



**CHANGING THE GAME: THE FEDERAL ROLE IN SUPPORTING
21ST CENTURY EDUCATIONAL INNOVATION**

By:
Sara Mead (New America Foundation)
Andrew J. Rotherham (Education Sector)

October 2008

TABLE OF CONTENTS

Executive Summary 3

I. Introduction 5

II. American Public Education Faces Challenges of Equity and Excellence..... 7

III. Educational Entrepreneurs Are Redefining the Potential of Public Education..... 9

IV. The Federal Government Has a Role to Play in Advancing Educational Entrepreneurship and Innovation 23

V. Recent Federal Support for Educational Innovation Has a Disappointing Track Record..... 27

VI. The Federal Government Should Play A Game-Changing Role in Supporting Educational Entrepreneurship and Innovation..... 34

VII. Changes to the Department of Education Would Enable Effective Federal Support for Educational Innovation and Entrepreneurship 46

VIII. Conclusion 61

Notes..... 63

EXECUTIVE SUMMARY

To resolve dramatic disparities in educational achievement and ensure future American workers are globally competitive, the federal government needs, as it has in the past, to *change the game* in public education.

A robust new federal **Office of Educational Entrepreneurship and Innovation** within the Department of Education would expand the boundaries of public education by scaling up successful educational entrepreneurs, seeding transformative educational innovations, and building a stronger culture to support these activities throughout the public sector.

America's Challenge

Significant educational achievement gaps and stagnating attainment threaten the nation's ability to fulfill its promise of equal opportunity and successfully compete in the global economy. In both reading and math, fourth graders from urban public schools—whose students are disproportionately poor and minority—are roughly a year-and-a-half behind their suburban peers. U.S. 15-year-olds trail their peers in 23 other countries in math and 11 other countries in reading. Slipping trends in educational attainment point to a real possibility that young Americans today may be less well educated than the previous generation, and experience lower living standards as a result.

Limitations of Existing Federal Policy

Despite the progress that a growing generation of educational entrepreneurs has achieved in educating low-income and minority students, current federal efforts in public education fail to meaningfully support these entrepreneurs, or drive the innovation necessary to generate real increases in educational productivity. The No Child Left Behind Act's accountability measures were not accompanied by the support necessary to spur real innovation to improve student learning. Political, funding, and programmatic hurdles hinder the effectiveness of existing federal initiatives to stimulate educational innovation. Federal support for much-needed educational research and development under-prioritizes the development aspect of implementing and scaling new models.

A New Federal Approach

The federal government should catalyze a culture of innovation and entrepreneurship in public education through a new Office of Educational Entrepreneurship and Innovation (OEEI) within the U.S. Department of Education. With a small and nimble staff and an independent review board, OEEI would strategically collaborate with entrepreneurs, innovators, philanthropists, and state/local governments to:

- **Scale up successful educational entrepreneurs** such as charter school networks, human capital suppliers, providers of technology and out-of-school supports, and capacity-building intermediaries through a new **Grow What Works** fund of up to \$300 million annually
- **Foster transformational educational innovations** by investing \$150 million annually into longer-term, high-risk but high potential payoff educational R&D through the new Education Innovation Challenge
- **Build a stronger culture of entrepreneurship and innovation** at the federal level and nationwide by eliminating barriers to new and innovative educational approaches, highlighting educational issues of national significance, and building networks of educational entrepreneurs to help them exchange best practices; identify high-quality human capital; and realize potential synergies

I. INTRODUCTION

The challenges facing the American education system—dramatic achievement disparities by race and income; poor urban school performance; staggeringly high dropout rates; the growing gap between the global economy’s increasing demand for skills and knowledge and our stagnating educational attainment—are legion and well-documented.

In the face of these problems, however, the solutions under consideration appear almost pitifully modest. Between standards and accountability, school choice, school finance reform, and incorporating performance into teacher pay, Americans have been debating the same ideas for the past 15 years, with some progress but modest results overall. Even the most promising and effective reforms today generate only marginal returns on the substantial energy and resources invested in them. And we are reaching a point of decreasing marginal returns for further standards-based reforms.

The American public education system needs not just more charter schools, better ways of paying teachers, or more sophisticated accountability models—although all of those things are good ideas. Instead, we need to significantly expand the boundaries of what is possible in public education. We must drive improvement in the core function of teaching and learning itself—not simply the structures in which it occurs—and generate real increases in educational productivity. Put another way, rather than marginal improvements we need ideas that are genuine *game-changers* in public education.

Many have proffered ideas about how to achieve dramatic improvements in teaching and learning, such as: using class time and technology in new ways; shifting to flexible, multi-age groupings that facilitate customized instruction; or deploying technologies that enhance teacher productivity.¹ This report does not offer an argument for a specific set of “innovative approaches” or a particular vision for the future of public education. Indeed, one cannot really describe what transformative educational innovations would look like because most of them have not yet been developed. Nor does this report argue simply for more big ideas, certainly not big ideas disconnected from a larger theory of change in education.

