

Human Capital: Looking Inside the Sector

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To see how important human capital is to entrepreneurship, educational and otherwise, one needs to look no further than the word “entrepreneurship” itself: the concept is named for the very individuals who drive the creation and development of ventures that we call “entrepreneurial.” Whether entrepreneurship thrives in a sector such as education, therefore, will depend in part on the amount and quality of enterprising talent flowing into the sector over time. Talk of “human capital” in education typically focuses on the flow of teachers, school leaders, and central office administrators available to the nation’s school systems. But as more focus turns to entrepreneurship as part of education reform, it makes sense to devote more attention as well to the pipeline of entrepreneurial people entering K-12 education.¹

This paper begins by defining the need for entrepreneurial human capital in public education. What kind of people would fuel entrepreneurship in education, and what are some potential sources of that talent? The following section turns to barriers. What constraints currently restrict the flow of enterprising people into the sector? The paper then analyzes a number of initiatives underway across the country that could, directly or indirectly, bring more entrepreneurial people into education. The final section examines promising actions that funders, policymakers, and entrepreneurial organizations themselves could take to bring more high quality entrepreneurial human capital into public education.

The Need for Entrepreneurial Human Capital in Public Education

Many people contribute to the success of a typical entrepreneurial venture. At its heart is the founder or founding team, the individual or small group of people who initiate and drive the development of the new organization. But the enterprise may also have a board of directors, a senior team of managers,² and a host of line managers and employees (or contractors) to carry out the venture’s core, day-to-day work. As an illustration: in the case of a charter management

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organization running schools, the venture needs building principals, teachers, counselors, and other school-level support staff, as well as a individuals to staff central office functions such as financial operations, data management, and the like.

While the focus of this paper is on the first category—entrepreneurs themselves—the other pipelines are also critical to the future of educational entrepreneurship, for three reasons. The first is that enterprise founders cannot simply do their work at scale alone. Second, the pipeline of people available to serve in these other roles is likely to affect prospective entrepreneurs’ decisions about whether to apply their talents in the education sector rather than elsewhere. Entrepreneurs are unlikely to launch ventures in the education space unless they believe that they will be able to assemble strong boards, hire exceptional senior team members, and find the line managers and employees needed to realize their visions at sufficient scale. As a result, the availability of talent is one of several contextual factors, discussed more fully below, that determine the willingness of entrepreneurs to enter education. Finally, these secondary pipelines are also important because of their potential to feed the founder pipeline of the future. For all of these reasons, a full treatment of the human capital challenge in educational entrepreneurship needs to consider not only the supply of founders, but of these supporting players as well.

The Entrepreneurial Profile

A wide-ranging literature exists on the determinants of successful entrepreneurship. Two strands of analysis dominate these discussions. One emphasizes the importance of context: the legal, regulatory, financial, and other environmental factors that make a geographic location or an industry a likely site of entrepreneurial activity. These contextual questions are addressed

below. The second strand—addressed here—stresses the individual characteristics that lead people to become entrepreneurs and affect whether they are successful in their ventures.³

Several generalizations emerge from this literature about what sets entrepreneurs apart from others. As with any list of generalizations, this one carries the caveat that these are general tendencies rather than complete descriptions of all individual entrepreneurs:

- **Need for Achievement.** Entrepreneurs are highly motivated to set high goals and drive for results, regardless of barriers, with clear metrics that quantify their success.
- **Relentless Problem-Solving.** Entrepreneurs tirelessly search for solutions to problems that arise, trying and discarding strategies with an extraordinary sense of urgency.
- **Internal Locus of Control.** People with an “internal locus of control” see themselves as responsible for the outcomes of their own actions; they are unwilling to make excuses for failing to achieve results.
- **Tolerance for Ambiguity/Flexibility.** Entrepreneurs generally have a high tolerance for ambiguity and perceive such situations as desirable.
- **Strategic Influencing.** Though they may have strong interpersonal skills, they use influence less to foster long-term relationships than to induce immediate actions that will advance the organization toward its mission.
- **Bias for Action through Organization-building:** As Kim Smith and Julie Petersen note: “Good entrepreneurs are both *mavericks* and *institution-builders*. . . . Their sense of urgency and drive to achieve leads them to take action by creating new organizations that will make their vision a reality.”⁴

Of course, many individuals working within existing K-12 institutions possess some, or even all, of these qualities. Indeed, some of today’s most successful educational entrepreneurs

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arose from within the ranks of teachers, school leaders, and other within-system roles. But they are not the qualities that underlie the institutions' daily efforts at recruitment, selection, and professional development. Teachers, in particular, are (for good reason) not selected based on their propensity to conceive of radically new ideas and build organizations to realize their visions; this is not the work we expect teachers to do. And the situation is much the same for leaders of schools and school systems who, by and large, are selected with an eye toward serving as stewards of long-standing and relatively stable organizations rather than as initiators of new initiatives and institutions. Arguably, as will be discussed in more detail below, many aspects of the institutional culture of K-12 actually work against the selection and cultivation of entrepreneurial people within existing public education organizations.

The implication is straightforward: if there is going to be an increase in the supply of entrepreneurs in education, it will need to derive from one of two sources. Either more entrepreneurial people who are currently working outside of education will need to be induced to enter the sector laterally; or a new generation of people will need to be recruited into school teaching and leading roles in the hope that they will eventually found entrepreneurial ventures within the sector.

Potential Sources of Entrepreneurial Talent

These two possibilities suggest two potential pools of talent worth cultivating for future educational entrepreneurship. Both pools are, in fact, well-represented by the current generation of educational entrepreneurs already at work. Many of the more prominent education ventures today were launched by individuals who came, in one way or another, from the ranks of teachers and school administrators. These people can loosely be grouped into two categories. One is a set of individuals who very early in their teaching careers became educational entrepreneurs. A

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quintessential case is the duo of Michael Feinberg and David Levin, members of Houston's Teach For America (TFA) corps who launched the Knowledge Is Power Program (KIPP) initially as a program within a middle school, then as a full middle school, and then as a major initiative to seed KIPP schools all over the United States. Another TFA corps member, Michelle Rhee, founded The New Teacher Project, which has recruited approximately 23,000 mid-career professionals and recent college graduates to teach in public schools.⁵

The other group lies further along the experience spectrum: seasoned school personnel who strike out to form entrepreneurial ventures later in their careers. One example is Don Shalvey who, in classic public education style, served as classroom teacher, counselor, assistant superintendent, and superintendent before founding the charter management organization now known as Aspire Public Schools. Another is Larry Rosenstock, founder of the initial High Tech High and the High Tech High school development organization that is opening schools across California. Rosenstock's biography portrays more of a hybrid career, with stints in higher education, the U.S. government, and the nonprofit sector—but also substantial experience as a classroom teacher and school administrator prior to his entrepreneurial launch of High Tech High.

