than 200,000 such hires a year. The challenge of recruiting our way to excellence is a daunting proposition.

Steven Wilson, a senior fellow with Education Sector and former chairman and CEO of Advantage Schools, is skeptical that it is a feasible one. In the enclosed AEI working paper, he notes that even today's successful charter schools have succeeded by creating a "No Excuses" culture reliant on their ability to attract talented and passionate recruits, but he questions whether these models are capable of working at the scale that the nation requires. Indeed, given the limited talent pool of promising hires and the exhausting demands these schools make of faculty, Wilson considers whether such models can ever effectively serve more than a handful of the nation's students.

Wilson's purpose here is not to question the value of these ventures but to illuminate the constraints of their current strategy and offer an alternative vision that may enable these success stories to continue to expand. Taking a close look at eight Boston-area No Excuses schools, he asks two questions: "Is the model sustainable? And can it be widely reproduced?" Given their heavy reliance on scarce human capital—particularly recent graduates of elite colleges and universities—he argues that scalability could be pursued through efforts to recruit *more* talent into teaching but that a more promising, overlooked strategy would provide teachers of varied abilities with comprehensive instructional systems demonstrated to produce academic results.

The American Enterprise Institute neither advocates for legislation nor takes institutional positions on policy matters but I hope that you find Wilson's essay as informative and thought provoking as I have. For other AEI education working papers, see www.aei.org/futureofeducation. For additional information on the activities of AEI's education policy program, please visit www.aei.org/hess or contact Ms. Juliet Squire at jsquire@aei.org.

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At least since President Lyndon Johnson announced his plan to move the nation "toward the Great Society," policymakers and philanthropists have sought a remedy to persistent academic underachievement in America's cities. While the charter school movement as a whole has disappointed, a small number of the new 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, appears to dominate. The Knowledge Is Power Program (KIPP) network of schools is the exemplar, but the approach is proliferating in other networks, including Achievement First, Uncommon Schools, and in stand-alone schools, many of which aspire to replicate themselves in the coming years. The growing attention these organizations are receiving is richly deserved. If scholarly research (addressing complexities like selection effects) confirms their apparent achievements, they will have demonstrated a schooling model that, with some consistency, turns around the academic trajectory of their students. That possibility has already created understandable excitement, attracted substantial philanthropic support for existing or aspiring No Excuses school networks, and drawn thousands of exceptional young people to work in urban education as classroom teachers, school leaders, and managers in No Excuses networks.

The critical question is now one of scale: If the No Excuses formula is behind most high-performing urban charter schools, is the approach sustainable, and can it be widely reproduced?

This paper looks closely at eight Boston-area No Excuses schools to assess whether the resources on which the model relies are widely available and what changes might make its promise for urban schooling more broadly realized.

The Gap-Closers

Seventeen years after Minnesota adopted the first charter school law, there are 4,046 charter schools operating in 41 states.[1] Advocates had expected that the structural 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 been assigned to it; and the freedom from tenure and union contracts—would prove decisive. These privileges alone did not unleash a new generation of dramatically superior schools, as many charter proponents had hoped.

For more than a decade, charter school advocates steadfastly defended the performance of the new schools, invoking research studies that found favorable outcomes for charter schools while alleging design flaws in studies that did not.[2] Granted, only a few schools posted eye-popping results. But many could claim their students were learning faster than in surrounding district schools and in a safer and more caring environment. And nearly all were popular with their parents.

But recently, some of the movement's most prominent leaders have begun to voice their own concerns—even their exasperation—with the indifferent results of many, if not most, charter schools.

The vast majority of charter schools are only modestly better than traditional public schools, averred Matt Candler, former vice president of school development for KIPP, the largest and best-known charter network. Addressing an audience of charter enthusiasts at a fall 2007 conference at the American Enterprise Institute (AEI) in Washington, he contended that, at most, 200 schools nationwide are truly excellent. They are the "gap-closers," schools that serve students of color from economically disadvantaged families and post achievement levels that rival—and sometimes exceed—suburban school districts. "Replicate the very best [schools]," he

exhorted his audience, many of whom fund or authorize charters. "Don't do school intervention," he said. When faced with low-performing schools, "close them." [3]

Candler's speech was a call to arms in the charter community: Disown weak schools and close the lowest-performing. Deny charters to all but the most credible applicants. And authorize only new gap-closing schools. If not, the charter movement is destined to fail.

In his talk at AEI, Matt Candler cited just two gap-closing charter schools by name: TEAM Academy in Newark, New Jersey and Amistad Academy in New Haven, Connecticut. TEAM Academy, whose 360 students in grades five through eight have outperformed their peers in the Newark schools on state tests in every year in every grade and subject, is part of the KIPP network. It was established in 2002 to replicate the striking academic results of two schools, one in the Bronx and the other in Houston.[4] Today, KIPP operates 57 small schools in 16 states and the District of Columbia, with a total enrollment of some 14,000 students. Nearly 80 percent of students who completed eighth grade at KIPP have matriculated to college, the organization reports.[5] Amistad Academy, whose founders visited the original KIPP Academy in Bronx, New York and were inspired by many of its practices, enrolls 270 students in grades 5 through 8.[6] Despite their socioeconomic disadvantage, the school's students consistently beat the statewide average on the Connecticut Mastery Tests (CMTs) in reading, writing, and math, and for years have outpaced students in surrounding affluent districts such as Westport, Madison, and Greenwich on the eighth grade writing test.[7] Achievement First, a charter management organization (CMO), established by Amistad's founders to replicate its success, today operates 11 schools in New Haven and Bridgeport, Connecticut, and Brooklyn, New York, which together enroll some 2,500 students.[8]

If Candler had cited a third gap-closing school, it might have been North Star Academy, also in Newark. It has amassed an equally impressive, demographics-defying record: Ninety-

five percent of North Star graduates have gone on to college.[9] The school's co-founder went on to launch Uncommon Schools, a third non-profit CMO, which now counts nine schools in New York City, upstate New York and Newark, New Jersey.[10] Together, the highest-performing schools in the three networks may account for one-third to one-half of all gap-closing schools nationwide.

These organizations and other charter school replication projects have attracted tens of millions of dollars of philanthropic investment from charter school funders. The five largest philanthropic backers of charter schools, each with assets over $1 billion, include in their portfolios the NewSchools Venture Fund, a venture philanthropy which backs primarily charter management organizations; the Charter School Growth Fund; or individual CMOs. Several of the most influential foundations, including the Walton Foundation, are shifting away from making grants to individual schools and toward investing in established school networks and replication projects that have already demonstrated achievement results.

The gap-closing schools and projects to replicate them are also increasingly popular with charter authorizers and the media. After the New York State legislature raised the cap on charters in 2007, the Charter School Institute of SUNY, one of the country's most influential authorizers, approved eight charters—all affiliated with charter networks.[11] In a lengthy and much-noted article in the *New York Times Magazine,* Paul Tough extolled the achievements of the three organizations. An educational system "that educates most (if not all) poor minority students to high levels of achievement," he concludes, is "within reach." It is not too late for the federal No Child Left Behind Act to succeed, he wrote. "We know now, in a way that we did not when the law was passed, what it would take" to achieve the law's goal of universal proficiency by 2014. "And if the law does, in the end, fail—if in 2014 only 20 or 30 or 40 percent of the country's

poor and minority students are proficient—then we will need to accept that its failure was not an accident and was not inevitable, but was the outcome we chose."[12]

The No Excuses Model

The educational methods of KIPP, Achievement First and Uncommon Schools are strikingly similar. Highly educated, driven, and generally young teachers lead their students in a rigorous academic program, tightly aligned with state standards, that aims to set every child on the path to college. The approach has been dubbed "No Excuses" schooling because founders and staff steadfastly reject explanations from any quarter for low achievement, whether a district apologist's appeals to demographic destiny or a child's excuse for failing to complete an assignment. The approach has the following general attributes:[13]

Table 1. No Excuses Model Attributes

Dimension		Attribute	Summary Description
1	Size	Small schools	Many schools open with just one grade and fewer than 100 students; at maturity, schools typically enroll between 200 and 400 students.
2	Faculty	Highly selective teacher hiring	Schools devote extraordinary attention to recruiting driven, intellectually capable teachers who are willing to log long hours, can work collaboratively with their peers, and embrace the school's mission and beliefs.
3	Pedagogy	Teacher led, whole class instruction	Students are generally taught as an entire class using direct instruction methods, where concepts are presented explicitly and taught to mastery. Teaching is expected to be animated and interactive, but progressive pedagogies of inquiry and discovery learning are used sparingly.
4	Education standards and lesson planning	Lessons tightly and explicitly aligned to state education standards	The schools embrace state standards and all instruction is tightly aligned to them; teachers identify the specific lesson objective at the start of each lesson and teach to it. Lesson planning is seen as a science as much as an art.
5	Testing	Pro-testing; support rather than resist high-stakes state tests	High student performance is the unrelenting focus, and schools embrace standardized tests without apology as the objective measure of student attainment. Schools make frequent use of interim assessments to diagnose and adjust instruction.

6	Class size	Large class sizes	Classes are as large as 30 students; schools believe large classes can be highly effective and do not support claims of academic benefits from modest reductions in class size.
7	Discipline and school culture	Highly disciplined environment; achievement as key to discipline	Schools adopt explicit standards for student conduct, with tight discipline and uniform consequences for infractions. Staff "sweat the small stuff," like uniform infractions, to avert larger problems. Academic success fosters order, and vice versa. Schools deliberately and unapologetically shape students' values, teach effective habits, and promote long-term goals, including admission to selective high schools and colleges.
8	Technology	Education technology not an important component of the school	Schools make little use of educational technology except for assessment and school management.
9	School day and year	Extended day and year	The school day is longer than the district's, and Saturday classes and summer school are frequently offered, if not mandatory. The schools believe more time on task is needed for their students to catch up with their peers in affluent schools, for which there are no short cuts. Wasted time is avoided.
10	Expectations and accountability	Relentless pursuit of excellence; staff accountable for results	The principal sets ambitious goals for achievement and holds to them unyieldingly. Staff are held personally accountable for the learning of their students; there are consequences to individual teachers for failure and success. Teachers are frequently observed and assessed and work together to continually improve their practice.
11	Choice	Schools of choice, for students and teachers	The schools are schools of choice, not zoned schools. Staff members choose to work in the school rather than being assigned to it by a central office. Children and adults choose to participate in the program and commit to put in the time and effort required to achieve success.
12	Parent contracts	Parents sign compact with school acknowledging expectations	Schools establish clear expectations for parents, including for getting their child to school on time.
13	Management	Strong and empowered school leaders	Schools benefit from strong, driven school leaders who have full power over personnel and budget, unlike at most district schools.
14	Unionization	Not unionized	Schools are generally not unionized, with staff hired at will or on one-year contracts.
15	Organizational form	Charter schools	Schools are nearly always organized as charter schools.

Source: An early codification of No Excuses schooling was provided by Samuel Casey Carter, "No Excuses: Lessons from 21 High-Performing, High-Poverty Schools," (Washington, D.C.: Heritage Foundation, 2001).

Scaling the No Excuses Model

To better understand the challenges in sustaining and scaling the No Excuses schooling model, I researched high-achieving charter schools in Boston. I selected the city for two reasons.