This report instead calls for a more aggressive and systematic federal role in creating genuine habits of innovation within the structure and culture of American public education. The federal government has played critical roles in supporting research and development that has generated game-changing innovations in a wide variety of fields, including aeronautics, computers, and medical technology. A variety of federal agencies, including the Defense Advanced Research Projects Agency (DARPA) and National Institutes of Health (NIH), underwrite cutting-edge R&D in their respective

fields, including some of the most important scientific and technological breakthroughs of the past 50 years. In contrast, the federal track record in supporting educational innovation is a disappointing one. The U.S. Department of Education spends less than one percent of its entire budget on R&D activities—a smaller percentage than any other federal agency²—and very little of that funding is dedicated to developing new and innovative approaches to the nation’s most pressing educational challenges.

At the same time, this report recommends that the federal government play a much greater role in bringing existing successful educational models to scale. In the past decade, new players have emerged on the educational landscape, most notably social entrepreneurs such as Teach for America founder Wendy Kopp, Knowledge as Power Program (KIPP) founders Mike Feinberg and David Levin, and District of Columbia Public Schools Chancellor Michelle Rhee. Supported by both conventional foundations and new venture philanthropy organizations, these education entrepreneurs are outlining new directions for how our most troubled schools are organized and disadvantaged students are educated. By pushing the boundaries of how we think about recruiting, training, and using people, time, and money in education, these initiatives are at the vanguard of a powerful reform movement. Yet they remain largely decoupled from national policy.

To genuinely “change the game” in education as it has in the past, the federal government must do a much better job of catalyzing and supporting both innovation and entrepreneurship in public education. To do this, it must partner with philanthropy, social entrepreneurs, and the private sector to make significant new investments in educational research and development, to identify and develop the next generation of educational innovations, and to scale up successful models. It must also model the habits of innovation we seek to generate in public education more generally by creating a new culture of innovation and entrepreneurship within the U.S. Department of Education, starting with the creation of a robust Office of Educational Entrepreneurship and Innovation that will serve as a contact point and advocate for educational entrepreneurs, innovators, and philanthropists within the Department. Creating this new federal role in educational innovation must be at the top of the incoming administration’s education policy To-Do list.

Policies to help build human capital, narrow disparities by race and income, and grow a more robust and diverse American middle class form a central concern of the *Blueprint for American Prosperity*, a multi-year initiative of the Brookings Institution Metropolitan Policy Program. “Changing the Game” asserts that the federal government has a unique role to play in helping urban and metropolitan educational systems to innovate in order to overcome their challenges, and to provide all their students with the skills they need to prosper.

II. AMERICAN PUBLIC EDUCATION FACES CHALLENGES OF EQUITY AND EXCELLENCE

American public education faces two distinct but related challenges—of equity and of excellence—that pose a real threat to the nation’s ability both to maintain its standard of living, and to fulfill the ideal of equal opportunity to which it aspires.

1. *Significant achievement gaps perpetuate inequality*

Nationally, just over half of African American and Hispanic students—55 and 53 percent, respectively—graduate our nation’s public high schools within four years of enrolling in them, and the average black high school senior reads at roughly the same level as the average white eighth grader.³ Achievement gaps between low-income students and their more affluent peers are similarly large.⁴ These disparities represent among the most significant obstacles to enhancing equity for historically disadvantaged racial and ethnic groups, and to increasing socio-economic mobility for low-income youth in the United States.

2. *National trends in educational achievement and attainment imperil U.S. economic standing*

America is also losing its long-standing educational advantage relative to other countries, both in achievement and attainment. In the 2003 Program for International Student Assessments (PISA), which compared academic achievement of 15 year-olds in 38 countries, U.S. students trailed their peers in mathematics in 23 of 38 participating countries. Results were better in reading, where American 15 year-olds performed on par with the average for participating countries, but still worse than their peers in 11 participating countries. In no assessed area did U.S. students excel relative to their international peers.⁵

On attainment, U.S. rates of college completion have stagnated over the past two decades, even as they have increased in other countries. Among adults ages 45 to 54, the United States has a higher rate of post-secondary completion than all but three other OECD countries (Russia, Canada, and Israel). Yet among adults ages 25 to 34, nine OECD countries now have rates of tertiary completion higher than the United States, and projections suggest that more countries will surpass us in educational achievement over the coming decade.⁶ The current generation of young people may be the first in American history to be less well educated than the retiring workers they replace, at the very time when skills and knowledge are increasingly crucial to our ability to compete in the global economy. This trend threatens our nation’s future prospects for achieving high and rising living standards.