These examples are instructive in their own right about “insiders” as a potential source of educational entrepreneurship in American education. Among the young-teachers-as-entrepreneurs, it's not a coincidence that the two examples are drawn from the ranks of TFA corps members. TFA recruits top college graduates to assume teaching posts in low-income communities. In 2007-08, approximately 5,000 corps members teach in 26 urban and rural regions nationwide, a number that is likely to increase over time as TFA expands geographically. The number of new corps members in fall 2007 (2,900) is 20 percent larger than last year's crop

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of recruits. Though some TFA teachers remain in the classroom, the vast majority move into other roles in education and beyond; the organization's goal is not to recruit career teachers, but to enlist the next generation of leaders in a "movement to end education inequity" through their initial teaching service, but also through a lifetime of engagement in the issue.

As a result, TFA corps members appear much more likely to launch entrepreneurial ventures than the typical teacher. The organization does not currently maintain a full list of entrepreneurial ventures launched by corps alumni, but it does provide a set of examples that, beyond Feinberg and Levin, includes the founders of Generation Schools (Furman Brown), Idea Schools (Tom Torkelson), Yes Prep Public Schools (Chris Barbic), the after-school soccer program America Scores (Julie Kennedy), and several other ventures with an educational component.⁶ While this is a significant list, it is still a small portion of TFA's pipeline, which has included some 17,000 people over the organization's history. And since TFA's pipeline is specifically selected to have leadership potential, the fact that careers in educational entrepreneurship are the extreme exception within TFA suggests that will be exceedingly rare among the broader public school teaching ranks.

Shalvey and Rosenstock similarly illustrate that educational entrepreneurship among the ranks of more experienced educators is likely to be the exception, rather than the rule under current circumstances. While Shalvey indeed followed the standard public-education path from classroom to central office, his leadership was anything but standard; his San Carlos School District initiated California's first charter school and moved toward becoming a district of charter schools under his superintendency. Rosenstock, as noted above, interspersed his education career with episodes working in philanthropy, advocacy, and public service, episodes that themselves had an entrepreneurial flair.

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Many of today's educational entrepreneurs came from sources other than the existing ranks of educators and schools administrators. Those sources are quite diverse. Commonly, individuals developed a track record outside of education before launching their entrepreneurial ventures whether in government (e.g. Jon Schnur of New Leaders for New Schools, who served in the Clinton White House and the U.S. Department of Education), business (e.g. Larry Berger of Wireless Generation, formerly president of a "web solutions" company); social services (e.g., J.B. Schramm of College Summit, who ran a teen center); or any number of other domains. Less common is the path followed by Wendy Kopp, who entered the field much earlier in her career, conceiving of Teach For America while in college and founding the organization right after graduation. With such a set of idiosyncratic career paths, it is difficult to generalize about routes into educational entrepreneurship from outside of K-12.

These three sources—early career educators, mid-career educators, and outsiders—all have promise as part of a pipeline of educational entrepreneurs into education. In each case, there are considerable barriers to attracting more entrepreneurs from the source in question.

Barriers to the Flow of Entrepreneurs into Public Education

Why aren't there more individuals interested in launching entrepreneurial ventures in the American K-12 sector? There are a number of general barriers and constraints that apply across all of the sources of potential supply discussed in the previous section, though the way in which these barriers play out differs in some cases from one source to the next.

Policy and Political Barriers

In the literature on entrepreneurship, one of the central determinants of the level of entrepreneurial activity in a geographic location or a sector is the legal and regulatory framework that governs the start-up and management of entrepreneurial organizations. Some of the

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constraints can be absolute: prohibitions on certain kinds of entrepreneurial activity. Examples from education would be the absence of charter school legislation in ten states, state charter laws that prohibit schools managed by for-profit companies, or textbook adoption policies that prevent new providers from entering the market. Of more interest in this human capital discussion, however, are constraints that, while they do not flatly prohibit entrepreneurial activity, make it more difficult and, therefore, make education a relatively unattractive sector for individuals interested in entrepreneurship.

These constraints are a subset of the litany of charges that have been leveled at the U.S. K-12 system over the years, and discussing all of them is certainly beyond the scope of this paper. Two of the most significant include:

- **Unmanageability.** Public education is notorious for the web of constraints that make it difficult for managers to take the kinds of actions that are taken for granted in entrepreneurial organizations, such as assembling a team, making ongoing personnel decisions, allocating resources and reallocating dollars over time to new approaches and strategies, and the like. A wide range of federal, state, and district policies, coupled with contractual restrictions negotiated with teacher unions and other employee organizations, make this kind of management activity difficult or impossible. This environment is not likely to be attractive to entrepreneurs who have other opportunities that will allow them to manage in these ways.
- **Paradox of stasis and “spinning wheels.”** Public education has been characterized by analysts such as John Chubb and Terry Moe as an ossifying system in which competing interests layer on debilitating constraints over years of political conflict, constraints that, for a variety of reasons inherent in American political institutions, are difficult or

impossible to change.⁷ Frederick Hess's work, by contrast, portrays a world of constant, even frenetic change that he calls "spinning wheels."⁸ While seemingly at odds, it appears that these two accounts co-exist within a system that is constantly changing in some respects—most of which have little impact on what happens in classrooms—and that is highly resistant to change in others. Both features, as it turns out, are inimical to entrepreneurs. Stasis makes it difficult for entrepreneurs to "break in," since old arrangements are unlikely to change in the near-term. Spinning wheels, by contrast, means that the reform-du-jour, which may be very hospitable to a certain segment of entrepreneurs, may not last beyond the current superintendent's tenure or state election. In either context, it makes little sense for entrepreneurs to invest in capacity to serve the education market.

Interestingly, the wave of standards-and-accountability reforms that has flowed through public education in the past twenty years has likely had mixed effects on the attractiveness of the education sector for entrepreneurial people and organizations. On one hand, the increased focus on measurement and performance has created fertile ground for an influx of entrepreneurial actors. Because districts and states are under increasing pressure to produce measurable results, leaders have cause to be more open to pitches by entrepreneurial organizations offering some assistance. For example, there are certainly increased opportunities for organizations that offer software that helps schools assess students and track data. And the ability to chart results by means of standardized test scores is attractive to metric-minded entrepreneurs eager to demonstrate measurable results. At the same time, moves toward standardization may discourage entrepreneurial actors, especially of the more creative variety. If schools react to accountability mandates, for example, by imposing ever more scripted lessons and pacing guides on teachers,

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teaching is likely to become even less attractive than it already is to people likely to go on to entrepreneurial careers. This is not the inevitable result of accountability policies; schools could also respond by seeking to liberate creative talent in their teaching forces in order to achieve results, but some reports have found, for example, a narrowing of curriculum and instruction to focus more time on core subjects and on tested content within the core.⁹

Another area of recent policy development—the advent of charter schooling—has had more unequivocally positive effects on the attractiveness of the education sector for entrepreneurs. Chartering is significant here for a couple of reasons. First, when states make it possible for individuals and groups to start charter schools, they open up a direct channel for entrepreneurial activity via launching one of these independently operated public schools. With the added possibility of building up networks of schools as part of a charter management organization or some other enterprise, the prospects for scale-oriented entrepreneurs are even stronger. Second, because they are a new and growing segment of the education sector, charter schools (and networks) are in the process of spawning, through their demand, a range of other entrepreneurial ventures that are not themselves charter schools. Civic Builders, for example, is a New York City-based nonprofit that develops and leases facilities for charter schools. In several cities, organizations like the DC Special Education Cooperative have emerged through which charter schools pool their resources to hire administrators to manage the complex regulatory systems that govern special education and specialized teachers to provide services to children with less common disabilities. Other examples include the bevy of back-office service providers like Delaware’s Innovative Schools Development Corporation that carry out accounting, payroll, and other ancillary functions for charter schools. All of these organizations have been able to form and grow chiefly because of the demand for their services created by

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charter schools which, since they are generally part of school district facilities, need to find competent service providers to carry out the many functions conventionally handled by the central office.