First, Boston is well known for the quality of its charter schools. Second, no Boston charter school was initiated by a school network or CMO, such as Achievement First; any common characteristics cannot therefore be attributed to the models of one or more networks.[14]

Boston's High-Performing Charters

There are currently 16 charter schools in Boston.[15] To select the subject schools, I ranked the students' performance in their school's exit year on both the mathematics and English language arts (ELA) components of the Massachusetts Comprehensive Assessment System (MCAS), one of the country's most respected high-stakes exams. For each school, I averaged the sum of the percentages of students in the two highest categories of performance, "Proficient" and "Advanced/Above Proficient," on the 2007 math exam with the sum of the percentages of students in the same categories on the ELA exam to yield a composite percentage of students in these two highest categories of performance. The "exit year" is the last grade in which students served by the school are tested. For instance, fifth grade is the exit year for an elementary school serving up to grade five, eighth grade for a middle school serving grades five through eight, and tenth grade for a high school.[16]

The Subject Schools

As shown in *Table 2*, seven Boston charter schools had a composite exit proficiency of 75 percent or higher and were selected for study: Academy of the Pacific Rim Charter Public School, Hyde Park; Edward Brooke Charter School, Roslindale; Boston Collegiate Charter School, Dorchester; Excel Academy Charter School, East Boston; Boston Preparatory Charter Public School, Hyde Park; the Media and Technology Charter High School, Kenmore Square; and the Roxbury Preparatory Charter School, Roxbury.[17] The KIPP Academy Lynn Charter School, a middle school just outside the metropolitan Boston area, was also included because

KIPP is the largest and best known network of high-performing charter schools in the country and there is no KIPP school in Boston itself.

Table 2. Qualification of Subject Schools

	Boston Charter School (and KIPP Lynn)	Grades Served	Percent Advanced/Above Proficient or Proficient MCAS, 2007						
			10th grade ELA	10th grade Math	7th or 8th grade ELA	7th or 8th grade Math	5th or 6th grade ELA	5th or 6th grade Math	**Average of ELA and Math**
1	Boston Day and Evening Academy Charter School	9-12	16	14					**15**
2	Uphams Corner Charter School	5-8			48	10			**29**
3	Boston Renaissance Charter Public School	K-6					45	39	**42**
4	Smith Leadership Academy Charter Public School	6-8			76	28			**52**
5	Codman Academy Charter Public School	9-12	61	45					**53**
6	Conservatory Lab Charter School	K-5					70	50	**60**
7	Neighborhood House Charter School	PreK-8			84	37			**60.5**
8	Health Careers Academy Horace Mann Charter School	9-12	60	69					**64.5**
9	City on a Hill Charter Public School	9-12	72	76					**74**
10	KIPP Academy Lynn Charter School	5-8			83	68			**75.5**
11	Academy of the Pacific Rim Charter Public School	5-12	69	91					**80**
12	Edward Brooke Charter School	K-1, 5-8			91	75			**83**
13	Boston Collegiate Charter School	5-12	83	89					**86**
14	Excel Academy Charter School	5-8			86	91			**88.5**
15	Boston Preparatory Charter Public School	6-9			98	84			**91**
16	Media and Technology Charter High School (MATCH)	9-12	83	100					**91.5**
17	Roxbury Preparatory Charter School	6-8			92	94			**93**
	Boston Public Schools	PreK-12	50	55	55 (8th)	27 (8th)	40 (5th)	33 (5th)	**--**
	State	PreK-12	71	69	75 (8th)	45 (8th)	63 (5th)	51 (5th)	**--**

Subject Schools' Academic Results

Another measure of MCAS performance is the Composite Performance Index (CPI), a value ranging from 0 to 100, which the Massachusetts Department of Education derives by weighting the number of schools in each performance category.[18] All eight subject charter schools outperformed the Boston Public Schools in English, math, and science at the five exit grade levels on the CPI. In the three highest exit grades, 7, 8, and 10, all subject schools also outperformed the statewide average in all three subjects, except for tenth grade ELA and eighth grade science.

Detailed information on the academic performance of each subject school, as measured by results on the 2007 MCAS test, is found in the Appendix, *Tables A1* to *A12.*

Subject Schools' Student Demographics

The eight schools are small; they enroll an average of just 307 students. Together, the seven Boston schools educate 2,149 students, just 3.8 percent of the 57,279 students in the Boston Public Schools.

The schools educate a student population demographically very similar to the Boston public schools. The average percentage of low-income schools is 66.8, compared to 71.4 in the Boston Public Schools. Seventy-eight percent of the charter schools' students are African American or Hispanic, compared to 76.0 percent in the district as a whole.

Further information on each school, including the year founded and the number of enrolled students, is found in *Table 3*. The demographic characteristics of each school's students, including race/ethnicity and poverty, are shown in *Table 4.*

Table 3. Subject School Enrollment, Grades Served, and Year Opened

School	Location	Enrolled Students	Grades Served	Year Opened
Academy of the Pacific Rim	Hyde Park, Boston	475	5-12	1997
Boston Collegiate	Dorchester, Boston	414	5-12	1998
Boston Preparatory	Hyde Park, Boston	270	6-9	2004
Edward Brooke	Roslindale, Boston	366	K-1, 5-8	2002
Excel Academy	East Boston	204	5-8	2003
KIPP Lynn	Lynn, Massachusetts	304	5-8	2004
MATCH	Allston/Brighton, Boston	220	9-12	2000
Roxbury Prep	Roxbury, Boston	200	6-8	1998
Average		*307*		
Total		2453		
Boston		57279	K-12	

Source: www.kipplynn.org/about.php, accessed July 14, 2008; www.pacrim.org/our_story.htm, accessed July 14, 2008; www.bostoncollegiate.org, accessed July 14, 2008; www.bostonprep.org/school_overview.html, accessed July 14, 2008; www.matchschool.org/about/facts.htm, accessed July 14, 2008; www.roxburyprep.org/docs/overview.htm, accessed July 14, 2008; http://www.excelacademy.org/about-us.html, accessed July 14, 2008; http://boston.k12.ma.us/bps/enrollment.asp, accessed March 30, 2008.

Table 4. Subject School Demographics

School	% Low Income	% African American	% Asian	% Hispanic	% Native American	% White	% Pacific Islander	% Multi-Race
Academy of the Pacific Rim	51.9	57.4	2.5	15.5	0	23.3	0	1.3
Boston Collegiate	42.0	27.4	1.5	6.1	0.5	63.6	0	1.0
Boston Preparatory	74.3	71.7	0	21.6	0	6.7	0	0
Edward Brooke	66.7	75.7	0.8	21.3	0	1.1	0	1.1
Excel Academy	75.5	8.8	1.5	69.1	1.5	18.1	0	1.0
KIPP Lynn	83.9	20.4	1.6	55.3	0	18.1	0.3	4.3
MATCH	70.7	61.7	1.8	29.7	0	4.1	0.5	2.3
Roxbury Prep	69.7	61.1	0	32.8	1.5	0	0	4.5
Average	66.8	48.0	1.2	31.4	0.4	16.9	0.1	1.9
Boston	71.4	39.3	8.5	36.7	0.4	13.4	0.1	1.5
State	29.5	8.1	4.9	13.9	0.3	70.8	0.1	1.9

Source: http://profiles.doe.mass.edu, accessed July 14, 2008.

Subject School Models

Using the schools' own descriptions, as provided in annual reports filed with the Massachusetts Department of Education and on the schools' websites, I examined how closely each school aligned with the No Excuses model. While there are important differences among their designs and programs, seven of the eight manifested nearly all of the 15 characteristics, as shown in *Table 5*. MATCH's program shares many No Excuses characteristics, including small size, embrace of standards, frequent testing, a much longer school day (from 8:30am to 5:00pm), extremely selective teacher hiring, and a rigorous, "no shortcuts" work ethic. But the school also emphasizes small class sizes (the average is 19 students) and a unique, daily one-on-one tutoring component provided by "outstanding recent college graduates from the best universities around the nation who work full time as tutors, teaching assistants, and coaches in exchange for an AmeriCorps stipend and housing."[19]

Table 5. Alignment of Subject Schools with the No Excuses Attributes

	Attribute	Academy of the Pacific Rim	Boston Collegiate	Boston Preparatory	Edward Brooke	Excel Academy	KIPP Lynn Academy	MATCH	Roxbury Preparatory
1	Small student population (<500 students)	475/ 8 grades	414/ 8 grades	270/ 4 grades	366/ 6 grades	204/ 4 grades	304/ 4 grades	220/ 4 grades	200/ 3 grades
		✓	✓	✓	✓	✓	✓	✓	✓
2	Teacher led, whole class instruction	✓	✓	✓	✓	✓	✓	✗	✓
3	Embrace of standards	✓	✓	✓	✓	✓	✓	✓	✓
4	Frequent testing, data intensive	✓	✓	✓	✓	✓	✓	✓	✓
5	Standard or large size classes (20 or more students, when school is mature)	✓	✓	✓	✓	✓	✓	✗	✓
6	Highly disciplined	✓	✓	✓	✓	✓	✓	✓	✓
7	No use of technology for instruction	✓	✓	✓	✓	✓	✓	✗	✓
8	Extended day and year	✓	✓	✓	✓	✓	✓	✓	✓
9	Audacious expectations, clear accountabilities	✓	✓	✓	✓	✓	✓	✓	✓

10	Unusually selective teacher hiring	✓	✓	✓	✓	✓	✓	✓	✓
11	School of choice	✓	✓	✓	✓	✓	✓	✓	✓
12	Parent contract*	✓	✓	✓	✓	✓	✓	✓	✓
13	Empowered school leader	✓	✓	✓	✓	✓	✓	✓	✓
14	Not unionized	✓	✓	✓	✓	✓	✓	✓	✓
15	Charter school	✓	✓	✓	✓	✓	✓	✓	✓

* Schools may request and strongly advise parents to enter into the contract but not compel them to do so.

Source: School web sites; interviews with school staff; interview with Sue Walsh of Building Excellent Schools, April 8, 2008.

Scarce Inputs?

Does the No Excuses model rely on scarce inputs? To determine whether the No Excuses model can be sustained and scaled to serve tens of thousands more students, we need to ask if the model relies on resources that are not readily available, such as more students drawn from motivated families, privileged funding levels, or rare human capital like teachers with exceptional educational backgrounds or unusual levels of commitment. Before turning to the question of human capital, I look at three other types of inputs that may influence the achievement results of No Excuses schools.

Parent Engagement

Could the schools be benefiting from unusually engaged parents? Richard Rothstein, a prominent critic of KIPP, research associate at the Economic Policy Institute, and former national education columnist of the *New York Times*, has contended that the network schools educate a non-representative group of students. Granted, KIPP schools do not choose their students—as with all charter schools, applicants are chosen by lottery if a KIPP school is oversubscribed—and they may arrive to the school performing on average no better than their district peers on standardized tests. Yet, Rothstein contends that KIPP schools benefit from motivated parents who have chosen the schools and acceded to the schools' unusual demands of both themselves and their children.[20] Rothstein is careful, however, not to attribute the schools' apparent effectiveness solely to involved parents.

In truth, it is extraordinarily difficult to test such assertions because a double-blind study in education is impracticable. Even if it were possible, parental motivation cannot properly be conceived of as an externality to schooling or as a finite resource in each community. If other schools adopted expectations of parents similar to KIPP's and other No Excuses schools, more

parents might become more engaged in their children's schooling and be prepared to meet similar requirements for support.

Student Population

There is no evidence that the subject schools select students according to race, ethnicity, or income, thereby "creaming" those students who may be easier to educate than other students. As shown in *Table 4,* the schools enroll a population demographically much like that of the Boston Public Schools. In fact, some of the highest-performing Boston charters have the highest percentage of low-income students.

Another way in which No Excuses schools might select their students, however unwittingly, is by failing to fill vacated seats. Student attrition policies in charter schools have as yet received little attention, but are comparatively easy to study and could have potent effects.