3. *Urban schools exhibit the toughest challenges*

Urban public school districts are ground zero for challenges around educational achievement and attainment. Nearly one-third of American public school students attend urban public schools, a category that includes both the nation's highest- and lowest-performing public schools.⁷ While urban public schools were once a crown jewel of our public education system and a way for many Americans to climb the economic class ladder, today "inner-city school" is widely considered a synonym for education failure.⁸ This is hardly a baseless stereotype. On the 2007 National Assessment of Educational Progress (NAEP), for example, fourth-grade students from large urban school districts scored 14 points lower than suburban students in both math and reading—a difference equivalent to nearly a year-and-a-half of schooling.⁹ Only 60 percent of students enrolled in urban public schools graduate high school within four years of enrolling in ninth grade—compared with 75 percent of suburban students.¹⁰

The causes of poor urban school performance are well rehearsed: Large-city school districts suffer from cumbersome and inefficient bureaucracies that often put the needs of adult interest groups ahead of those of students. In many cities these dysfunctions are merely symptoms of broader problems of corruption and patronage politics in municipal government. Inequitable school finance policies mean many urban school systems get fewer resources per student than their suburban peers—making it more difficult for them to compete for talented teachers and other educators. And importantly, the concentrated poverty amid which many urban students live breeds myriad social and educational challenges.

Whatever the root causes, the poor performance of our large urban school systems has serious consequences not only for the students they serve—who are disproportionately poor and minority children—but also for entire metropolitan areas. Persistently low-quality schools reduce the supply of competent workers within a community, and hamper the ability to attract new employers. A lack of decent educational options can contribute to sprawling development patterns and increased greenhouse gas emissions as families move farther and farther away from urban centers to find affordable homes in neighborhoods with good public schools. Community cohesion suffers as younger, more transient people move through urban communities before they start families, rather than putting down roots, and metropolitan areas become segregated along racial and ethnic lines. In sum, it is impossible to build truly thriving and healthy metropolitan areas without substantially improving urban schools.

While the toughest educational problems are concentrated in urban areas—with particularly problematic effects—they are not unique to them. The No Child Left Behind Act's requirement that schools disaggregate data on educational performance is laying bare dramatic racial and ethnic disparities in student achievement in some of the

nation's best regarded suburban public schools.¹¹ Nor can we address the prevalence of mediocrity in our nation's schools, and the stagnation of young people's educational attainment, without looking beyond inner cities to also improve the quality of education in our "good" suburban schools.

4. Existing standards-based reform models face limits

Over the past 25 years, policymakers and education reformers have implemented a variety of standards-based reforms intended to improve student achievement and narrow achievement gaps between disadvantaged or minority students and their affluent or white peers. Forty-nine states now have in place systems of state standards aligned with assessments and accountability systems. These reforms build on an earlier generation of Civil Rights-era reforms that sought to extend access to public education to groups of students, such as African Americans and individuals with disabilities, who were previously excluded. Federal policy played a vital role in catalyzing both iterations of reform.

Yet these accomplishments, while vital, are incomplete. And the older models of access-oriented and standards-based reforms are not sufficient to address the problems we currently face. Today's educational challenge is not one of addressing obvious, often *de jure*, equity problems like racial segregation or the exclusion of disabled students from school. Nor is it prodding states to do better within the same basic public education structure. Rather, public policy must pave the way for states, school districts, and schools to do their work in fundamentally different ways that serve a more diverse population of students much better.

This is a significant undertaking. American public education lacks the culture of innovation that contributes to the vitality of many other sectors of the American economy. Innovation drives productivity growth in business, and enables nonprofit organizations to develop new solutions to a wide range of societal problems. Public education, in contrast, is deeply conservative, and for all the reform activity of the past 25 years, little has changed in the core arrangements of teaching and learning in our public schools.

III. EDUCATIONAL ENTREPRENEURS ARE REDEFINING THE POTENTIAL OF PUBLIC EDUCATION

In the face of slow systems change and daunting challenges facing urban schools and students, a new generation of "educational entrepreneurs" (a subset of what are often termed "social entrepreneurs") is working to improve education from outside the constraints of existing school systems.

Traditionally, an entrepreneur is regarded as someone who “organizes, operates, and assumes risk for a business venture.”¹² Austrian economist Joseph Schumpeter further described entrepreneurs as agents of “creative destruction,” who develop ideas or technologies into successful innovations.¹³ Economists and politicians alike attribute the American economy’s vitality, in part, to the prevalence of entrepreneurial spirit among our citizens.¹⁴ Throughout our nation’s history, diverse entrepreneurs—from Ben Franklin, Jane Addams, and George Washington Carver to Steve Jobs and Bill Gates—have driven economic, technological, and social advances.