If charter policy in a state is relatively open, therefore, this state of affairs doubly improves the climate for educational entrepreneurship. If charter policy is restrictive, by contrast, then it discourages talented people from starting charter schools, from scaling charter networks, and from developing services to support the charter sector. And many states do in fact impose significant growth-limiting restrictions on charter schools. The most obvious is actual caps on the number of charter schools, the number of charter school students, or the charter school market share, currently in force in some form in twenty-five states and DC.¹⁰ Sixteen states limit chartering by requiring local school boards to approve new charters, boards that (with some notable exceptions) oppose charter schools and are unlikely to approve very many of them.¹¹ States also place restrictions on charter schools by imposing various legal and regulatory constraints on them; for example, requiring them to abide by class size restrictions or restrictions that limit how different sources of funds may be used. Finally, state policy affects charter school growth by limiting the amount of funding available to charter schools. Only seventeen states provide any kind of facilities grant funding to charter schools.¹² And in one study of sixteen states and DC, which at the time enrolled 84 percent of the nation's charter students, states were found to provide 22 percent less funding to charter schools, on average, than district schools.¹³

Financial Barriers

Various aspects of the financial scene in K-12 make it a relatively unattractive destination for entrepreneurs. To begin with, as Kim Smith discusses in her paper, there is not a sufficient flow of venture capital available to launch new enterprises within the education sector. Would-be

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entrepreneurs face a great deal of uncertainty about whether they will be able to raise the start-up funding needed to launch. At the same time, they face a great deal of certainty that they will need to devote significant energy year after year to raising funds.

Some entrepreneurial ventures, of course, have the potential to generate sufficient revenue over time to cover costs, and therefore do not require ongoing philanthropic infusions. Still, organizations that plan to rely on fee revenue still face a relatively unattractive market of potential customers in the following sense. Their best bet for winning large contracts are school districts, but most large districts are highly constrained by regulation and political forces in how they allocate resources. Situations arise in which particular sources of funding, such as federal Reading First dollars, allow or actually require districts to seek outside vendors for services, and this creates a space of opportunity for entrepreneurs. The vast bulk of a school district's revenues, however, are spoken for through various grant restrictions, state-imposed line-items, and contractual obligations. A more nimble set of customers is the growing segment of charter networks and charter management organizations, which have much more flexibility than districts. These players, however, are still a very small slice of the education funding pie and, as a result, are not as attractive as customers.

Finally, it is often said that education is a less appealing venue for entrepreneurship because no one is likely to get rich serving the education market. With tight public education budgets and a culture that recoils at the idea of "profiting on children," it is arguably unlikely that many ventures in the education space will generate the kind of riches that many assume are necessary to recruit entrepreneurial people into an industry. This conventional story, however, may overstate matters. Entrepreneurs flock to many other sectors, such as retail stores and restaurants, in which most business owners do not get rich. In one comprehensive survey, the

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2002 median earnings level of small-business owners in general, it turns out, was \$65,000—higher but not dramatically higher than the median for wage and salaried employees (\$52,635). And yet many people (8.4 percent of the survey’s sample) still apparently found small-business ownership attractive.¹⁴ And there is certainly some fraction of people with an entrepreneurial bent who are motivated more by the potential for social impact than by the potential for wealth. So the degree to which the lack of a likely financial upside puts a throttle on the supply of entrepreneurial human capital is unknown.

Cultural and Structural Barriers

Two unique aspects of the culture of education are also worth noting as constraints on the flow of entrepreneurial talent into the field, one that affects “outsiders” and one that affects “insiders.” Outsiders face that fact that public education’s hiring patterns favor people who have worked their way up the system in the conventional fashion: namely, by becoming a teacher and then an assistant principal and/or principal, and so on. According to a RAND study, for example, 99 percent of school principals had been teachers. Fully 90 percent of school superintendents had been teachers.¹⁵ This pattern means that individuals seeking to break into the education industry from other sectors are working against widespread convention.

The typical career path within K-12 education also affects the likelihood that insiders will go on to become entrepreneurs later in their careers. The most important culprit is the way teachers’ jobs and careers are typically constructed. As Hess and Hassel put it, “Although some individuals with considerable entrepreneurial potential certainly do enter K–12 as teachers, the teaching job offers few opportunities for them to develop their entrepreneurial skills.”¹⁶ Most teachers carry a full teaching load at all times that allows little time for them to participate significantly in developing or managing initiatives that might prepare them for entrepreneurship,

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or signal to others that they have entrepreneurial capabilities. The exceptions are those who have moved into coaching or other support roles, but those functions also largely fill up their holders' time with day-to-day activities, not opportunities to be enterprising. And promotion within education means moving into an assistant principalship or principalship, again not entrepreneurial positions. As a result, people with an entrepreneurial bent are likely to be frustrated as teachers and seek out other ways to flex their enterprising muscles, or avoid teaching altogether.

Informational Barriers

Two other barriers to attracting entrepreneurs into education are worth noting here. As noted above, entrepreneurs crave results; they are unlikely to want to enter a field in which it is seemingly impossible to achieve success. On this front, the information available to would-be entrepreneurs may be discouraging. There is widespread skepticism in the general public in the ability of schools to make a difference in students' performance. Every year, for example, the Phi Delta Kappa survey asks Americans the following question: "In your opinion, is the achievement gap between white students and black and Hispanic students mostly related to the quality of schooling received or mostly related to other factors?" Every year, about three-quarters of respondents answer "mostly related to other factors."¹⁷ Entrepreneurs who want to make a difference are unlikely to enter a field in which they believe it is impossible to make a difference due to broader social factors, like poverty. In theory, it is possible that countervailing messages from entrepreneurial success stories such the flagship KIPP schools, New Haven's Amistad Academy, or any number of other stand-outs could overcome this wider impression. But as prominent as these success stories are counter-counter messages regarding low-performing charter schools that continue to operate despite poor results. When neither

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“customers” nor overseers act to close the schools, the impression left is one of an industry, even in its more entrepreneurial corners, that tolerates mediocrity—anathema to achievement-fueled entrepreneurs.