District schools must, at least in principle, enroll any student at any time regardless of grade. Little is as yet known about the attrition policies of No Excuses schools, but some schools and networks quietly acknowledge that it is their policy not to fill empty seats midyear or above a certain grade. If some students leave because they are struggling academically in the program or are unwilling to meet the program's unusual demands, the policy may yield a positive selection effect, such that average test scores and college acceptance rates are higher than they would be if those struggling students remained enrolled. Further, keeping vacated seats unfilled relieves the school of incorporating new students who have not benefited from the program in prior years and are likely to perform at levels below their classmates.

Richard Stutman, president of the Boston Teachers Union, alleged in a letter to his members that the Boston charter schools do a "terrible" job retaining students. He accused MATCH in particular of "evicting" students: He claimed the school "has a dropout rate of close

to 70 percent from 9th grade to 12th grade…. MATCH constantly takes pokes at the BPS while bragging about its own alleged 100 percent student acceptance rate at college. What MATCH doesn't brag about is its incredibly high eviction rate of students. Nor does it brag about what happens to them."[21]

The question here is complex. If some students leave because a No Excuses charter school rigorously enforces a code of discipline, could not the district schools do so as well? MATCH puts it this way:

> We work relentlessly to keep kids and parents at MATCH who want to leave. Why do they leave? The number one reason is "It's too hard. I can go to a different public high school and get easy grades with very little homework." So sure, from a kid's perspective, we're offering the educational equivalent of spinach and the other school is offering Twinkies. But why is that our fault? Wouldn't you expect a critic to ask instead—why don't other schools offer high academic expectations so that students are choosing between spinach and broccoli? The number two reason kids choose to leave our school is "I don't like the rules." … [The rules are no different,] the difference is that we *enforce* the rules…. If there's not a clear disciplinary response, who is advocating for the kids and the teacher disrupted by a steady stream of late arrivals? Again, wouldn't you expect a critic to ask: Why don't other schools enforce *their* existing rules so that students can't easily transfer out of the schools which *do* enforce them?[22]

Funding

Can the superior results of the subject schools be attributed to a funding advantage? Every Massachusetts charter school must file a report annually with the state's Department of Education with financial statements of revenues and expenses.[23] As the Department does not prescribe reporting definitions, comparisons across charter schools and districts are imprecise. Yet an initial examination of funding levels suggests that, with the exception of MATCH, the subject schools do not benefit from extra financial resources. Total per student expenditures in the subject schools, calculated by dividing total expenses by enrollment, are similar to that of the Boston Public Schools. As shown in *Table A15*, the average per student spending in the eight schools is $13,742, 17 percent *less* than that of the Boston Public Schools, which reported

spending $16,467 per student. (MATCH is an exception, with per student spending of $17,759.)[24]

This analysis significantly understates an actual financial disadvantage for charter schools relative to district schools. Charter schools must pay for their facility costs (rent or mortgage expense) out of their operating funds, while district schools occupy school buildings paid for by separate appropriations for which charter schools are not eligible. For charter schools nationally, this occupancy cost averages 12 percent of total spending.[25]

Human Capital

Do the No Excuses schools depend on rare human capital? If so, what does that mean for bringing the model to scale? To explore the question, I examined the educational background of the faculty of the eight subject schools. At six of the eight schools (data were not available for Academy of the Pacific Rim and KIPP Lynn Charter School), I was able to identify the undergraduate institutions attended by teachers. *Barron's Profiles of American Colleges 2007* categorizes higher education institutions by their enrollment selectivity, with seven categories: most competitive, highly competitive, very competitive, competitive, less competitive, non competitive, and special.[26] To classify each institution, Barron's factors in median entrance examination scores for the freshman class on the SAT I (an average of the median verbal reasoning and median mathematics scores) and the ACT (median composite score), the percentage of freshmen scoring above a certain threshold on the tests, the percentage of freshman graduating from the upper ranks of their high school classes, the minimum class rank and grade point average required for admission (if any), and the percentage of applicants accepted. Evidently, each institution places varying emphases on each of these factors in weighing admission decisions.[27] Within four of these categories, Barron's further identifies the most

selective institutions based on acceptance rate and SAT and ACT scores. The highest Barron's category, "most competitive," includes the eight Ivy League schools, elite liberal arts schools like Amherst College, and top state-sponsored schools including UCLA, the University of Virginia, and the University of North Carolina at Chapel Hill. The second category, "highly competitive," includes such institutions as Bryn Mawr College, Ohio State University, and Babson College. To permit an analysis of the aggregate characteristics of each school's faculty, I coded the categories from 0 to 5, with top schools within each category assigned an intermediate code, as shown in *Table 7*.

Table 7. Barron's Selectivity Categories

Category	Example Institutions	Code
Most Competitive	Ivy League colleges; Amherst College, Ponoma College, Rice University, University of Virginia	5
Highly Competitive +	American University, Boston University, Dickinson College, University of California at Berkeley	4.5
Highly Competitive	Baylor University, Northeastern University, Ohio State University, Syracuse University	4
Very Competitive +	Drake University, Kalamazoo College, Southern Methodist University, University of Denver	3.5
Very Competitive	Auburn University, Brigham Young University, Saint Lawrence University, University of San Francisco	3
Competitive +	California State Polytechnic University, Carroll College, Endicott College, Missouri State University	2.5
Competitive	Arizona State University, High Point University, Louisiana Tech University, Sacred Heart University, San Diego State University	2
Less Competitive	Keystone College, New Jersey City University, Regis College, Woodbury University	1
Non Competitive	Davenport University, Mountain State University, Weber State University	0
Special	Berklee College of Music, Rhode Island School of Design	S

Summary characteristics of the faculty at the subject schools are shown in *Table 8.* For each subject school faculty member's educational institution and its selectivity ranking, see *Table A14* in the Appendix.

Table 8. Undergraduate Characteristics of Subject School Academic Staff Members

Characteristic	Finding		
Average Staff Barron's Level	4.1		
Level 5	55.9%	} **82.9%**	}**70.6%**
Level 4 or 4.5	14.7%		
Level 3 or 3.5	12.3%		
Level 2 or 2.5	13.2%		
Level 1	2.5%		
Level 0 or S	1.5%		

n=204

The average ranking of the 204 staff members in the six subject schools for which data were available (86 percent of the subject schools' staff) was 4.1. More than half—55.9 percent—attended a school that received Barron's most competitive ranking, level 5. Over 70 percent attended a level 4 or higher institution (highly competitive or most competitive) and 82.9 percent a level 3 (very competitive) or higher. Only 2.5 percent graduated from a level 1 institution.

From these data, it is clear that at least these No Excuses schools do rely on rare human capital. The educational background of staff in the subject schools is markedly different from that of public school teachers as a whole. A 2002 paper by Hamilton Lankford, Susanna Loeb, and James Wyckoff found that some 25.3 percent of New York City teachers who taught in urban schools had received their bachelor degrees from Barron's least competitive institutions (level 1), compared to 2.5 percent of teachers in subject schools.[28] Another study, by Dan Goldhaber, Michael DeArmond, Albert Liu, and Dan Player, found that 19.2 percent of public school teachers attended a selective institution (level 3 or higher), versus the 82.9 percent of the subject schools' teachers.[29]

It is possible that the characteristics of the Boston schools are not representative of No Excuses schools as a whole, but this appears unlikely. I examined the educational background of the academic staff of eight No Excuses charter schools outside of Boston for which data were available: KIPP WAYS Academy in Atlanta, KIPP Academy in Houston, KIPP LA Prep in Los

Angeles, KIPP Bayview Academy in San Francisco, KIPP DIAMOND Academy Charter School in Memphis, North Star Academy Charter School in Newark, Williamsburg Collegiate in Brooklyn, and Kings Collegiate Charter School also in Brooklyn (the last three schools are members of Uncommon Schools). As with the subject schools, faculty members were most likely (36.7 percent) to have attended level 5 institutions (most competitive); 55.7 percent had attended level 4 or higher schools, and 77.3 percent level 3 or higher, as shown in *Table 9.*

Table 9. Undergraduate Characteristics of Academic Staff Members of Seven No Excuses Schools Outside Boston

Characteristic	Finding		
Average Staff Barron's Level	3.7		
Level 5	36.7%	} **77.3%**	} **55.7%**
Level 4 or 4.5	19.0%		
Level 3 or 3.5	21.6%		
Level 2 or 2.5	17.1%		
Level 1	5.1%		
Level 0 or S	0.6%		

n=158

While the evidence is anecdotal, it appears that other No Excuses schools rely on teachers who attended top tier institutions.

The Scarcity of No Excuses Talent

The Boston No Excuses schools draw their teachers primarily from the most selective colleges and universities. Many have been trained and acculturated by Teach For America, not by education schools, as most career educators. The result is a labor pool with not only fundamentally different academic preparation for the classroom but also attitudes and beliefs different from (if not opposing) those of the traditional teacher labor pool.

The qualities No Excuses schools seek in teacher candidates mirror these differences. Unsurprisingly, Achievement First places a candidate's attendance at a "top notch university" at the top of its list of 23 attributes in its summary of "teacher quality" (see *Figure 1*).[30] Second is a

"high GPA" and "legitimate major." Achievement First prefers "two to five years teaching experience." Candidates are sought who have a "history of getting high student achievement, tight discipline and culture," believe that "measurable student achievement is the number one goal," and "[like] standards, statewide testing, and accountability." Student achievement is a part of a teacher's evaluation.

This stands in stark contrast with urban school districts; the president of the United Federation of Teachers, Randi Weingarten, supported legislation passed by the New York State Assembly that would *prohibit* school districts, including New York City, from considering the performance of a teacher's students on tests (whether levels or value added gains) when evaluating whether or not to grant tenure.[31] Other attributes in *Figure 1* reflect the CMO's rejection of educational progressivism, tracing back to Rousseau, which has for decades pervaded teaching colleges. Good teachers, according to Achievement First, have "no 'romantic' view of education; knows it takes being persistent, insistent, consistent." A good teacher, for these organizations, is "NOT a constructivist, 'student-centered' …meaning kids get to pick the curriculum, ed-school-ly type."

Contrast these convictions with a survey of more than 1,000 fourth and eight grade teachers throughout the United States. Repudiating the central premise of the standards movement, the study found that nearly three-quarters of teachers subscribe to the philosophy of most schools of education that the purpose of schools is to assist students in "learning how to learn." Only one in seven agreed that educators' central responsibility is to "teach students specific information and skills."[32]

Figure 1. Achievement First Teacher Attributes

Teacher Candidate Profile

- Top-notch University
- High GPA, Legitimate Major
- Passionate about urban education
- Two to five years teaching experience
- History of getting high student achievement, tight discipline and culture
- Measurable student achievement is the number one goal
- Likes standards, statewide testing, accountability
- Likes a structured, predictable environment for students; likes (and demands) walking in silent lines, students raising hands
- Likes our focus on standards, ongoing assessments
- NOT a constructivist, "student-centered" … meaning kids get to pick the curriculum, ed-school-ly type
- Has "presence" in interviews, classroom
- Not afraid to be the authority, to set the rules
- Willing to invest time in student relationships
- No "romantic" view of education; knows it takes being persistent, insistent, consistent
- Strict, No Excuses classroom
- Being "creative" not as important as being effective
- Hard-working, almost driven, willing to go the extra mile
- Team player
- Positive, can-do attitude
- Willing to learn the Achievement First curriculum and systems
- Willing to take feedback, improve
- Sees teaching as a professional job, not an hourly count

Source: Achievement First Teacher Profile

The number of candidates possessing such educational credentials and commitment is obviously few. To consider just how few, consider only the educational credential and put aside all the additional attributes stipulated by Achievement First, including the amount of teaching experience and desired beliefs and behaviors. In 2006, approximately 1.5 million students graduated from four year colleges.[33] Of these, 9.5 percent, or 141,956, attended a Barron's level 4 or higher institution ("highly competitive" to "most competitive"). But this represents less than a third of the 449,155 teachers employed by just the member districts of the Council of Great City Schools (CGCS).[34] This disparity suggests a severe human capital constraint in bringing the No Excuses model to scale.