A growing international movement of social entrepreneurship seeks to harness the same vitality and innovative force in service to broader social needs. Michelle Jolin, former vice president of the Ashoka Foundation, a leading international funder and support of social entrepreneurship, defines social entrepreneurs as “individuals who develop innovative, results-oriented solutions to tackle serious social problems [and] are focused on implementing their solutions on a large scale to change an entire system, either by scaling their organization or inspiring others to replicate their idea.”¹⁵ Social entrepreneurs around the world are developing and implementing innovative solutions to address social problems in numerous areas: public health, development, environmental preservation—and education.

Kim Smith and Julie Petersen, the founder and communications director of New Schools Venture Fund, which supports educational entrepreneurs, define educational entrepreneurs as “visionary thinkers who create new for-profit or nonprofit organizations from scratch that redefine our sense of what is possible” in education.¹⁶ Between Jolin’s definition and Smith and Petersen’s, several key features of educational entrepreneurs emerge. Educational entrepreneurs develop innovative solutions to pressing educational problems. They create new organizations to implement those solutions. They seek to transform the entire educational system. In addition, the current generation of educational entrepreneurs is deeply committed to achieving demonstrable results, measured as improvements in student learning. And they are primarily focused on improving education for low-income children whom our educational system has historically failed, particularly children in large urban areas.¹⁷

1. *Educational entrepreneurs work to improve education from multiple angles*

Today’s educational entrepreneurs are incredibly diverse. With more than 4,300 charter schools in operation across the United States, founding charter schools is perhaps the most obvious and widespread form of educational entrepreneurship today. But educational entrepreneurship encompasses far more than charter schools. Educational entrepreneurs are also creating new organizations that are redefining how educators are trained, recruited, and compensated; developing new technologies and tools to improve classroom instruction; and providing a range of out-of-school supports—such as afterschool programs, tutoring, and college counseling—to improve

student learning. Nor are all charter schools examples of educational entrepreneurship. Educational entrepreneurship is marked by an intent to expand or replicate successful educational models in order to achieve substantial, system-wide impacts—a standard many individual charter school operators do not meet. There are at least five major strands of educational entrepreneurship evident in American public education today.¹⁸

Schools and networks of schools

The first strand of educational entrepreneurs encompasses individuals and organizations, both nonprofit and for-profit, who found entire new public schools or networks of schools. These include large, national charter school networks, such as the **Knowledge is Power Program (KIPP)** schools, as well as smaller, more localized charter school networks, such as **D.C. Prep** schools in Washington, D.C., and **Achievement First** in Connecticut and Brooklyn, New York. This group also includes for-profit education management companies, such as **Edison Schools** and **National Heritage Academies**, that contract with districts or charter school boards to operate district or charter schools.

All entrepreneurs who found and operate schools seek to achieve results at scale, but what that means, and how close they are to achieving that goal, varies depending on the operator. KIPP, with 66 schools serving 16,000 students in 19 states and the District of Columbia, is the largest of the non-profit networks. But it operates at a smaller scale than the largest for-profit providers. Edison operates contract or charter schools at 97 sites serving 58,000 children in 19 states and D.C., and its affiliate companies, which provide afterschool tutoring, online learning, and other services, serve even more students. National Heritage Academies, which concentrates its operations regionally in six states, operates 55 schools serving 35,000 students. All three of these entrepreneurs combined, however, serve less than two-tenths of a percent of America's schoolchildren. Other operators seek to achieve systemic results at a state or local level. D.C. Prep, a relatively new network founded in 2003 that currently operates three campuses, has a long-term goal to open 10 campuses that will serve at least 10 percent of the children living in the areas where they are located.¹⁹

Educational entrepreneurs who found and operate schools employ diverse models and serve different types of populations. Not surprisingly, student outcomes vary even among schools operated by a single organization. But researchers find that many schools founded by educational entrepreneurs are effective in improving student learning. Independent evaluations of student learning gains in KIPP-affiliated charter schools, for example, have found that KIPP fifth-grade students make learning gains in reading and math that far exceed national norms, and evaluations of KIPP-affiliated schools in specific urban areas have affirmed that result.²⁰ A 2003 evaluation by independent researchers Frederick M. Hess and David L. Leal found that NHA student gains on the Metropolitan Achievement Test dramatically exceeded national norms.²¹ A

RAND Corporation of Edison schools found mixed results across different Edison schools. Over the long term, though, gains for students in Edison schools equaled or bettered those for students in comparable public schools.²²