A related barrier is that for the most part, it is no one’s job to overcome these informational issues, or the other barriers to entrepreneurial entry noted above. Though many observers, funders, and policymakers may wish the supply of entrepreneurial talent were stronger, this wish remains largely a wish: there is no dedicated effort underway nationally to make education a more attractive destination for entrepreneurs, or to convince more entrepreneurs that, despite the barriers, they can make a significant difference by applying their energy and capability within K-12.

This last barrier is beginning to soften, as new initiatives arise that either directly or indirectly have the potential to increase the flow of entrepreneurs into education. The following section turns to a discussion of these efforts.

Current Initiatives to Increase the Supply of Enterprising Talent

In recent years, several initiatives have launched that are designed to increase the flow of talent into public education. Some aim to recruit entrepreneurs to start new education ventures. Others indirectly fuel the entrepreneurial pipeline by attracting talented and, potentially, enterprising people who may go on to become entrepreneurs. This section profiles several of these initiatives in those two categories.

Initiatives Designed to Recruit Entrepreneurs to Launch Education Ventures

Several initiatives exist to recruit entrepreneurial leaders for a wide range of education ventures; others aim to entice people to launch specific kinds of enterprises, namely charter school management organizations or individual charter schools.¹⁸ In the first group, here are

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some of the leading examples. It is worth noting that of these four examples, three are nascent. One (The Mind Trust) has just begun its work, and the other two are even more in the planning stages.

NewSchools Venture Fund. This California-based nonprofit was founded in 1998 by Kim Smith and two venture capitalists, John Doerr and Brook Byers. NewSchools raises money from philanthropic sources and then invests in entrepreneurial ventures across a wide swath of the education sector. NewSchools' website lists 28 current members of its portfolio. The majority are charter management organizations, collectively operating nearly 100 schools serving 26,000 students. The other ventures fall into three categories: school support organizations, which provide facilities and other support for charter schools; human capital ventures, which recruit people into teaching or leadership and provide professional development; and "accountability and performance tools," a catch-all for a diverse set of additional investments.

A number of features of the NewSchools approach are worth noting. First, like a for-profit venture capital fund, NewSchools is very proactive, both in seeking out potential entrepreneurs to address the needs NewSchools has identified as high-priority, and in supporting the organizations in which it invests in a very hands-on fashion, typically taking a seat on an enterprise's board. The predominance of CMOs within the portfolio, for example, arose from a strategic decision to focus its investment between 2002-2006 on this kind of organization. Second, building a network of educational entrepreneurs is a priority for NewSchools. NewSchools actively develops "communities of practice" in which ventures have the chance to interact with one another in live meetings and through an online knowledge management system. Building a network of educational entrepreneurs is a priority for NewSchools. Finally, while

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“recruiting educational entrepreneurs” does not appear on any official list of NewSchools’ activities, the organization plays this role to a substantial degree. NewSchools offers funding and support as carrots to entice entrepreneurs to enter the space, but its staff are also out actively “shaking the trees” to find people who can launch, staff, or serve on the boards of the ventures they support.

Teach For America Social Entrepreneurship Initiative. TFA has increasingly built up services to support its 12,000-plus alumni, especially those that want to pursue careers relevant to TFA’s mission. Toward that end, the organization launched initiatives specifically to support corps members and alumni interested in two fields: political leadership and school leadership. In 2007, TFA added a third initiative focused on social entrepreneurship to be led by a full-time staff person. The initiative will survey alums to gauge their interest in social entrepreneurship, the barriers they perceive, and the support they think they could use. Based in part on that input, TFA will design an array of supports for people at different levels of readiness and interest, from those for whom a social venture is just the seed of an idea to those who are well on their way to developing an enterprise. This support may be provided in some cases by TFA directly, but its aim is also to cultivate partnerships with existing organizations that already have something to offer would-be social entrepreneurs. TFA hopes that between now and 2010, the initiative will help spawn as many as a dozen new social enterprises that have achieved some metrics of scale, recognition or impact.

The Mind Trust in Indianapolis. While the first two initiatives have a national scope, The Mind Trust is a new nonprofit with a specific focus on the city of Indianapolis. The Mind Trust’s core program to recruit talented entrepreneurs is its Education Entrepreneurship Fellowship, which it launched in fall 2007. The idea of the Fellowship is to offer two years of

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relatively high salary (\$90,000), full benefits, office space, and an array of customized support to highly capable people seeking to start new education ventures. The Mind Trust plans to award its first Fellowships in spring 2008, naming a cohort of up to four people. These ventures could be new schools, new networks of schools, or organizations that support schools in some way, but they need to have some kind of transformative potential for public education in Indianapolis, and perhaps beyond. The Mind Trust grew out of Mayor Bart Peterson's charter school initiative, in which the Mayor and his charter advisor David Harris determined that they needed to do more to create a pipeline of people who could start charter schools and other education start-ups. Harris left the Mayor's Office to form The Mind Trust, whose board includes the Mayor (as chair), the superintendent of Indianapolis Public Schools, and other civic leaders. In addition to the Fellowship, the organization also operates a Venture Fund that has successfully attracted some existing entrepreneurial organizations, including The New Teacher Project and College Summit, to set up shop in Indianapolis. Between the Fellowship and the Fund, the idea is to create a strong network of enterprising talent and energy in a single city, magnifying the potential impact of entrepreneurship.

The Midwest Education Leaders Initiative. The final initiative is one that, as of fall 2007, is on the drawing board in the Midwestern United States. There is a great deal of existing educational entrepreneurial activity in the Midwest under the auspices of both homegrown organizations and national enterprises that have set up shop there, and the prospects of more to come. As a result, the region faces a serious shortage of talented people wanting to work within educational enterprises. As explained previously, while not actual entrepreneurial founders, this level of talent is a vital underpinning of entrepreneurial activity; in addition, some people who enter the sector in these roles may become tomorrow's entrepreneurial founders. In early 2007, a

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group of education organizations and funders across the region led by the Thomas B. Fordham Institute began working on a possible education leaders initiative in the Midwest. While the concept is still exploratory, the group is considering a targeted campaign to recruit outstanding people to work in the region's leading education ventures, a leadership development program to link new recruits and emerging leaders and provide them with professional development, and retention strategies such as attractive incentive packages and opportunities for civic leadership.