In Boston, this scaling constraint is *already* being felt by the subject schools—even though they (excluding KIPP Lynn) together enroll as yet only 3 percent of the enrollment of the Boston Public Schools. Even though metropolitan Boston boasts the world's greatest concentration of colleges and universities, including several of the most selective, the city's No Excuses schools battle for scarce talent. Yutaka Tamura, executive director of Boston's Excel Academy, said that competition over human capital is his greatest concern in contemplating expansion of his program's current reach of 178 students. Excel's candidate teachers are all being recruited by the other "star charter schools" in Boston—and are often lost to them, he said.[35]

Expanding the Teacher Pool

One potential solution to this constraint is to dramatically expand the pool of teachers who come from top tier colleges and universities. Each year, approximately 140,000 students graduate from one of the 123 Barron's level 4 or higher institutions.[36] Imagine that fully one in ten entered teaching on a short term basis and served for two years, akin to the Peace Corps, before entering the more lucrative professions for which they are typically destined. At any given time, 28,000 corps members would be teaching (more than twice the number of annual Peace Corps volunteers at its peak in the 1960s).[37] Imagine further that this human capital were directed exclusively to the most underserved population, students in the largest urban districts. CGCS represents the 66 largest districts enrolling some 7.2 million students, which employ 449,155 teachers.[38] Therefore, even with such an initiative, only about 6 percent of the CGCS students would be taught by such a teacher. Even were fully *one-half* of all such graduates to dedicate two years to teaching in CGCS schools, a wholesale change in the early careers of America's educated elite, only one-third of urban students would benefit at any time from such a teacher.

Such a scenario is not inconceivable. Already, Teach For America, which recruits college seniors to commit to two years of teaching in the nation's neediest school districts, is one of the most popular destinations for graduating students from top colleges and universities. Perhaps graduates are inspired by the many accolades TFA has garnered: sixth in CollegeGrad.com's annual survey of the top 500 employers for college graduates; tenth on *Business Week*'s list of the "Best Places to Launch a Career" (and highest among nonprofits); one of 43 winners of the 2007 *Fast Company*/Monitor Group Social Capitalist Awards; and one of the best entry level jobs according to Princeton Review.[39] Fully 11 percent of the senior class at Amherst College applied for the program, as did 10 percent at the University of Chicago and Duke University, and more than 8 percent of the graduating seniors at Notre Dame, Princeton, and Wellesley. In 2007, more than 18,000 applicants applied for the 2,900 teaching spots open to new corps members, for a 16 percent acceptance rate. The 2007 TFA corps earned an average GPA of 3.6 and received an average SAT score of 1321 out of 1600; nearly all members (93 percent) held leadership positions on their campuses."[40] The reach of the program has grown dramatically since its founding, from 500 corps members in 1990 to more than 5,000 current corps members and over 12,000 alumni today. Wendy Kopp, the program's founder and president, has set a goal of 7,500 corps members by 2010.[41]

Recasting teacher preparation could also increase the number of candidates with the qualities CMOs look for in their teachers. Recognizing this need to reinvent teacher education, KIPP, Achievement First, and Uncommon Schools have joined together with Hunter College's education school to create a new, two-year training program, provisionally called the Teacher YOU Training Institute, which permits new teachers to receive alternative certification from New York State and a master's degree from Hunter College. The dean of Hunter College, David

M. Steiner, is a blunt critic of education schools. In a study of sixteen such schools he wrote while a professor of education at Boston University, he described the coursework required for teacher candidates as largely "intellectually barren" and of little utility in the classroom. Norman Atkins, chief executive officer of Uncommon Schools cites "people, the challenges around human capital" as his organization's "single largest challenge." By 2011, the training program aims to admit 500 students a year.[42] The founders predict that half a million children could be affected by the Institute within the next ten years.[43]

Even were programs like Teacher YOU to proliferate and TFA to realize its growth objectives, these initiatives alone would fall well short of the needs of the No Excuses model at scale.

Making the Job Manageable

A second approach would be to accept that the labor pool on which the No Excuses schools currently rely is too small to ever meet the needs of all the nation's urban schools. The availability of teacher candidates who have attended the most selective colleges and universities and who are prepared to work extraordinarily long hours to ensure their students' success is sharply limited. Even if more such graduates could be drawn into teaching, it is likely that only a portion would stay beyond the two years. The long hours they are expected to work become unmanageable once these teachers (mostly young women) marry and take on family responsibilities. Anecdotal evidence indicates that "burnout" and resulting staff turnover in many No Excuses schools are high. These limits impose a challenge to scaling the No Excuses model (and perhaps even to sustaining the results of existing schools). Could the engine of No Excuses schooling be modified so that it could be fueled by more broadly available human capital?

Imagine the broad swath of career educators who, though they may not have attended elite colleges and universities, are nonetheless committed to rigorous academic standards, the continuous improvement of their craft, and a path to college for every child. Could they be equipped with a powerful set of tools—provided the intellectual property—that permitted them, too, to produce gap-closing results? And enjoy a sustainable work schedule and pay scale that permits them to remain in teaching and raise a family?

Consider the job of the No Excuses teachers. KIPP Bronx was one of the first to establish the expectation that teachers work very long days. Teachers arrived before classes began at 7:30 in the morning and stayed until the students' day ended at five, and then were expected to be on call by pager or cell phone as their students tackled two hours of homework.[44] Consistent with their heritage, No Excuses schools often expect teachers to devise curricular and pedagogical systems largely for themselves: In the most extreme cases, starting from the year-end learning standards for the state, they backward-plan by breaking down long-term goals into bundles of objectives and mapping these across the years, select from the materials available or develop their own, create or obtain diagnostics and periodic assessments, create pacing charts, and devise lesson plans that align with objectives.[45] Granted, many teachers from top universities find such an assignment intellectually engaging; many TFA fellows found it unavoidable given the curricular dysfunction of their school district placements. And the creation of intellectual property undoubtedly fosters—especially for teachers of an intellectual bent—a sense of ownership. But is it necessary, and is it the most efficient way to organize schooling? If teachers neither had to remedy years of prior failed schooling nor forge their own tools, then the job would be far more manageable.

No Excuses schools rely on nearly heroic efforts by teachers because they inherit students who have been promoted from grade to grade without mastering essential skills at each grade level. Each child presents his or her teacher with an accumulated array of undiagnosed knowledge gaps that impede the acquisition of further knowledge and a growing disaffection with schooling. Identifying and then filling these gaps across a class of twenty-five or more students, rebuilding their motivation to learn and freeing them of destructive habits, while also ensuring the mastery of new, grade-level material (which relies on mastery of precursor material) is indeed an extraordinary undertaking. It requires the teacher to possess unusual analytic skill, agility in shaping the curriculum, personal drive, capacity to engage students, and, not least, time.

Fortunately, the formation of such gaps in the first instance is largely avoidable if schools are willing to organize themselves for efficient learning. First, schools generally assemble an array of instructional and assessment materials, each purchased from commercial purveyors or developed piecemeal by their own staff. Putting aside the poor quality of many of these materials, the loose couplings between components of various programs hobble learning through gaps in content, sequencing errors, pedagogical differences, and idiomatic inconsistencies. Exacerbating these defects are placement decisions that enroll children in classes by age rather than prerequisite knowledge, not teaching content to mastery, poor pacing of instruction, subjective grading, poorly structured lessons, and lax behavioral expectations.

Efforts to equip schools with comprehensive solutions to these problems have fallen out of favor in the education reform community. That is unfortunate, because several such initiatives have shown promise. Direct Instruction, developed in the 1960s as part of the War on Poverty, then, as now, was derided by the education establishment but shown to be far more effective at

scale than more fashionable progressive interventions—not just at fostering basic skills in reading and math, but also at promoting higher-order thinking and positive self regard.[46] More recently, schools equipped with and committed to the Core Knowledge program have posted striking outcomes. For instance, when P.S. 124 in Ozone Park in Brooklyn implemented Core Knowledge's highly specific instructional sequence, fourth grade proficiency levels on state tests rose by 50 percentage points—this in a school of 895 students staffed by career educators.[47] These and other systematic designs have spotty records, because only when they are implemented exactingly and with conviction by the entire school staff are results realized; these conditions rarely obtain in public schools under prevailing governance and labor structures.

Another promising program is that of SABIS, an international operator of college preparatory schools.[1] SABIS's schooling model has much in common with that of the No Excuses schools: a college preparatory focus; teacher led, whole-class instruction; explicit lesson objectives aligned with state standards; frequent testing; large class sizes; tight discipline; clear staff accountabilities; schools structured as charters free of district collective bargaining contracts; and empowered school leaders. SABIS differs from the No Excuses schools in its deployment of its proprietary instructional materials according to specific protocols, (600 short books, spanning all grades and academic subjects, through advanced placement classes in high school), electronic weekly assessments that provide teachers prompt feedback on students' mastery of the material (so that concepts may be re-taught as necessary and gaps in knowledge do not form), pacing charts, and school management software that links the system's components. A school-wide system of peer tutoring and school culture-building tools encourages students to take responsibility for their own learning and that of their peers.

[1] I have started a nonprofit organization, Ascend Learning, which is licensing the SABIS education system; our schools aim to combine the SABIS system with the leadership and cultural practices of the No Excuses model.

In 1995, SABIS contracted with a founding board of trustees to open a charter school in Springfield, Massachusetts. Today the SABIS International Charter School enrolls 1,500 students in kindergarten through the twelfth grade (61 percent as many as that of all the subject schools combined) and has the largest waiting list, some 2,677 students, of any Massachusetts charter school. For the past seven years, every SABIS high school student has been admitted to an institution of higher learning.[48] The school attracts a diverse population, measured by both race and family income. As shown in *Table A16*, in the tenth grade, the last grade tested by the state, the percentage of SABIS Springfield low-income students proficient or above in math is 37 points greater than that for comparable district students (63 percent to 26 percent). In ELA, 88 percent of the SABIS-educated students are proficient or above, versus only 32 of the district students, a 52 point spread. One hundred percent of 10th grade SABIS students who had been in the school for at least two years passed the ELA portion of the test and 97 percent passed the math portion.[49] Low-income SABIS students have closed the proficiency gap with their peers statewide (all income levels)—exceeding their performance on both the math and ELA exams.[50] In 2008, *Newsweek* named the school just one of three urban "top U.S. high schools" in Massachusetts (MATCH was another).[51]

SABIS Springfield's results do not depend on faculty with exceptional educational backgrounds working unusually long hours. Teachers work an eight hour, five day work week, and turnover is low. The school reports that twenty-eight teachers have been teaching at the school for ten or more years. As shown in *Table A17,* 20.8 percent of teachers attended a category 3 or higher undergraduate institution. They are experienced educators; on average, they have been teaching for nearly nine years. None are former TFA corps members.[52]

Ironically, such systematic approaches pose a challenge in recruiting teachers. Many career educators have a long standing aversion, fanned by unions and schools of education, to external oversight; powerful norms protect the teacher's "autonomous sphere of private discretion" and are more likely to celebrate teacher innovation than measurable effectiveness.[53] Even TFA-style teachers, while embracing accountability and uniform standards of excellence, may greet such education systems not as an asset to their practice but rather as discordant with the individualistic challenges in which they excelled in high school and college.