Suppliers of human capital

The second major strand of educational entrepreneurship comprises organizations that seek to increase the supply of high-quality human capital in public education, and assist school districts and charter schools in managing their human capital needs. The progenitor of these organizations is **Teach for America (TFA)**, which recruits outstanding recent college graduates to teach for at least two years in high-need school districts. Some 6,000 TFA corps members currently work as teachers in high-poverty schools in 29 urban and rural areas across the United States.²³ Founded by Wendy Kopp in 1989, TFA has had tremendous influence on the field of educational entrepreneurship. Over nearly 20 years, the organization has trained and placed 20,000 individuals as teachers in high-need schools. Two-thirds of TFA alumni remain working in education today, and have provided a vital source of human capital for school district reform efforts, charter schools, and a wide range of entrepreneurial education ventures.²⁴ Even more importantly, TFA corps members have positive effects on student achievement: An evaluation conducted by Mathematica Policy Research found that TFA corps members' students made greater gains in math achievement over the course of a school year than a control group of students taught by non-TFA teachers, and both groups of students made comparable progress in reading.²⁵ Other studies have identified similarly positive results.²⁶

TFA's success has also helped to spawn a variety of other organizations that help districts address human capital needs:

- The **New Teacher Project**, founded by TFA alum and current D.C. Public Schools Chancellor Michelle Rhee, partners with school districts to recruit, train, select, and hire quality teachers, and also helps school districts improve their human resources systems. Since its founding in 1997, The New Teacher Project has partnered with 200 school districts and trained or hired over 28,000 high-quality teachers to work in high-need schools²⁷
- **New Leaders for New Schools**, founded by a team of education and business graduate students, recruits and trains individuals to become principals in both charter and district-run schools in high-need urban areas. Over 400 New Leaders currently lead schools in New Orleans, Milwaukee, Memphis, Baltimore, New York, Chicago, the San Francisco Bay Area, Washington, D.C., and Prince George's County, MD (a Washington, D.C. suburb). Schools that have been led by New Leaders for two consecutive years consistently post strong academic gains²⁸

- Other entrepreneurs are demonstrating new models of how teacher training and practice can be linked to create a pipeline of teachers prepared to work in high-need schools. Chicago's **Academy for Urban School Leadership** is a hybrid nonprofit that operates both a teacher training program and a network of 11 Chicago schools in which prospective teachers receive residency training. In the program's first five years, 91 percent of AUSL graduates remained teaching in Chicago public schools—a retention rate that far exceeded the system average²⁹

Purveyors of student learning tools

A third strand of educational entrepreneurs develops tools to help educators improve student achievement, including instructional materials, online courses, formative assessments, and data tracking and analysis tools:

- The for-profit **Wireless Generation** markets educational technology that allows teachers to monitor elementary students' language and literacy progress using handheld computers that automatically upload data to the web, where software helps teachers analyze student data and customize instructional activities to students' needs. More than 100,000 teachers in 49 states currently use Wireless Generation technology to assess pre-kindergarten and elementary students' reading skills³⁰
- Carnegie Learning** is a for-profit purveyor of middle- and high school math and science curricula developed by experienced math teachers and researchers from Carnegie Mellon University; the curricula are currently used in nearly 2,600 schools across the United States³¹
- The non-profit **Success for All Foundation** supports schools in implementing Success for All, an intensive, research-proven reading program and comprehensive school reform model that has been implemented in more than 1,300 schools in 46 states. Long-term evaluations have found that Success for All students have higher eighth-grade achievement and lower rates of special education placement or grade retention than students in a control group, and that these results are achieved at roughly the same cost³²

While entrepreneurs who start schools or develop new approaches to human capital get most of the public and policymaker attention, building new educational tools may actually be a more promising area for educational entrepreneurship that leads to game-changing reforms. The potential to develop new tools to support the work educators do is virtually limitless, and the opportunities for both for-profit entrepreneurship and innovations that get to the core of teaching and learning are particularly strong in this area.

Providers of supplementary supports for student learning

The fourth strand of entrepreneurs provides various student support services, such as afterschool programs, supplementary tutoring, or college admissions counseling.

- **Citizen Schools** is a national network of afterschool programs that recruit adult community volunteers to share their skills and knowledge with low-income middle school students in hands-on apprenticeships, serving 3,800 students annually at 37 sites nationwide.³³ External evaluations have found that Citizen Schools students have better attendance and grades and are more likely to enroll in high schools that will prepare them for college³⁴
- **College Summit** is a nonprofit organization that provides college preparatory counseling to low-income students and builds high schools' capacity to prepare low-income students for college success. Since its founding in 1993, College Summit has served more than 35,000 high school students and trained more than 1,200 teachers and counselors to implement its senior year college planning curriculum. Schools partnering with College Summit have significantly increased the percentage of their graduates—mostly low-income students—who enroll in college following high school³⁵
- **Jumpstart** recruits, trains, supervises, and supports college students to build preschoolers' literacy skills by providing one-on-one support to children enrolled in Head Start and other early childhood programs. In the 2006-07 school year, more than 3,000 college students worked with preschoolers through Jumpstart, and a longitudinal study showed that Jumpstart children have stronger literacy skills after two years than a control group of their Head Start peers³⁶

Supporters of other educational entrepreneurs

A fifth category of educational entrepreneurs include an emerging breed of “meta-entrepreneurs” who invest in, provide support for, and bring together diverse networks of entrepreneurs working in the other four strands.