The next set of initiatives discussed here are also aimed at recruiting entrepreneurs, but not to found charter management organizations or charter schools specifically, rather the wider category of educational entrepreneurs. These include:

Charter School Growth Fund. Funded by some of the leading foundations in the charter world, the Growth Fund "is a philanthropic venture fund founded to significantly increase the capacity of proven educational entrepreneurs to develop and grow networks of high quality charter schools." The Growth Fund invites existing successful charter operators to apply to become part of the Fund's "business planning cohort program," in which they receive substantial help, feedback, and, if they meet the Fund's milestones, grant and loan funding sufficient to cover much or all of the "central office" the operator will need to develop a network of schools. Participants also have access to the Fund's facilities financing program, which addresses one of the critical constraints on charter school growth. As of September 2007, the organization's website listed twelve grantees that have received a combined \$30 million from the Fund. Like NewSchools, while the Fund's most visible activity is providing funds, cultivating human capital is a central focus as well. To begin with, a key part of the due diligence process on prospective ventures is the capability of the founding team; feedback and support often centers around filling out that team and shoring up weak areas. And the Fund has just launched a new "C-Level"

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program that will convene 18 people in each of four geographic markets, a combination of people already involved in C-Level jobs (CEO, COO, etc.) in charter networks and other talented professionals working in other spheres but with an interest in the charter market. Bringing people together in semi-monthly programs, unstructured mentorships, and an annual conference, the program's idea is to expose the outside professionals to the sector in the hope that some will end up serving on network boards or even taking C-Level jobs in the enterprises.

Building Excellent Schools. Founded by long-time charter school supporter and advocate Linda Brown, BES offers a year-long fellowship to aspiring charter school founders. Fellows receive \$80,000 stipends, approximately 100 days of "intense training" including visits to top-performing charter schools, an extended residency in a high-performing urban charter school, and "ongoing coaching and support around board and charter application development." BES is based in Boston, but enrolls fellows interested in starting charter schools in any of fourteen other cities across the country. As of fall 2007, 27 fellow-founded charter schools were open or on their way to opening, the result of five "classes" of fellows proceeding through the BES program.

A few features of the BES Fellowship stand out. First, a key part of BES's program is recruitment of qualified individuals, though its recruitment effort is as much de-marketing as it is a sales pitch. (The Fellowship's marketing materials begin with this quote from the flyer Sir Ernest Shackleton used to attract members of his 1914 expedition to Antarctica: "Men wanted for Hazardous Journey, Small Wages, Bitter Cold, Long Months of Complete Darkness, Constant Danger, Safe Returns Doubtful, Honor and Recognition in Case of Success.") BES cultivates nominators around the country and offers a \$2,000 finder's fee for individuals who refer people who then enroll as fellows. The program's materials reflect a strong belief that

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getting the right people into the charter founding role is an essential underpinning of school success. Second, the program is not agnostic regarding what kind of charter school is likely to be successful with targeted urban young people. In fact, candidates fill out a “belief assessment” in which they answer a series of questions designed to gauge their commitment to a strong academic focus, a no-excuses, high expectations orientation, and strict behavioral codes and their rejection of emphases like “self-esteem,” “cultural awareness” and “appreciation for diversity.” In short, BES is not a generic support organization for charter school founders across the spectrum of possible approaches. Instead, it is seeking to build charter schools that fall within a certain range on that spectrum.

New Schools for New Orleans. In every state with charter schools and in some large cities, there are nonprofit organizations that exist to provide support for the charter sector. In some respects, all of these organizations could be considered initiatives designed to recruit founders of charter schools, but in practice their focus on this supply question is often limited; much more of their time and resources go into supporting existing schools and advocating for the sector as a whole in the policy arena. New Schools for New Orleans (NSNO) is one exception to this generalization, a natural departure in light of the extreme need for supply faced by New Orleans as it seeks to re-open its post-Katrina school system largely by starting charter schools. Central to NSNO’s effort is its “Incubation” program, which beginning in 2007-08 will provide \$10,000 per month to founders of charter schools or CMOs. In addition to payment, NSNO will also offer leadership training, legal and operational assistance, teacher recruitment services, board development help, charter application review, exposure to existing excellent schools, and links to potential community partners. The incubator is too new to assess, but its relatively high

pay and high level of services make it a stand-out among organizations seeking to foster charter supply.

Initiatives That May Indirectly Fuel the Pipeline with Enterprising Teachers and Administrators

Beyond these initiatives that directly aim to recruit entrepreneurs, several others are designed to entice talented people into other roles within the education system, such as teachers, school principals, or district or CMO managers. Some of these initiatives are potentially important to the entrepreneurial pipeline because their existence could make the sector more attractive to entrepreneurs, and because some of their “graduates” may go on to become entrepreneurs.

It is important to point out that within the broad range of programs designed to recruit and prepare people for roles in the educational system, only a handful appear to be designed with the potential to cultivate a significant number of entrepreneurial leaders specifically. Generally speaking, such programs (which tend to be university-based principal and teacher preparation programs) are set up to attract entrepreneurially minded people or to equip them with entrepreneurial skill sets. In recent years, researchers have raised significant questions about whether most school leader preparation programs are even equipping students well for non-entrepreneurial management roles. Arthur Levine’s *Educating School Leaders* study, for example, reached scathing conclusions about how poor most school administration degree programs are.¹⁹ Hess and Kelly’s analysis of administration program syllabi revealed that critical topics for today’s school leaders, such as managing for results and using data, received scant attention in core course across different types of institutions.²⁰ No doubt, there is a great deal of ferment in the field of leader and teacher preparation. Several urban districts, such as New York

City and Boston, have developed leadership academies to try to do a better job of preparing school leaders. But even these more cutting-edge efforts seem largely designed to equip administrators for conventional principalships, not entrepreneurial roles.

As a result, the focus here is on a subset of pipeline programs that have more emphasis, in their selection criteria and / or programmatic content, on entrepreneurial leadership. Leading examples include:

- **The Broad Residency in Urban Education.** Sponsored by The Broad Foundation, the Residency provides “graduates from business, public policy, and law schools who have at least four years of work experience in the private or public sector” with “immediate placement into full-time management positions in urban school districts and charter management organizations (CMOs), while providing two years of professional development and access to a nationwide network of education leaders.” Residents report directly to their hosts’ top executives, and the program seeks to have them assigned major special projects during their tenure. The program pays starting salaries of \$80,000 to \$90,000. According to the Residency website, over 110 Residents have been employed by more than 35 school districts and CMOs, and 94 percent remain in the education sector in some form.
- **New Leaders for New Schools.** New Leaders for New Schools (NLNS) is a national effort to attract, prepare, and support “outstanding leaders for our nation’s urban public schools.” The organization recruits candidates nationally, conducts a competitive selection process, and then offers those it selects a five-week “Summer Foundations” training, paid residency in schools with mentor principals, help finding principalships, and ongoing support after they become principals. Over six years, NLNS has placed more

than 330 principals in six cities: Baltimore, Chicago, Memphis, New York, Oakland, Washington, DC, and the San Francisco Bay Area. The organization also works in Milwaukee, New Orleans, and Prince George's County, Maryland. In each city, NLNS develops an elaborate partnership with the school district, local funders, and others establish its program. In addition to finding placements for its recruits as residents and then principals, NLNS also asks districts to give its graduates sufficient autonomy to lead their schools.