Conclusions and Recommendations

The new bargain that charter legislation extended—authority and autonomy in exchange for accountability—sparked thousands of education entrepreneurs to create new schools. Despite the energy and commitment of their founders, most charter schools have failed to decisively outperform their district competitors. Seventeen years after Minnesota became the first state to pass charter legislation, the number of charter schools that are truly "gap-closers"—where urban or rural students, despite their economic disadvantage, are performing on par with their more affluent, typically suburban peers—is small. There are perhaps as few as 200 nationwide.

Our research found that the eight highest-performing, gap-closing charter schools in the Boston area adhere to the No Excuses model. Two questions guided our research: Is the model sustainable? And can it be widely reproduced? I looked to see if the eight schools rely on privileged inputs, whether of students or of financial or human capital. There is no evidence that the schools enroll a demographically different population from that of the Boston Public Schools (although they may benefit from more motivated families), and the schools (with one exception) operate at lower cost than the district average (if occupancy costs are considered).

Turning to human capital, I found that more than half of the subject schools' staff attended the highest level ("most competitive") undergraduate institutions, and fully 82 percent attended a very competitive or higher level school—compared to 19 percent of public school teachers generally. The schools rely on staff willing to work very long days; the majority of No Excuses teachers are young women who have yet to take on family responsibilities and so are able to commit to this extraordinarily demanding work schedule.

This high level of commitment is well suited to the zeitgeist of today's highly educated new college graduates, who believe in the power of their individual actions, are suspicious of centralized bureaucracies and standardized practices, and conceive of themselves as "social entrepreneurs." Teach For America exemplifies this spirit,[54] where individual fellows are placed in an underperforming school and called on to do whatever it takes to succeed with the students in their individual classrooms. The mission is almost *more* alluring because of the storied dysfunction of the schools in which they are placed.

But if the No Excuses model is dependent on such an exotic labor pool, it could sharply limit its deployment and capacity for improving urban schooling on a large scale. The total number of college graduates from Barron's "highly competitive" or "most competitive" institutions in the United States is approximately 141,956 annually. If fully 10 percent entered into teaching for a two year period before moving onto other careers, it would provide 27,655 such educators annually, only 6 percent of the 438,914 teachers at work in the CGCS' 66 member school districts.

We examined two approaches for overcoming this scaling constraint. The first is a wholesale restructuring of teacher recruitment, whereby intellectually gifted college students routinely devote two years to teaching in high-need urban schools, as do the more than 5,000

students from elite universities serving in the Teach For America program today. For every student in a CGCS school to be taught by a teacher with such a background would require a teacher corps two orders of magnitude larger than TFA today.

As improbable as that may seem, it should not be dismissed out of hand. For one, it may prove a necessity if the United States is to remedy the dismal performance of its primary and secondary education system.[55] The top performing education systems, such as those in Finland and Singapore, draw their teachers from the top third of college graduates; by contrast, our urban school systems draw their teachers primarily from the bottom third. However, the SAT scores of prospective teachers passing teacher licensing tests has risen (albeit modestly) in the last ten years in the United States, as have their college grades,[56] and Teach For America is among the most popular choices for graduating college seniors at top universities.

If we must rely on scarce human capital to close the achievement gap, there are several steps that will help. Legislative action should be taken to encourage young and highly educated students to go into teaching, especially in urban and rural schools. This includes eliminating certification requirements that require completing courses in education schools. Teacher pay should also be increased. Teachers should be paid for their performance in the classroom, not for their seniority or degrees earned. Requirements and incentives, whether statutory or contractual, to reduce class size can be eliminated; there is no empirical evidence to support them and hiring more teachers depresses teacher pay.

A second solution to the problem of scale would be to adapt the model to a more broadly available pool of capable career educators, such that teachers with typical academic preparation, working a sustainable work week, could achieve gap-closing results with disadvantaged urban students. If teachers were provided a powerful instructional system—placement tests and guides

for class formation; a sequential, content-rich curriculum tightly linked to state standards and taught to mastery; frequent electronic assessments; detailed pacing charts, and so on—then skilled career educators of varying backgrounds might be able to achieve results similar to those posted by the No Excuses schools. If teachers were no longer asked to develop lesson plans that can reach a class dotted with students who lack the precursor skills and knowledge to make sense of the intended curriculum, the job would be far more manageable. A schoolteacher can no more successfully introduce algebra to students who have not mastered division than a college professor can teach an advanced chemistry class to students who have not completed the basic course.

Philanthropists, policymakers, and charter authorizers should reconsider their aversion to investing in the development of intellectual property development that fosters teacher effectiveness, including curricula, instructional programs, and comprehensive "school designs." While early sponsors of such designs like New American Schools failed to demonstrate strong and consistent academic results, the reason for their failure is now well understood and avoidable.[57] We now know that faithfulness to a design is essential to achieving consistently strong results. New initiatives can be sponsored that test how well such tools work in raising student achievement when implemented exactingly, and obstacles in law and policy that degrade implementation quality—such as the prohibition on charter operators holding charters directly—can be removed.

Whatever the limits of scale prove for No Excuses schooling, its impact on public education will be profound. Even if only five percent of the students in an urban system are educated in No Excuses schools, many others will benefit indirectly. Individual schools, the approach has demonstrated, can close the achievement gap, and a precondition is not, as some

policymakers have argued, wholesale social transformation.[58] As importantly, the new schools have attracted highly educated and ambitious young graduates from top universities to teach in underserved communities, seeding a new generation of educational leaders. Many will go on to become principals, policymakers, and social entrepreneurs, engaged in the transformation of public education in their communities.

But the reach of the No Excuses model will be sharply constrained by limits in the human capital on which it appears to rely. To bring the model to scale will require one or both of two measures: a dramatic expansion in the number of elite college graduates who teach in urban public schools (if only for a period of several years), or the widespread deployment of educational systems that enable a more broadly available workforce to consistently succeed in educating their students to a high standard.

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Appendix

Table A1. Grade 10, ELA (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	**%**	#	**%**	#	**%**		
Academy of the Pacific Rim	4	**11**	22	**58**	***69***	10	**26**	2	**5**	86.2	38
Boston Collegiate	4	**14**	20	**69**	***83***	4	**14**	1	**3**	94	29
MATCH	5	**11**	33	**72**	***83***	8	**17**	0	**0**	94	46
Boston	446	**11**	1592	**39**	***50***	1481	**37**	525	**13**	78.1	4044
State Total	15684	**22**	35302	**49**	***71***	17251	**24**	4234	**6**	87.9	72471

Table A2. Grade 10, Math (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	**%**	#	**%**	#	**%**		
Academy of the Pacific Rim	26	**72**	7	**19**	***91***	2	**6**	1	**3**	95.1	36
Boston Collegiate	16	**55**	10	**34**	***89***	3	**10**	0	**0**	97.4	29
MATCH	35	**76**	11	**24**	***100***	0	**0**	0	**0**	100	46
Boston	1317	**33**	863	**22**	***55***	1048	**27**	723	**18**	76.6	3951
State Total	29755	**42**	19647	**27**	***69***	15553	**22**	6737	**9**	85	71692

Table A3. Grade 8, English Language Arts (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	0	**0**	48	**77**	***77***	14	**23**	0	**0**	92.7	62
Boston Collegiate	9	**16**	42	**74**	***90***	6	**11**	0	**0**	97.4	57
Boston Preparatory	1	**3**	36	**95**	***98***	1	**3**	0	**0**	99.3	38
Edward Brooke	0	**0**	40	**91**	***91***	4	**9**	0	**0**	96.6	44
Excel Academy	5	**7**	54	**79**	***86***	8	**12**	1	**1**	95.6	68
Roxbury Prep	6	**12**	39	**80**	***92***	4	**8**	0	**0**	98	49
Boston	172	**4**	2158	**51**	***55***	1272	**30**	606	**14**	79.5	4208
State Total	9142	**12**	46847	**63**	***75***	13735	**18**	4709	**6**	89.5	74433

Table A4. Grade 8, Math (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	5	**8**	31	**48**	***56***	22	**34**	6	**9**	80.5	64
Boston Collegiate	8	**14**	35	**61**	***75***	12	**21**	2	**4**	90.4	57
Boston Preparatory	11	**29**	21	**55**	***84***	6	**16**	0	**0**	95.4	38
Edward Brooke	9	**20**	24	**55**	***75***	11	**25**	0	**0**	91.5	44
Excel Academy	31	**46**	30	**45**	***91***	6	**9**	0	**0**	97	67
Roxbury Prep	24	**49**	22	**45**	***94***	3	**6**	0	**0**	98	49
Boston	305	**7**	831	**20**	***27***	1315	**31**	1760	**42**	56.4	4211
State Total	12835	**17**	20711	**28**	***45***	22280	**30**	18493	**25**	70.2	74319

Table A5. Grade 8, Science (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	0	**0**	8	**13**	***13***	39	**61**	17	**27**	56.3	64
Boston Collegiate	1	**2**	23	**40**	***42***	28	**49**	5	**9**	75	57
Boston Preparatory	2	**5**	22	**58**	***63***	13	**34**	1	**3**	84.2	38
Edward Brooke	0	**0**	20	**45**	***45***	24	**55**	0	**0**	80.7	44
Excel Academy	0	**0**	12	**18**	***18***	47	**70**	8	**12**	62.7	67
Roxbury Prep	3	**6**	21	**43**	***49***	23	**47**	2	**4**	80.1	49
Boston	6	**0**	342	**8**	***8***	1591	**38**	2268	**54**	44.1	4207
State Total	2181	**3**	21986	**30**	***33***	32443	**44**	17647	**24**	65.9	74257

Table A6. Grade 7, English Language Arts (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	3	**4**	55	**74**	***78***	15	**20**	1	**1**	92.9	74
Boston Collegiate	5	**9**	40	**69**	***78***	13	**22**	0	**0**	91.4	58
Boston Preparatory	0	**0**	48	**74**	***74***	17	**26**	0	**0**	91.5	65
Edward Brooke	6	**12**	35	**70**	***82***	9	**18**	0	**0**	94.5	50
Excel Academy	8	**16**	35	**70**	***86***	5	**10**	2	**4**	93.0	50
KIPP Lynn	2	**4**	44	**79**	***83***	6	**11**	4	**7**	91.5	56
Roxbury Prep	10	**16**	44	**70**	***86***	8	**13**	1	**2**	93.7	63
Boston	106	**3**	1867	**46**	***49***	1360	**33**	739	**18**	74.6	4072
State Total	6858	**9**	44181	**60**	***69***	16897	**23**	5641	**8**	86.9	73577

Table A7. Grade 7, Math (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	6	**8**	29	**39**	***47***	27	**36**	12	**16**	74	74
Boston Collegiate	13	**22**	29	**50**	***72***	11	**19**	5	**9**	86.6	58
Boston Preparatory	6	**9**	36	**55**	***64***	20	**31**	3	**5**	84.6	65
Edward Brooke	3	**6**	18	**36**	***42***	27	**54**	2	**4**	77.5	50
Excel Academy	7	**14**	21	**43**	***57***	16	**33**	5	**10**	82.1	49
KIPP Lynn	11	**19**	28	**49**	***68***	13	**23**	5	**9**	85.5	57
Roxbury Prep	8	**13**	37	**59**	***72***	18	**29**	0	**0**	90.1	63
Boston	243	**6**	800	**20**	***26***	1236	**30**	1816	**44**	54.2	4095
State Total	10722	**15**	22837	**31**	***46***	22185	**30**	17848	**24**	70.4	73592