- **New Schools Venture Fund** raises money from private and philanthropic donors and invests in supporting the growth and scale-up of highly effective educational entrepreneurs (see Box 1). To date, New Schools has invested some \$70 million in 25 entrepreneurial educational organizations
- **The Mind Trust**, a nonprofit organization created with support from former Indianapolis Mayor Bart Peterson, incubates new entrepreneurial initiatives and

supports the expansion of successful entrepreneurial models in Indianapolis, in order to build a network of educational entrepreneurs working in that city (see Box 2)

- **New Schools for New Orleans**, a nonprofit created to build the supply of high-quality schools in the aftermath of Hurricane Katrina, launches public charter schools, works with other entrepreneurial organizations to attract and prepare teachers for New Orleans schools, and supports advocacy on behalf of public education in New Orleans (see Box 3)

Box 1

Investing in Social Entrepreneurship: The New Schools Venture Fund and New Profit, Inc.

This report argues that the federal government should play a much greater role in identifying and fostering the growth of effective educational entrepreneurs. Two private organizations that are already investing to scale up promising educational entrepreneurs provide an example of how this investment strategy could work.

The New Schools Venture Fund is a venture philanthropy that supports education entrepreneurs by investing to help them grow their organizations to scale, and helping connect their work to broader systems change. Founded in 1998 by Kim Smith and Silicon Valley venture capitalists John Doerr and Brook Byers, New Schools has invested more than \$70 million, raised from both individuals and foundations, in more than 25 educational entrepreneurs.

Following a venture capital model borrowed from its co-founders, New Schools makes investments not only in promising educational entrepreneurs, it also plays an active role in helping its investments succeed. Each educational entrepreneur that receives funding from New Schools has a representative of New Schools on its board of directors. New Schools provides ongoing strategic advice and management assistance to its investments, and works to build connections between the entrepreneurs it funds, as well between these entrepreneurs and other education reformers working to transform the public education system. These networks create synergies between New Schools' investments, facilitate sharing of best practices and lessons learned, and create new opportunities for educational entrepreneurs by bringing them in contact with a broader range of practitioners and policymakers. New Schools' annual Summit, which brings together the entrepreneurs in which it invests with funders, school reformers, and key policy players, has become the premier event and public forum for the school reform community.

Unlike philanthropies, New Schools invests in both non-profit and for-profit educational entrepreneurs. It does not focus on a particular type of education

entrepreneur, but in a variety of organizations that build new schools, develop human capital for public education, and develop tools and curricula to help schools succeed. Some of the organizations New Schools has invested in include Acelero Learning, a for-profit company that operates Head Start centers; non-profit charter school management organizations including Achievement First, Aspire Public Schools, KIPP, and Uncommon Schools; Revolution Foods, a for-profit school food service provider; Carnegie Learning; Teach for America; and New Leaders for New Schools.

New Profit, Inc., founded in 1998 by Vanessa Kirsch, is a venture philanthropy that helps social entrepreneurs build effective organizations and bring them to scale to address our nation's most challenging social problems. Unlike New Schools, which focuses on education, New Profit invests in social entrepreneurs working across a variety of sectors, including youth development, workforce development, economic development, health, and education. But it has invested in several education-focused social entrepreneurs, including New Leaders for New Schools, Teach for America, Citizen Schools, Achievement First, and KIPP.

New Profit makes multi-year investments in the organizations it funds and provides them with ongoing strategic support to help them achieve impact at scale. It also works to build a national network of social entrepreneurs, and hosts an annual event, called Gathering of Leaders, that convenes leading social entrepreneurs and leaders from business, government, philanthropy and academia to share ideas and build relationships that can leverage the impact of entrepreneurial solutions. New Profit is also the driving force behind America Forward, a coalition composed of more than 60 social entrepreneurial organizations seeking to advance a policy agenda that will create an infrastructure for social entrepreneurs and government to work together as partners to solve social problems.

Sources: FSG Social Impact Advisors and New Schools Venture Fund, *Practices from the Portfolio, Volume 1* (2008), available at www.newschools.org/files/PracticesFromThePortfolio-Volume1.pdf (accessed September 10, 2008); Amy Hustad and others, eds, *America Forward: Invest, Invent, Involve* (2008); Interview with Vanessa Kirsch.

Box 2

Building a Metro-Wide Network of Education Entrepreneurs: The Mind Trust in Indianapolis

The Mind Trust, located in Indianapolis, is a non-profit organization that works to dramatically improve public education for underserved students in Indianapolis and around the country by empowering educational entrepreneurs to develop or expand transformative education initiatives.