- **Teach For America.** TFA recruits top college graduates to teach for two years in high-poverty urban and rural schools. Over sixteen years, 17,000 “corps members” have joined TFA, which now works in twenty-six communities nationally. In 2007, over 18,000 people applied to TFA, and it selected about 2,900 corps members (16 percent). At some elite colleges, a high percentage of graduating seniors applied to become corps members, according to a TFA press release: “11 percent of the senior classes at Amherst and Spelman; 10 percent of those at University of Chicago and Duke; and more than eight percent of the graduating seniors at Notre Dame, Princeton and Wellesley” applied for the corps.²¹ A critical part of TFA’s “theory of change” is that its alumni, based in part on the experience they have as corps members, will go on to some kind of lifelong commitment to educational equality—whether they remain in education, tackle some related social challenge, or influence policy or opinion through some other challenge. The organization now actively cultivates its alumni network through means such as the social entrepreneurship initiative, described above.
- **The New Teacher Project.** Like TFA, The New Teacher Project (TNTP) recruits talented people to become teachers, though with more of a slant toward mid-career

professionals and recent college graduates.²² As of fall 2007, the organization has “recruited, prepared and/or certified approximately 23,000” teachers in several cities, including four of the five largest school districts nationally. In New York, fully a quarter of the city’s math teachers were hired through TNTP’s NYC Teaching Fellows program. In the most recent year with data, 2006, some 82 percent of teachers recruited filled “critical shortage area subjects such as math, science, and special education.” Also like TFA, TNTP seeks to run a selective admissions process, accepting about 14 percent of applicants as “Fellows” with an average college GPA of 3.3. Unlike TFA, which signs up corps members for a two-year commitment, TNTP explicitly aims to achieve a high retention rate over time.

- **High Tech High.** High Tech High operated a network of six charter schools in 2006-07, with two more campuses opening in fall 2007. HTH enters the pipeline discussion because of their unique effort to move “upstream” in the teacher pipeline, taking control of functions that school-managing organizations typically leave to higher education. In 2004, HTH gained authority from the California Commission on Teacher Credentialing to certify teachers, for its own schools or others. “Interns” can now earn their teacher credentials by serving as full-time, salaried teachers in charter school classrooms. More remarkably, in 2007, HTH opened its own Graduate School of Education, which will offer master’s degrees in Teacher Leadership and, in the future, School Leadership. In the teacher program, candidates continue to work full-time as teachers, typically (though not necessarily) within the HTH network. They attend summer classes for a month and have four one-week “residencies” at HTH schools over the course of a year, working with a mentor throughout. Unlike traditional higher-ed based credentialing and degree

programs, which tend to prepare teachers generically to teach in many kinds of schools, HTH initiatives explicitly aim to prepare teachers for schools like those in the HTH network, i.e., schools that engage in project-based learning with an emphasis on real world application. HTH is one of a relatively small number of charter school networks that has moved into the teacher preparation business. Another example is a “teaching institute” launched in New York by a partnership between KIPP, Achievement First and Uncommon Schools, though in contrast to HTH’s stand-alone entity, the institute will be housed at an existing higher education institution, Hunter College.

- **Academy for Urban School Leadership.** A final teacher pipeline initiative worth mentioning here is Chicago-based Academy for Urban School Leadership (AUSL), which has taken a substantially different approach to other programs discussed above. Each year, AUSL recruits 40 to 50 mid-career professionals or recent college graduates to enter a medicine-style “residency,” working full-time in the classroom of a mentor teacher and earning a master’s degree. Residents make a five-year commitment as a condition of participating, and AUSL helps place and support them over time. Both the intensity of the preparation (an entire year prior to assuming full teaching responsibilities) and the expectation of retention set AUSL’s program apart. Also interesting is the organization’s decision in 2005 to go beyond its teacher preparation work and assume the management of “turnaround” schools in Chicago and fill 60 percent of their classrooms with its own participants.

Lessons Learned and Directions Forward

The Value of Making Entrepreneurial Human Capital-Building Someone's Job

Perhaps what is most important about these initiatives is that they create groups of people whose everyday job it is attracting enterprising individuals into K-12 education. This increases the number of brains focused on the barriers to that pipeline and potential solutions. It also makes it more likely that potential educational entrepreneurs will hear the message that public education is a viable sector for entrepreneurial people will be heard by that target audience. The more organizations are out at job fairs, advertising in the media, speaking at professional schools, and activating professional networks, the more likely enterprising individuals are to think “maybe I’ll become involved in public education.”

Still, the number (and thus volume and reach) of these voices is still relatively small. TFA currently brings about 3,000 teachers per year into a system projected to need about 90,000 per year in the foreseeable future. Less than 100 school leaders enter per year under the programs described above. And the initiatives designed specifically to attract entrepreneurs are likely to support—collectively—no more than a few dozen entrepreneurs in a given year. It would be a mistake to think that domains such as teacher recruitment, leader recruitment, and entrepreneur recruitment are now “taken care of” due the existence of the initiatives discussed here.

As a result, funders and other advocates of increased educational entrepreneurship need to pay specific attention to the need to do more work in this arena, expanding the number of people whose job it is every day to recruit entrepreneurial people into public education. They could pursue this expansion through two routes: inducing the existing initiatives profiled above (and others like them) to expand, or creating new initiatives with similar objectives. These approaches are not mutually exclusive: expanded capacity and new capacity could both contribute to a goal of more focused attention on these issues.

The Importance of Networks

One of the central findings of literature on entrepreneurship is the importance of networks of enterprising people.²³ Networks can be formal, in which some organization makes a deliberate effort to convene people in person or electronically and to facilitate interactions. Or they can be informal, arising naturally as individuals engaged in entrepreneurship meet, forge relationships, and begin to exchange information and otherwise help each other. It is within these networks that entrepreneurs make connections to sources of capital, find talented team members, discover business opportunities with one another, benchmark against each other regarding key areas of practice, and share critical information. This network effect is one of the factors that accounts for thriving geographical centers of entrepreneurial activity, most famously Silicon Valley.

Many of the initiatives profiled here have sought to play exactly this sort of network function. NewSchools Venture Fund's "Communities of Practice" convene entrepreneurs several times a year to discuss common challenges, share tools and resources, and engage in joint learning with experts. Through a variety of formats—panel discussions, team exercises, presentations from experts or practitioners from other sectors—entrepreneurs have a chance both to acquire new information and insights, but also to get to know one another. Charter School Growth Fund's "C Program" connects top CMO leaders with each other and with people currently playing managerial or professional roles in the business world who may someday become board members or even team members of CMOs. A central component of the Indianapolis Mind Trust and the proposed Midwest Education Leaders Program will be forging networks among the people they recruit. The Mind Trust, for example, continually reaches out to people in the community who might be helpful to the ventures they support and makes connections between them; the organization is also contemplating more formal linkages such as

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regular meetings of educational entrepreneurs working in the city. These networks will likely have benefits for their members, but their value potentially extends one more step: their existence may make the field more attractive to (and more likely to be discovered by) the next group of prospective entrepreneurs, who will know they can join a vibrant group of like-minded people if they enter.