Table A8. Grade 6, English Language Arts (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	1	**1**	38	**51**	***52***	30	**40**	6	**8**	79.3	75
Boston Collegiate	10	**11**	58	**66**	***77***	19	**22**	1	**1**	91.5	88
Boston Preparatory	2	**2**	45	**44**	***46***	40	**39**	15	**15**	75.5	102
Edward Brooke	2	**3**	51	**65**	***68***	23	**29**	2	**3**	88.5	78
Excel Academy	4	**8**	37	**71**	***79***	10	**19**	1	**2**	93.8	52
KIPP Lynn	4	**5**	47	**62**	***67***	22	**29**	3	**4**	88.5	76
Roxbury Prep	3	**4**	47	**63**	***67***	21	**28**	4	**5**	85.7	75
Boston	136	**4**	1247	**35**	***39***	1523	**42**	706	**20**	70.9	3612
State Total	6758	**9**	42112	**58**	***67***	18574	**25**	5443	**7**	86.4	72887

Table A9. Grade 6, Math (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Academy of the Pacific Rim	18	**25**	23	**32**	***57***	24	**33**	7	**10**	79.2	72
Boston Collegiate	29	**33**	39	**44**	***77***	17	**19**	3	**3**	91.2	88
Boston Preparatory	18	**18**	41	**40**	***58***	35	**34**	8	**8**	80.6	102
Edward Brooke	21	**27**	24	**31**	***58***	25	**32**	8	**10**	81.4	78
Excel Academy	19	**37**	20	**38**	***75***	10	**19**	3	**6**	88	52
KIPP Lynn	20	**27**	32	**43**	***70***	21	**28**	2	**3**	88	75
Roxbury Prep	26	**35**	31	**41**	***76***	14	**19**	4	**5**	89.7	75
Boston	318	**9**	719	**20**	***29***	1113	**31**	1486	**41**	57.4	3636
State Total	14896	**20**	23565	**32**	***52***	20133	**28**	14295	**20**	75.5	72889

Table A10. Grade 5, English Language Arts (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	***%***	#	**%**	#	**%**		
Boston Collegiate	6	**8**	32	**45**	***53***	32	**45**	1	**1**	83.5	71
Edward Brooke	3	**6**	22	**47**	***53***	18	**38**	4	**9**	80.9	47
KIPP Lynn	4	**4**	44	**49**	***53***	31	**35**	10	**11**	80.3	89
Boston	247	**7**	1246	**33**	***40***	1511	**40**	796	**21**	70.8	3800
State Total	10495	**15**	34215	**48**	***63***	20233	**28**	6377	**9**	84.6	71320

Table A11. Grade 5, Math (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		Proficient or Proficient+/ Advanced	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	%	#	**%**	#	**%**		
Boston Collegiate	8	**11**	21	**30**	41	29	**41**	13	**18**	70.8	71
Edward Brooke	3	**7**	17	**37**	44	22	**48**	4	**9**	73.9	46
KIPP Lynn	7	**8**	29	**32**	40	46	**51**	9	**10**	73.9	91
Boston	410	**11**	844	**22**	33	1282	**34**	1271	**33**	62.3	3807
State Total	13418	**19**	23108	**32**	51	22009	**31**	12817	**18**	75.7	71352

Table A12. Grade 5, Science (MCAS, 2007 results)

School/District	Proficient+/Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
	#	**%**	#	**%**	**%**	#	**%**	#	**%**		
Boston Collegiate	3	**4**	29	**41**	***45***	38	**54**	1	**1**	80.3	71
Edward Brooke	2	**4**	19	**41**	***45***	23	**50**	2	**4**	79.9	46
KIPP Lynn	10	**11**	42	**46**	***57***	32	**35**	7	**8**	82.4	91
Boston	134	**4**	653	**17**	***21***	1819	**48**	1205	**32**	58.4	3811
State Total	10080	**14**	26095	**37**	***51***	26522	**37**	8641	**12**	78.9	71338

Table A13. SABIS Springfield MCAS, 2007 results

Grade	Subject	Proficient+/ Advanced		Proficient		***Proficient or Proficient+/ Advanced***	Needs Improvement		Warning/Failure		CPI	Total#
		#	**%**	#	**%**	***%***	#	**%**	#	**%**		
3	ELA	8	**7**	51	**46**	***53***	49	**44**	4	**4**	82.1	112
	Math	8	**7**	46	**41**	***48***	44	**39**	14	**13**	76.3	112
4	ELA	0	**0**	29	**26**	***26***	76	**67**	8	**7**	70.6	113
	Math	11	**10**	19	**17**	***27***	67	**59**	16	**14**	66.8	113
5	ELA	8	**7**	39	**35**	***42***	57	**51**	8	**7**	77.5	112
	Math	12	**11**	30	**27**	***38***	37	**33**	34	**30**	62.8	113
	Science	8	**7**	40	**35**	***42***	52	**46**	13	**12**	73.2	113
6	ELA	1	**1**	50	**43**	***44***	62	**53**	4	**3**	79.1	117
	Math	8	**7**	30	**26**	***33***	43	**37**	36	**31**	62.2	117
7	ELA	3	**2**	98	**72**	***74***	34	**25**	2	**1**	90.5	137
	Math	1	**1**	20	**15**	***16***	67	**49**	48	**35**	53.5	136
8	ELA	8	**5**	117	**70**	***75***	38	**23**	4	**2**	91.2	167
	Math	17	**10**	44	**26**	***36***	73	**43**	34	**20**	67.7	168
	Science	1	**1**	39	**23**	***24***	89	**53**	39	**23**	61.5	168
10	ELA	13	**15**	62	**70**	***85***	13	**15**	0	**0**	95.7	88
	Math	30	**34**	33	**38**	***72***	25	**28**	0	**0**	90.6	88

Table A14. Colleges Attended by Subject School Faculty Members

Subject School	Subject Taught/Role	Undergraduate Institution	Barron's Ranking
The MATCH School	Humanities	DePaul University	4
The MATCH School	Math	Boston College	5
The MATCH School	Deputy Executive Director	New York University	5
The MATCH School	Science/Math	University of Michigan	4
The MATCH School	Spanish	Connecticut College	5
The MATCH School	Founder	Duke University	5
The MATCH School	History	University of Massachusetts Amherst	2.5
The MATCH School	Assistant Principal	UCLA	5
The MATCH School	English	Sweet Briar College	3
The MATCH School	Science	University of Rhode Island	2
The MATCH School	Humanities	Clark University	3.5
The MATCH School	Mathematics	Dartmouth College	5
The MATCH School	College Counselor	University of Minnesota	4
The MATCH School	Humanities	Clark University	3.5
The MATCH School	Principal	Dartmouth College	5
The MATCH School	Biology	MIT	5
The MATCH School	Executive Director	Princeton University	5
The MATCH School	Academic Dean	Duke University	5
The MATCH School	Director of Special Projects	Spelman College	3
The MATCH School	Teacher Advisor	Boston College	5
The MATCH School	Mathematics	Boston University	4.5
The MATCH School	English	Boston College	5
The MATCH School	Academic Resource Director	Brandeis University	5
The MATCH School	Director of Development	Boston College	5
Boston Collegiate	Math	University of Wisconsin	4
Boston Collegiate	French/Spanish	University of Connecticut	4
Boston Collegiate	Math	Georgetown College	2.5
Boston Collegiate	History	University of Chicago	5
Boston Collegiate	Dean of Curriculum	Fordham	4
Boston Collegiate	PE	Providence College	4
Boston Collegiate	History	Yale University	5
Boston Collegiate	English	University of Wisconsin	4
Boston Collegiate	French	University of Dakar	5
Boston Collegiate	Art	Loyola University	3
Boston Collegiate	Art	Rhode Island School of Design	
Boston Collegiate	History	Haverford College	5
Boston Collegiate	Dean of Students	University of Massachusetts	2
Boston Collegiate	English	Williams College	5
Boston Collegiate	History	Willamette University	3.5
Boston Collegiate	Math	Fairfield University	4
Boston Collegiate	Dean of Administration	Dartmouth College	5
Boston Collegiate	English	Hamilton College	5
Boston Collegiate	Middle School Principal	Brown University	5
Boston Collegiate	History/English	Bowdoin College	5
Boston Collegiate	English	Messiah College	3.5

Boston Collegiate	Special Needs	Concordia University, McGill University	3
Boston Collegiate	Special Needs	Boston College	5
Boston Collegiate	Science	Dickinson College	4.5
Boston Collegiate	French	Colby College	5
Boston Collegiate	Science	University of New Hampshire	3
Boston Collegiate		Boston University	4.5
Boston Collegiate		Eastern Nazarene College	1
Boston Collegiate	Art	Tufts University	5
Boston Collegiate	Science	College of William and Mary	5
Boston Collegiate	Drama	Suffolk University	2
Boston Collegiate	History	Princeton University	5
Boston Collegiate	High School Principal	Dickinson College	4.5
Boston Collegiate	Founder	Brown University	5
Boston Collegiate	School Counselor	Duke University	5
Boston Collegiate	English	Boston College	5
Boston Collegiate	English	Williams College	5
Boston Collegiate	Math	Wheaton College	4.5
Boston Collegiate	Math	St. Michaels College	3
Boston Collegiate	Special Needs	Roanoke College	3
Boston Collegiate	English	Dartmouth College	5
Boston Collegiate	Special Education	University of Massachusetts Boston	2
Boston Collegiate	Executive Director	Williams College	5
Boston Collegiate	Math, Science	University of Puget Sound	4
Boston Collegiate	English	Cornell University	5
Boston Collegiate	English	Bard College	4.5
Boston Collegiate	Math, Science	Siena College	3.5
Boston Collegiate	Science	University of Massachusetts Amherst	2.5
Roxbury Prep	Co-Director	Swarthmore College	5
Roxbury Prep	Co-Director	Colgate University	5
Roxbury Prep	Math	Harvard College	5
Roxbury Prep	Math	Harvard College	5
Roxbury Prep	Science	MIT	5
Roxbury Prep	Graduate Services Coordinator	Connecticut College	5
Roxbury Prep	School Counselor	Salem State College	1
Roxbury Prep	Learning Specialist	University of Florida	4
Roxbury Prep	English	Amherst College	5
Roxbury Prep	History	Swarthmore College	5
Roxbury Prep	Math	University of Kansas	3
Roxbury Prep	History	Columbia University	5
Roxbury Prep	Reading	St. Michaels College	3
Roxbury Prep	History	Brown University	5
Roxbury Prep	Math	UCLA	5
Roxbury Prep	PE	Springfield College	2
Roxbury Prep	College and High School Placement Director	Williams College	5
Roxbury Prep	Math	Amherst College	5
Roxbury Prep	Reading	Oberlin College	5
Roxbury Prep	Math	Lesley College	2