The Mind Trust was founded in 2006 by then-Indianapolis Mayor Bart Peterson and David Harris, who directed the Mayor's charter school office. In 2001, the state of Indiana passed charter school legislation that made Mayor Peterson the only mayor in the country with the authority to approve the creation of public charter schools. Since then, the Indianapolis Mayor's office has authorized more than 17 charter schools and has become nationally recognized as an outstanding charter school authorizer.

While working with charter schools, Peterson and Harris became convinced of the potential of educational entrepreneurs to improve educational opportunities for disadvantaged students, and began looking for ways to attract the nation's best educational entrepreneurs to Indianapolis. According to Harris, "we saw an opportunity, because of the size of the city, to concentrate the best work being done [by educational entrepreneurs nationally] in the city, to start to see change in the overall system." To do that, they created the Mind Trust, which supports educational entrepreneurs in two ways:

First, the Mind Trust's Venture Fund recruits leading educational entrepreneurs with established track records in other cities to bring their models to Indianapolis. The Venture Fund makes investments to support these entrepreneurs' start-up costs in Indianapolis, helps entrepreneurs forge partnerships with other Indianapolis organizations, and helps them overcome other barriers to their success in the city. Currently, the Mind Trust has invested \$2.9 million to bring three nationally recognized education entrepreneurs to Indianapolis: Teach for America, The New Teacher Project, and College Summit.

Second, the Mind Trust's Education Entrepreneur Fellowship incubates promising educational entrepreneurs with ideas for transformative education ventures. The Mind Trust provides these entrepreneurs (who are selected through a rigorous application and review process) with office space, two years of full-time pay and benefits, and also connects them with training, expertise, and support to turn promising ideas into functioning educational ventures with large-scale, transformational benefits in Indianapolis and beyond. For example, each Education Entrepreneur Fellow receives a "champion"—a leader in the Indianapolis community who works with the fellow to "open doors" in the community and also helps with fundraising and visibility. The Mind Trust selected its first Education Entrepreneur Fellow, Dr. Michael Bitz, in May 2008, and will announce a second cohort of fellows in December 2008.

Through both the Venture Fund and the Education Entrepreneur Fellowship, the Mind Trust seeks to build a network of educational entrepreneurs in Indianapolis who can support one another's work, significantly expand high-quality educational opportunities for disadvantaged students in Indianapolis, and create a climate of educational entrepreneurship and innovation within the city that transforms the overall public education system in Indianapolis and beyond.

Sources: Interview with David Harris, Mind Trust website (www.themindtrust.org). Disclosure: Andrew Rotherham serves on the Mind Trust's Board of Directors.

Box 3

Building the Supply of Good Schools in a Troubled City: New Schools for New Orleans

In 2005 Hurricane Katrina battered the city of New Orleans, killing more than 1,000 people and leaving a great American city in ruins. Following the hurricane, New Orleans' schools, like most of its core infrastructure, had to be completely rebuilt. Even before Katrina, the city's schools, which served predominantly low-income, African American students, were deeply troubled and chronically low-performing. In the aftermath of tragedy, school reformers, including social entrepreneurs, saw an opportunity to build a new New Orleans school system much better than the one that had been destroyed.

New Schools for New Orleans is at the heart of that effort. New Schools New Orleans is a nonprofit organization that supports the creation of high-quality, new schools to serve New Orleans students. The organization's work focuses in three areas: launching and supporting high-quality public charter schools; attracting and preparing teachers and school leaders to work in New Orleans; and advocating on behalf of quality public education in New Orleans.

New Schools for New Orleans recruits nationally recognized, high-quality charter school operators to open schools in New Orleans. Through its School Investment Fund, it makes substantial investments to develop and launch high-quality new charter schools. And it helps charter schools succeed by providing board governance training, operational support, and instructional support to improve student achievement; and it helps them attract high-quality teachers and leaders. To do that, it has partnered with two national educational entrepreneurs that recruit and train high-quality teachers and principals, the New Teacher Project and New Leaders for New Schools. New Schools for New Orleans also helps parents negotiate the post-Katrina education environment by producing the *New Orleans Parents' Guide to Public Schools*, which explains the variety of educational options currently available in New Orleans and provides basic information and student performance data for every open public school in the city.

New Schools for New Orleans has had a profound impact on public education opportunities available to students in New Orleans. Since April 2006 it has provided support to 35 charter schools—43 percent of all schools currently operating in New

Orleans. One in four teachers currently working in New Orleans was placed in his or her job by New Schools for New Orleans. Today New Orleans is the only city in America where more than half of students are enrolled in charter schools. Most importantly, student test scores in New Orleans' charter schools were significantly higher in 2006-2007 than before Hurricane Katrina.