Addressing the Information Gap

These steps will have the effect of informing more people about the possibilities for entrepreneurship available within education. But what other strategies could spread the word even more widely? One is for organizations that support educational entrepreneurship, such as those profiled above, to seek funds for high-profile campaigns likely to reach potential entrepreneurs with information about what is happening currently in educational entrepreneurship, how effective some entrepreneurial ventures have been, and what opportunities exist. The Broad Residency's marketing materials for its program represent a potential model, starting as they do with a pitch to talented people that education is a field in which they can apply their considerable capabilities and make a difference. "Are you looking for a management career that allows you to have a major impact on society—improving the lives of thousands of young people?" begins the Residency's website, which also features alarming statistics about the state of urban public education as well as stories about current and previous residents designed to convince visitors that they can make a positive difference by pursuing the management jobs offered in the Residency. The materials also express the importance of management skills in education—making clear that the capabilities their target audience have built in their careers are relevant, indeed sorely needed, in K-12 education. This combination of appeals to individuals' social consciousness and their desire to apply their management competencies appears well-

calculated to convince emerging business leaders to take a closer look at the opportunity Broad is offering.

Another strategy is the creation of widely publicized competitions for business plans in educational entrepreneurship—or working with existing business plan competitions to encourage educational submissions. For example...These competitions not only have the effect of bringing strong existing proposals to the fore; they also, if publicized well, can have the effect of informing a wider audience of the possibility of entrepreneurship within K-12 education.

Limits of the Teacher and Leader Recruitment Programs as an Entrepreneurial Pipeline

As discussed above, some of the most interesting developments in education human capital are not specifically designed to recruit entrepreneurs. Instead, their aim is to bring highly talented people into teaching or school/district administration. These may have the side benefit of enticing people into the space who then go on to found transformative entrepreneurial ventures. For a couple of reasons, however, this kind of spillover effect is likely to be limited. First, these programs are not generally geared to recruiting entrepreneurial people per se. They are seeking talent, drive, commitment, and a range of other qualities that would serve entrepreneurs well, but not the specific constellation of qualities that separate successful entrepreneurs from successful professionals or managers in general—such as the entrepreneur’s particular penchant for risk-taking and organization-building. This is not a flaw in these programs; it is perfectly appropriate that they select people for the jobs that they will fill: teachers, school leaders, and district administrators. As a result, however, only a small fraction of people entering education through these routes are likely to become educational entrepreneurs. TFA’s social enterprise initiative, for example, has a goal of spawning ten successful entrepreneurial ventures by 2010 out of what will by then approach 20,000 current and former corps members.

Second, these initiatives may face incentives that limit their ability to encourage even their more enterprising participants from embarking on entrepreneurial ventures. As Hess and Hassel write, for example, efforts like TNTP often sign contracts with districts under which their performance will be assessed based in part on their retention of program participants as classroom teachers. Unless these incentives change, these programs cannot be expected to entice their participants to become entrepreneurs because every teacher who leaves the classroom to become an entrepreneur (or anything else) “counts against” them as districts calculate their retention results. It is no coincidence that among programs aimed at recruiting teachers, TFA is the one with an explicit social enterprise initiative. In contrast to TNTP, TFA’s performance is not judged by retention of its corps members in classrooms. Indeed, TFA has an incentive to entice graduates to stay involved in education rather than pursuing other fields altogether. But TFA is the outlier in this regard; other organizations like TNTP and AUSL tout their retention rates as key indicators of their success. Initiatives aimed directly at enticing entrepreneurs, therefore, remain vital.

Perhaps a more promising way to cull more entrepreneurs from the ranks of teachers, specifically, is to encourage more existing school organizations to envision and create differentiated career paths for teachers that allow entrepreneurial talent to emerge. As Hess and Hassel illuminate, such paths could allow enterprising people “to continue to work part-time as classroom teachers, while building skill sets and gaining experience in non-classroom contexts. This would permit educators to explore alternatives and gain diverse experiences, while reducing the pressure on energetic and highly capable young teachers to decide at a young age whether to become an administrator or leave education. Such positions would allow potential entrepreneurs to undergo some seasoning, connect with like-minded individuals and potential mentors, and get

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a taste of an alternate career path within K-12—all standard issue opportunities in thriving entrepreneurial sectors.

Human Capital Initiatives and Policy Change

In general, the initiatives discussed here are designed to improve the flow of talent into K-12 education *in spite of* the considerable policy barriers described above. One charge that could be leveled against them, accordingly, is that their efforts are merely Quixotic windmill tilts or, worse, amount to rearranging the deck chairs on a certain well-known ocean liner. However, it may be that these initiatives (to shift metaphors) contain the seeds of policy change even as they aim to grow within education's currently infertile soil.

Though calls for making public education more dynamic, less bureaucratic, and more manageable have been sounded for decades, the rise of these various human-capital-seeking initiatives presents the possibility of a different dynamic going forward, in which these organizations have a very strong concentrated interest in certain policy changes that would make their work turn out more successfully. NLNS, for example, is in a position to have communities vie for the organization to make it the next NLNS expansion site. This competition could potentially give NLNS the leverage it needs to ensure that principals it places in those communities have the power to lead their schools effectively. Whatever the impact, this appears more potent than that of another white paper on the importance of principal autonomy.

Two other examples from above also illustrate this migration of organizations into more of a policy-changing role. One is HTH's move first to become an entity empowered to offer teacher certification, and then to form its own school of education to carry out the entire job of teacher preparation (and perhaps, in the future, leader preparation). In effect, HTH realized that it needed to move "upstream" in the human capital pipeline, playing an active role in shaping what

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would then flow into the schools it manages. This approach helps HTH, but it also plows new policy ground in California, creating fertile ground for other similar programs to spring up and, in the process, change the landscape of teacher preparation and certification significantly. The other example works the other way, but ends in the same place. Chicago's AUSL initially operated a human capital program, specifically an initiative to recruit talented people into teaching via an innovative residency model. But once they completed the program, teachers would then disperse to schools in Chicago and beyond, where they may not find an environment that allows them to deploy what they learned in AUSL's program. Over time, AUSL sought to "better utilize the intense and rigorous training of our graduates" by striving "to place all of its graduates in teams and in schools with strong and visionary principal leadership."²⁴ To do so, AUSL is now assuming the management of "turnaround schools" for Chicago Public Schools, and filling the schools with its program's participants. While the number of schools AUSL is managing is very small in the context of CPS, the nation's third largest school system, it is a significant move for AUSL itself in the evolution of its own strategy. Where HTH moved "upstream" to affect the pipeline of human capital flowing into its schools, AUSL has moved "downstream," seizing control of the environment in which its graduates work. As with HTH's action, what AUSL is doing may be preparing the soil for others to take over failing schools in Chicago or elsewhere.