Roxbury Prep	Graduate Services Coordinator	Wesleyan University	5
Roxbury Prep	Science	Duke University	5
Roxbury Prep	Math	University of Rochester	5
Roxbury Prep	Reading	Regis College	1
Roxbury Prep	English	Harvard College	5
Roxbury Prep	Science		
Boston Prep	Science	Colgate University	5
Boston Prep	English	Dartmouth College	5
Boston Prep	Math	Amherst College	5
Boston Prep	Speech	State University of New York Geneseo	4.5
Boston Prep	English	Loyola University	3
Boston Prep	Dean of Support Services	Boston College	5
Boston Prep	Special Education	Simmons College	3
Boston Prep	English	Brown University	5
Boston Prep	Science	University of Minnesota	4
Boston Prep	Director of Operations	Princeton University	5
Boston Prep	Principal	Tulane University	5
Boston Prep	Math	Williams College	5
Boston Prep	Math	MIT	5
Boston Prep	Special Education	University of Vermont	3
Boston Prep	English	Massachusetts College of Art	
Boston Prep	Literacy Chair	Amherst College	5
Boston Prep	Dean of Students	Tuskegee University	1
Boston Prep	Head of School	Harvard College	5
Boston Prep	History	University of Massachusetts Boston	2
Boston Prep	Latin	Amherst College	5
Boston Prep	Dean of Educational Partnerships	Vanderbilt University	4.5
Boston Prep	Director of Development	Wesleyan University	5
Boston Prep	History	Colby College	5
Boston Prep	History	University of Massachusetts Amherst	2.5
Boston Prep	English	Vassar College	5
Boston Prep	Science	Tufts University	5
Boston Prep	Special Education	Williams College	5
Boston Prep	Math	University of Missouri Columbia	3
Boston Prep	Math	Oberlin College	5
Boston Prep	English	Oberlin College	5
Boston Prep	Math	University of Massachusetts Dartmouth	2
Boston Prep	Saturday Academy Teacher	University of Pennsylvania	5
Excel Academy	School Counselor	Merrimack College	2
Excel Academy	Dean of Curriculum	Harvard University	5
Excel Academy	English Language Learner Specialist	Boston College	5
Excel Academy	Director of Resource Development	University of Nebraska Lincoln	3
Excel Academy	Math	Bowdoin College	5
Excel Academy	Director of High School Placement	St. Lawrence University	3

Excel Academy	Principal	Dartmouth College	5
Excel Academy	Art	Montserrat College of Art	
Excel Academy	Dean of Students	Ponoma College	5
Excel Academy	Math	Roger Williams College	2
Excel Academy	English	University of Utah	3
Excel Academy	English	George Mason University	3
Excel Academy	Associate English Teacher	Hamilton College	5
Excel Academy	Social Studies	Boston University	4.5
Excel Academy	Science	Williams College	5
Excel Academy	Math	Wake Forest University	5
Excel Academy	Associate Math Teacher	University of Rochester	5
Excel Academy	Learning Specialist	Boston College	5
Excel Academy	PE	Tufts University	5
Excel Academy	Science	Connecticut College	5
Excel Academy	Social Studies	Bowdoin College	5
Excel Academy	English	Carleton College	5
Excel Academy	English	Bowdoin College	5
Excel Academy	Learning Specialist	College of Wooster	3
Excel Academy	Director of Graduate Services	Brown University	5
Excel Academy	Founder	Amherst College	5
Excel Academy	Math	Michigan State University	3
Edward Brooke	Art	Plymouth State College	1
Edward Brooke	Math	University of Massachusetts Amherst	2.5
Edward Brooke	Associate Teacher	Hamilton College	5
Edward Brooke	Reading	Lesley University	2
Edward Brooke	Music	Florida State University	4
Edward Brooke	Executive Director	Oberlin College	5
Edward Brooke	Math	Worcester State College	3
Edward Brooke	Science	Williams College	5
Edward Brooke	Math	Williams College	5
Edward Brooke	Reading	University of Maryland	2
Edward Brooke	Director of Graduate Services	Merrimack College	2
Edward Brooke	Social Studies	Emmanuel College	2.5
Edward Brooke	English	Evergreen State University	2.5
Edward Brooke	Social Studies	Colgate University	5
Edward Brooke	Social Studies	Morehouse College	2
Edward Brooke	Director of High School Placement	Smith College	5
Edward Brooke	Math	College of the Atlantic	4
Edward Brooke	Dean of Students	University of Massachusetts Amherst	2.5
Edward Brooke	English	College of William and Mary	5
Edward Brooke	Director of Student Support	Arizona State University	2
Edward Brooke	Reading	Wheaton College	4.5
Edward Brooke	English	Boston College	5
Edward Brooke	Dance	Purchase College, State University of New York	2
Edward Brooke	Reading	Bates College	5
Edward Brooke	Associate Teacher	Wellesley College	5
Edward Brooke	Social Studies	Eugene Lang College, The New	2.5

		School University	
Edward Brooke	Science	Boston University	4.5
Edward Brooke	Special Education	Morris Brown College	
Edward Brooke	PE	Northeastern University	4
Edward Brooke	Writing	George Washington University	5
Edward Brooke	Special Education	Brown University	5
Edward Brooke	Director of Operations	University of North Carolina Chapel Hill	5
Edward Brooke	Elementary School Principal	Harvard College	5
Edward Brooke	First Grade	Providence College	4
Edward Brooke	Second Grade	Yale University	5
Edward Brooke	Second Grade	Brown University	5
Edward Brooke	Math Specialist	Boston University	4.5
Edward Brooke	Second Grade	Connecticut College	5
Edward Brooke	Second Grade, Associate Teacher	University of Michigan	5
Edward Brooke	First Grade	State University of New York Geneseo	4.5
Edward Brooke	Kindergarten	University of North Carolina	5
Edward Brooke	First Grade	Northeastern University	4
Edward Brooke	First Grade	William and Mary	5
Edward Brooke	Second Grade, Associate Teacher	MIT	5
Edward Brooke	Kindergarten, Associate Teacher	Wesleyan University	5
Edward Brooke	Second Grade	University of Massachusetts Boston	2
Edward Brooke	Kindergarten	Union College	2
Edward Brooke	Kindergarten	Bates College	5
Edward Brooke	Kindergarten	Bates College	5

Table A15. Subject School Per-Pupil Spending, 2006-07

School	Expenses		
	Total Expenses	Students	**Expense per Student**
Pacific Rim	$5,589,330	374	**$14,945**
Excel Academy	$2,346,246	178	**$13,181**
Edward Brooke	$4,622,808	349	**$13,246**
Boston Collegiate	$4,342,937	387	**$11,222**
Roxbury Prep	$2,782,393	200	**$13,912**
MATCH	$3,729,400	210	**$17,759**
KIPP Lynn	$3,109,415	230	**$13,519**
Boston Preparatory	$2,552,498	210	**$12,155**
Average	3,634,378	*267*	***$13,742***
Boston	$1,064,986,500	64,675	**$16,467**
State Total	$11,198,094,148	968,661	**$11,560**

Source: Data collected from each school's 2006-07 Annual Report. All reports, except Boston Collegiate, were accessed at http://www.doe.mass.edu/charter/reports/2007/annual/default.html Boston Collegiate's report was accessed at www.bostoncollegiate.org. Information for Boston and the state was accessed at http://profiles.doe.mass.edu/ppx.aspx.

Table A16. SABIS International Charter School, Springfield, Massachusetts Students Scoring Percent Proficient or Advanced on MCAS versus Students in Springfield School District and Students Statewide

Students	Percent Advanced/Above Proficient or Proficient MCAS, 2007						
	10th grade ELA	10th grade Math	**Average of ELA and Math**	8th grade ELA	8th grade Math	4th grade ELA	4th grade Math
SABIS Springfield	85	72	**78.5**	75	36	26	27
Springfield Public Schools	36	31	**33.5**	39	10	32	27
State (all income)	71	69	**70**	75	45	56	48
SABIS low income	88	63	**75.5**	70	33	19	27
Springfield Public Schools low income	32	26	**29**	35	8	27	23
State low income	48	47	**47.5**	54	21	32	27
SABIS African American/Black	94	69	**81.5**	74	38	28	28
SABIS Hispanic/Latino	84	72	**78**	67	30	25	28
SABIS White	77	71	**74**	80	39	27	25

Source: http://profiles.doe.mass.edu, accessed April 20, 2008

Table A17. Undergraduate Characteristics of Academic Staff Members of SABIS Springfield International Charter School

Characteristic	Finding		
Average Staff Barron's Level	2.2		
Level 5	1.4%	} **20.8%**	} **11.1%**
Level 4 or 4.5	9.7%		
Level 3 or 3.5	9.7%		
Level 2 or 2.5	66.7%		
Level 1	9.7%		
Level 0 or S	2.8%		

n=72

Notes

[1] National Alliance for Public Charter Schools, "Number of Charter Schools and Students in the 2006-07 School Year," April 2007, http://www.publiccharters.org/files/publications/2007_Charter_Numbers_1_.pdf (accessed March 1, 2008). The count is based on the number of campuses. For instance, Arizona is counted as having 469 charter schools because it has 355 charters on 469 campuses.

[2] Bryan C. Hassel, Michelle Godard Terrell, Ashley Kain and Todd Ziebarth, "Charter School Achievement: What We Know," 4th Edition, October 2007, http://www.publiccharters.org/files/publications/Summary_of_Achievement_Studies_2007.pdf (accessed April 12, 2008). This meta-analysis, prepared for the National Alliance for Public Charter Schools, examined 70 studies of charter school performance that met four criteria: the studies were recent, included comparisons of charter school students' achievement on standardized tests with that of students in district schools, used serious methods, and examined a broad segment of the charter sector (generally national data). Charter schools disproportionately serve students from economically disadvantaged families who arrive at their new school performing well below the national norm. Even if they progress faster academically than their peers in district schools, they may still post, on average, lower absolute levels of performance. Thirty studies looked only at a snapshot of student performance at one or more points in time; of these, 12 (40 percent) found students on average performing below district schools. The remaining 18 studies (60 percent) found comparable, mixed or generally positive results for charter schools. Forty of the 70 studies examined changes in student performance over time. Of these, 21 studies (53 percent) found greater gains in charter schools, 10 (25 percent) found gains higher than in district schools for specific categories of students, such as at-risk students, or students in schools at certain grade levels. Five studies (13 percent) found comparable gains in charter schools and districts. Four studies (10 percent) concluded that gains in charter schools lagged those in district schools. The authors conclude, "[W]hile the change-over-time picture is somewhat mixed, in general it is very encouraging about the gains students are making in charter schools."

[3] Matthew Candler, "Making Supply-Side Reform Work," (presentation, "The Supply Side of School Reform and the Future of Educational Entrepreneurship" conference, American Enterprise Institute, Washington, DC, October 25, 2007). The transcript is available at http://www.aei.org/events/filter.,eventID.1522/transcript.asp (accessed April 13, 2008).

[4] Team Academy, "Welcome to Team Academy: A KIPP School, Part of the TEAM School Network" http://www.teamacademy.org/ (accessed April 13, 2008).

[5] Knowledge is Power Program, "About KIPP: Overview," August 2008, http://www.kipp.org/01/ (accessed March 1, 2008).

[6] GreatSchools.net, "Amistad Academy," 2008, http://www.greatschools.net/modperl/browse_school/ct/1440 (accessed July 23, 2008).

[7] Achievement First, "History," http://www.achievementfirst.org/af/index.php?option=com_content&task=view&id=13&Itemid=27, accessed March 1, 2008.

[8] Achievement First, "History," http://www.achievementfirst.org/af/index.php?option=com_content&task=view&id=21&Itemid=37 (accessed July 23, 2008).

[9] North Star Academy Charter School of Newark, "FAQs," http://www.uncommonschools.org/nsa/aboutUs/faq.html (accessed July 23, 2008).

[10] Uncommon Schools, "About Us: Mission," http://www.uncommonschools.org/usi/aboutUs/ (accessed April 13, 2008).

[11] Charter School Institute, State University of New York, "SUNY Trustees Approve State's First New Charter Schools Since July Cap Increase," Press Release, October 26, 2007, http://www.newyorkcharters.org/documents/newSchoolsApproved10-26-07.pdf (accessed August 19, 2008).

[12] Paul Tough, "What It Takes To Make A Student," *New York Times Magazine,* November 26, 2006, http://www.nytimes.com/2006/11/26/magazine/26tough.html (accessed August 19, 2008).