These stories suggest how nascent initiatives might reverse a vicious cycle in education. Currently, the industry is on the whole not a hospitable place for entrepreneurial activity; as a result, too few talented, enterprising people select education from among all of their many opportunities; and as a result of that, education remains a relatively un-enterprising sector, further discouraging the next generation of talent, and so on. Reversing that cycle by changing

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the sector's culture overnight is not a feasible starting point for advocates of change. Breaking it by recruiting talent, against the odds, holds much more promise.

Still, advocates for more entrepreneurial activity in education need to attend to policy questions given their ultimate influence on the pipeline of entrepreneurial talent. Initiatives that would expand the potential to open high-quality charter schools, give school leaders more authority over critical management levers, open the teaching and school leadership professions to talented people without conventional preparation, and create flexibilities in school funding that make it easier for schools and systems to spend money on or even invest in entrepreneurial ventures are all ways in which progress on the policy front could make a significant difference for the supply of entrepreneurial people flowing into K-12 education.

¹ The author acknowledges the contributions of many people to the preparation of this chapter. From Public Impact, Emily Ayscue Hassel helped develop some of the key framing ideas; Lucy Steiner compiled research on the qualities of successful entrepreneurs. The chapter draws on, and in some cases is adapted from, a working paper co-authored by Frederick M. Hess and Bryan C. Hassel entitled “Fueling Educational Entrepreneurship: Addressing the Human Capital Challenge,” which was informed by a meeting of education reformers held by AEI in October 2006. The working paper is available at: www.ksg.harvard.edu/pepg/PDF/Papers/Hess-Hassel_Human_Capital_Policy_PEPG07-06.pdf.

² Smith and Petersen refer to this collection of people as, “a ‘hybrid team,’ with skills from across the education, business, nonprofit, and public sectors. Public education has as much operational and financial complexity as any business, the mission-driven character of a nonprofit, the content and social complexity inherent in education, and of course the need to be accountable to a diverse public. As such, educational entrepreneurs need to surround themselves with skills and expertise from across these fields.” See Kim Smith and Julie Landry Petersen, “What is Educational Entrepreneurship,” in *Educational Entrepreneurship: Realities, Challenges, Possibilities*, ed. Frederick M. Hess (Cambridge, MA: Harvard Education Press, 2006), p. 37-39.

³ For one review see D. R. Gnyawali, and D. S. Fogel, “Environments for Entrepreneurship Development: Key Dimensions and Research Implications,” *Entrepreneurship: Theory and Practice* 18(4). For a broader look at the research on entrepreneurship in general, see Z. J. Acs and D. B. Audretsch, eds., *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction* (Springer, 2005). One particularly rigorous piece of research on the qualities of successful entrepreneurs is reported in L. M. Spencer and S. M. Spencer, *Competence at Work: Models for Superior Performance* (Hoboken, NJ: Wiley), summarized in Public Impact, *Reopening as a Charter School* (Naperville, IL: Learning Point Associates, 2005), available at www.centerforcsri.org/pubs/restructuring/KnowledgeIssues2Chartering.pdf.

⁴ Smith and Petersen, “What is Educational Entrepreneurship,” p. 23.

⁵ Source of data on number of teachers recruited: New Teacher Project Website, www.tntp.org/whoweare/overview.html, accessed September 4, 2007.

⁶ List excerpted from information provided by Dena Blank, Teach For America, personal correspondence August 27, 2007.

⁷ John Chubb and Terry Moe, *Politics, Markets, and America’s Schools* (Washington, DC: Brookings, 1990).

⁸ Frederick M. Hess, *Spinning Wheels: The Politics of Urban School Reform* (Washington, DC: Brookings, 2000).

⁹ For example, see Center on Education Policy, *Choices, Changes, and Challenges: Curriculum and Instruction in the NCLB Era* (Washington, DC: Center on Education Policy, 2007).

¹⁰ Andrew J. Rotherham, *Smart Charter School Caps* (Washington, DC: Education Sector, 2007), p. 1.

¹¹ Author’s tabulation from information provided in Education Commission of the States, “Charter School Authorizers / Sponsors,” online: <http://mb2.ecs.org/reports/Report.aspx?id=81>.

¹² Elise Balboni, Eva Rainer, Clara Chae, Kathy Olsen, *2007 Charter School Facility Finance Landscape* (New York: Local Initiatives Support Corporation, 2007), p. 4.

¹³ Sheree Speakman and Bryan C. Hassel, *Charter School Funding: Inequity’s Next Frontier* (Washington, DC: Thomas B. Fordham Institute, August 2005).

¹⁴ J. T. Bond, with C. Thompson, E. Galinsky, and D. Prottas, *Highlights of the National Study of the Changing Workforce* (New York: Families and Work Institute, 2003).

¹⁵ Susan M. Gates, Jeanne S. Ringel, Lucrecia Santibanez, Catherine H. Chung, and Karen E. Ross, *Who is Leading our Schools? An Overview of School Administrators and Their Careers* (Santa Monica, CA: RAND, 2003).

¹⁶ Hess and Hassel, “Fueling Educational Entrepreneurship,” p. 5.

¹⁷ Lowell C. Rose and Alec M. Gallup, “The 38th Annual Phi Delta Kappa/Gallup Poll Of the Public’s Attitudes Toward the Public Schools,” *Phi Delta Kappan* (September 2006), p. 44.

¹⁸ In addition to the initiatives profiled here, there are also several “venture philanthropy” firms.

¹⁹ Arthur Levine, *Educating School Leaders* (Washington, DC: The Education Schools Project, 2005).

²⁰ Frederick M. Hess and Andrew P. Kelly, “Learning to Lead: What Gets Taught in Principal-Preparation Programs,” *Teachers College Record* 109(1), 2007, pp. 244-274.

²¹ Teach For America, “Teach For America places largest-ever corps, expanding its impact to 26 regions nationwide,” Press Release, August 15, 2007. Available: www.teachforamerica.com/newsroom/documents/081507_Largestcorps.htm.

²² In addition to this direct teacher pipeline work, TNTF also provides human resources consulting services to districts and engages in research and advocacy on issues related to the teacher pipeline.

²³ P. Dubini and H. Aldrich, "Personal and Extended Networks Are Central to the Entrepreneurial Process." *Journal of Business Venturing*, 6, 1991, pp. 305-313; P. Adler and S. Kwon, "Social Capital: Prospects for a New Concept." *Academy of Management Review*, 27, 2002, pp. 17-40; D. De Carolis and P. Saporito, "Social Capital, Cognition, and Entrepreneurial Opportunities: A Theoretical Framework." *Entrepreneurship Theory and Practice*, 30, 2006, pp. 41-56; D. Gnyawali and D. Fogel, "Environments for Entrepreneurship Development: Key Dimensions and Research Implications." *Entrepreneurship Theory and Practice*, 18, 1994, pp. 43-63.

²⁴ From AUSL's "About Us" webpage, www.ausl-chicago.org/aboutus/, accessed August 31, 2007.