[13] For accounts of the No Excuses model, see Samuel Casey Carter, "No Excuses: Lessons from 21 High-Performing, High-Poverty Schools," (Washington, D.C.: Heritage Foundation, 2001); and Paul Tough,

"What it Takes to Make a Student," *New York Times Magazine,* November 26, 2006, http://www.nytimes.com/2006/11/26/magazine/26tough.html (accessed August 19, 2008).
[14] Founders of three Boston charters are now executives of Uncommon Schools, and two of the schools, Boston Collegiate Charter School and Roxbury Preparatory Charter School, joined Uncommon Schools as associate members in 2007. See Uncommon Schools, "Our Work in Boston," http://www.uncommonschools.org/usi/aboutUs/ourWorkInBoston.html, accessed April 13, 2008.
[15] Massachusetts Department of Elementary and Secondary Education, www.doe.mass.edu, accessed July 23, 2008.
[16] Under the MCAS program, students must pass the 10th grade ELA and math tests in addition to meeting the requirements of individual school districts or charter schools to earn a high school diploma. Students who do not pass the tests in the 10th grade are retested in grade 11 and, if necessary, grade 12.
[17] City on a Hill Charter School's composite score fell just shy of the threshold for inclusion. It should be noted that the school's performance has improved markedly in recent years.
[18] The CPI is a measure, ranging from 0-100, of the student performance in a school relative to attaining grade-level proficiency. The assessment results of students participating in MCAS-Alt assessments, together with those derived from standard MCAS tests, are used to generate a "Composite Performance Index" on which AYP determinations are based. The number of students who performed at each of the five proficiency levels is multiplied by the index points associated with that letter.
[19] MATCH Charter Public School, "Philosophy: What Makes the MATCH School Different?" 2006, http://www.matchschool.org/about/philosophy.htm (accessed March 30, 2008).
[20] Richard Rothstein, "Must Schools Fail?" *The New York Review of Books,* December 2, 2004, p. 32, http://www.nybooks.com/articles/17598 (accessed August 19, 2008). See also Jay Matthews, "Assessing the KIPP Schools--a New Perspective," WashingtonPost.com, March 29, http://www.washingtonpost.com/wp-dyn/articles/A9576-2005Mar29.html (accessed March 30, 2008).
[21] Memorandum from Richard Stutman, President of the Boston Teachers Union, to Middle School and K-8 Personnel, January 17, 2008.
[22] The MATCH School, "Common Criticisms of High-Performing High-Poverty Public Schools and MATCH School Responses,"www.matchschool.org/publications/Common%20Criticisms.pdf, accessed March 30, 2008.
[23] Massachusetts Department of Elementary and Secondary Education, "Guidelines for Charter School Annual Reports," Charter School Office, 2007-2008, http://www.doe.mass.edu/charter/guides/annual_guide.pdf (accessed March 14, 2008).
[24] A rigorous analysis of spending levels in certain No Excuses schools is forthcoming from Thomas Toch of Education Sector.
[25] Susan Harper, "Funding Our Future: Charter School Finance 101," Federal Reserve Bank of San Francisco, http://www.frbsf.org/publications/community/investments/0405/article4pf.html, accessed March 30, 2008.
[26] Barron's Educational Series, *Barron's Profiles of American Colleges 2007*, (College Division, 2006).
[27] The factors used in determining the category for each college were: median entrance examination scores for the 2005-2006 freshman class (the SAT I score used was derived by averaging the median verbal reasoning and the median mathematics reasoning scores; the ACT score used was the median composite score); percentages of 2005-2006 freshmen scoring 500 and above and 600 and above on both the verbal reasoning and mathematics reasoning sections of the SAT I; percentages of 2005-2006 freshmen scoring 21 and above and 27 and above on the ACT; percentage of 2005-2006 freshmen who ranked in the upper fifth and the upper two-fifths of their high school graduating classes; minimum class rank and grade point average required for admission (if any); and percentage of applicants to the 2005-2006 freshman class who were accepted. The Selector cannot and does not take into account all the other factors that each college considers when making admissions decisions. Colleges place varying degrees of emphasis on the factors that comprise each of these categories. Barron's Profile of American Colleges, "College Admissions Selector," http://www.enotes.com/american-colleges/help/college-admissions-selector/?popUp=1, accessed July 22, 2008.
[28] 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.

[29] 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?," School Finance Redesign Project, Center on Reinventing Public Education, University of Washington, March 21, 2007, 6-7. Although these data are from teachers who were freshmen in 1990, other studies show a *decline* in undergraduate competitiveness over the subsequent decade.
[30] Achievement First Teacher Profile
[31] Jennifer Medina, "Bill Would Bar Linking Class Test Scores to Tenure," *New York Times,* March 18, 2008, http://www.nytimes.com/2008/03/18/nyregion/18teacher.html (accessed August 19, 2008).
[32] Christopher Barnes, "What Do Teachers Teach? A Survey of America's Fourth and Eighth Grade Teachers," Manhattan Institute, Center for Civic Innovation, Civic Report no. 28, September 2002, www.manhattan-institute.org. Survey conducted by The Center for Survey Research and Analysis, University of Connecticut.
[33] U.S. Department of Education, "Condition of Education, 2008," 2008, Table 41-1, available at http://nces.ed.gov/programs/coe/2008/section5/table.asp?tableID=939 (accessed September 15, 2008).
[34] Council of the Great City Schools, "Urban School Statistics," http://www.cgcs.org/about/statistics.aspx, (accessed July 22, 2008).
[35] Yutaka Tamura, interview, July 10, 2007.
[36] Barron's Educational Series, *Barron's Profiles of American Colleges 2007*, (College Division, 2006).
[37] The Peace Corps, "U.S. History – The Peace Corps," http://peacecorpsonline.org/messages/messages/2629/4074.html (accessed April 6, 2008).
[38] The Council for Great City Schools, "Urban School Statistics," http://www.cgcs.org/about/statistics.aspx (accessed July 23, 2008); The Council for Great City Schools, "Member Districts," http://www.cgcs.org/about/member.aspx (accessed July 16, 2008).
[39] Teach For America, "Awards and Recognition," http://www.teachforamerica.org/newsroom/awards_and_recognition.htm (accessed March 27, 2008).
[40] Teach For America, "Teach For America Places Largest-Ever Corps, Expanding Its Impact to 26 Regions Nationwide," Press Release, August 15, 2007, http://www.teachforamerica.org/newsroom/documents/081507_Largestcorps.htm (accessed March 27, 2008).
[41] Teach For America, "Teach For America Places Largest-Ever Corps, Expanding Its Impact to 26 Regions Nationwide," Press Release, August 15, 2007, http://www.teachforamerica.org/newsroom/documents/081507_Largestcorps.htm (accessed March 27, 2008).
[42] Bess Keller, "College and Charter Groups Team Up to Train Teachers," *Education Week,* February 6, 2008, p. 10.
[43] Teacher YOU Institute at Hunter, "Admission Guide 2008," p. 2.
[44] Steven F. Wilson, *Learning on the Job: When Business Takes on Public Schools* (Cambridge, M.A.: Harvard University Press, 2006), p. 68.
[45] For instance, 14 of 27 competencies enumerated on one teacher evaluation instrument, "Teaching as Leadership," reflect such intellectual property-creation tasks.
[46] Abt Associates, "Excerpts from the Apt Reports: Descriptions of the Models and Summary of Results," *Effective School Practices* A15, no. 1 (Winter 1995–1996). The article is made up of excerpts from the article by Geoffrey Bock, Linda Stebbins and Elizabeth C. Proper, "Education as Experimentation: A Planned Variation Model, an Evaluation of Follow Through IV, A" (Cambridge, M.A.: Abt Associates, April 1977)
[47] Visit by Lisa Cohen to P.S. 124 Osmond A. Church School, S. Ozone Park, New York, February 8, 2006.
[48] Jose Alfonso, Letter to the Editor, *Boston Globe,* April 2, 2008.
[49] SABIS Springfield International Charter School, *Annual Report: Building an Exceptional Community, 2005-2006,* 2006, p. 8.
[50] Scores on the Iowa Test of Basic Skills (ITBS), administered in early years in both the SABIS school and the Springfield Public Schools show the same pattern of gains. The school's value-added is real, not the result of test preparation and the mastery of a narrow class of problems and test idioms. SABIS Springfield has effectively closed the achievement gap. In a school that mirrors the racial, ethnic, and economic diversity of the community—44 percent of the students are from low-income families, 31 percent of the

school's students are African-American; 36 percent are white, and 27 percent are Hispanic—SABIS's African-American and Hispanic 10th graders (the last grade tested by the state) are performing at essentially the same level as their white peers in the school: In ELA, African-American and Hispanic SABIS students do *better*—94 percent and 84 percent are proficient or advanced, respectively, compared with 77 percent of white students (and 71 percent of all students statewide). In math, 69 percent of African-American students are proficient or advanced in Math, compared to 72 percent of Hispanics and 71 percent of white students (and 69 percent of students statewide). See Massachusetts Department of Elementary and Secondary Education, "2007 MCAS Results by Subgroup – Sabis International Charter School," http://profiles.doe.mass.edu/mcas/subgroups2.aspx?district=441&school=505&mcasyear=2007 (accessed July 16, 2008). One SABIS critic contends that the school "push[es] out" lower-performing charter school students from its high school, heightening aggregate performance on the exit year (tenth grade) MCAS. (Daniel J. Losen, letter to the editor, *Boston Globe,* March 21, 2008.) But attrition data for the school do not support the claim. In a school of 1,374 students, only 36 students enrolled in the 2005-06 year did not return in the 2006-07, excluding students whose families moved out of the city of Springfield. During the course of the 2006-07 year, only 15 students left the school, excluding students who moved and one student who died. Combined attrition was just 3.7 percent of total enrollment, similar to that of other years. See SABIS International Charter School, *Annual Report 2006-7*, p. 24, http://www.doe.mass.edu/charter/reports/2007/annual/0441.pdf (accessed May 22, 2008). At the highest performing of the Boston subject schools, Roxbury Preparatory Charter School, data were not reported for students who did not return from the 2006-07, but 11 students (excluding those who moved) withdrew over the course that year), or 4.5 percent of the school's enrollment. See Roxbury Preparatory Charter School, *Annual Report 2006-07*, p. 32, www.doe.mass.edu/charter/reports/2007/annual/0484.doc (accessed May 22, 2008).

[51] Jay Matthews, "Small Schools Rising," *Newsweek*, May 26, 2008.

[52] Springfield's results have been replicated in other locations. At SABIS's charter school in Flint, Michigan, 74 percent of the school's 925 students are from low-income families, and 75 percent are African-American or Hispanic. For four years, 100 percent of the school's seniors have graduated and 100 percent have gone to college.

[53] For the quotation, see David K. Cohen and Deborah Loewenberg Ball, "Instruction, Capacity, and Improvement," CPRE Research Report no. RR-43, Consortium for Policy Research in Education, University of Washington, June 1999, p. 11-12.

[54] David Brooks, "Thoroughly Modern Do-Gooders," *The New York Times*, March 21, 2008.

[55] Programme for International Student Assessment (PISA), *PISA 2006 Science Competencies for Tomorrow's World* (Organization for Economic Co-Operation and Development, 2007).

[56] Sam Dillon, "Report Finds Better Scores in New Crop of Teachers," *The New York Times*, December 12, 2007.

[57] The non-profit organization New American Schools was created in 1991 to develop an array of research-based "whole-school designs" that offered complete and coherent educational models for schools. The models would be adopted by individual schools across the nation in an ambitious plan for "scaling up" effective educational practices.

[58] See, for instance, Richard Rothstein, *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap* (Washington, D.C.: Economic Policy Institute, 2004).