Sources: New Schools New Orleans website, "Our Impact"
http://newschoolsforneworleans.org/whatwedo_ourimpact.php; Interview with Matt Candler.

Venture philanthropy and educational entrepreneurship

The growth of educational entrepreneurship in recent years has been fueled by the emergence of a new breed of "venture philanthropists," a category that includes large foundation such as the Broad Foundation, the Bill and Melinda Gates Foundation, the Don and Doris Fisher Fund, and the Walton Family Foundation, as well as intermediate venture philanthropy entities, such as the New Schools Venture Fund and New Profit, Inc. These philanthropies raise funds from a variety of sources to make active investments that help promising social entrepreneurs expand their activities.

Often founded by individuals who are themselves successful entrepreneurs in business or technology, venture philanthropies are committed to results and tend to view their funding activities as investments in society's well-being rather than charitable donations. They therefore take a more hands-on, strategic approach to investing than conventional foundations. Venture philanthropists often provide technical and strategic assistance to grantees and leverage contacts or networks of grantees to add value to the organizations they fund. They are also much more willing than conventional foundations to make multi-year funding commitments that support an organization's start-up or growth, rather than brief grants to fund specific projects.³⁷

2. Educational entrepreneurs face key challenges of their own

Educational entrepreneurship has grown substantially in the past decade. More established educational entrepreneurs such as TFA and KIPP now operate at a national scale, and new ventures are coming online and expanding with increasing frequency. While not all educational entrepreneurs have been successful, several have achieved national recognition for their success in improving education for disadvantaged children, and many others are achieving impact at a more local level.³⁸ The most successful educational entrepreneurs have impact even beyond the students they themselves serve by creating "proof points" of success that transform public understanding of what public schools can accomplish in the education of disadvantaged students.³⁹

Despite this progress, educational entrepreneurs continue to face a number of significant challenges that limit their ability to succeed and have systemic impacts. The American Enterprise Institute's Frederick M. Hess groups the major challenges facing educational entrepreneurs into three categories: barriers to entry, lack of access to capital, and limited human capital supply.⁴⁰ This report argues that each of these challenges also presents an opportunity for the federal government to play a role in catalyzing educational entrepreneurship, by eliminating barriers and supporting effective educational entrepreneurs.

Barriers to entry

Barriers to entry are laws, rules, and practices that make it difficult to launch new educational ventures.⁴¹ Closely related are policies and practices that prevent educational ventures from competing on an even playing field with more established providers. Many, though not all, barriers to entry result from federal, state, or local policies.

Perhaps the most obvious examples of barriers to entry are state and local policies that make it difficult to open a new charter school, such as statutory limits on the number of charter schools that may be opened. Yet there are subtler obstacles as well in the array of rules that privilege traditional school districts and established providers while disadvantaging new entrants. Zoning codes, for example, may make it difficult for charter schools or new early childhood education providers to find acceptable school facilities.

School districts or state and federal governments that control public education funding may also be unwilling to contract with new types of providers or those that do things in new ways, regardless of effectiveness or performance. For instance, Acelero Learning, a for-profit company, had substantial difficulty persuading federal officials to consider its applications to manage Head Start programs, even though Acelero operates high-quality programs that exceed Head Start requirements.⁴² This is indicative of the extent to which decision-making in the public marketplace is governed by political rather than economic logic. Similarly, a handful of large education publishers dominate the textbook publishing and instructional materials markets, making it extremely difficult for smaller entrepreneurs to gain traction.⁴³ State textbook adoption policies further reinforce these oligopolies, demonstrating how government policies often play a role in entrenching barriers to entry even in ostensibly competitive segments of the education marketplace.

At a minimum, policymakers must rethink federal policies and practices that currently stand in the way of entrepreneurship. They should also consider ways in which federal policies can create incentives for state and local policymakers to eliminate barriers to entrepreneurship at the state and local level.

Access to capital

Like all entrepreneurs, education entrepreneurs need access to capital in order to launch and grow their organizations. Kim Smith and Julie Peterson identify several types of capital that educational entrepreneurs need: start-up capital, operating capital (typically from revenue generated by goods or services the entrepreneur provides), capital expenditures for buildings and other assets, and growth capital to finance expansion.⁴⁴

Education entrepreneurs face challenges in raising start-up capital. Like business entrepreneurs, they must make a variety of expenditures—hiring staff, designing their educational model, obtaining facilities and supplies—before they can actually take their product or services to market. With the growth of educational entrepreneurship, philanthropists and policymakers have recognized the need for sources of start-up capital to fuel this growing sector. The federal government’s charter school grant program provides start-up grants to new charter schools, and a variety of foundations have provided start-up funding for educational entrepreneurs. In addition, some for-profit educational entrepreneurs have obtained private investment through venture capital markets and individual investors. However, access to start-up capital remains a substantial barrier.

Educational entrepreneurs have an even harder time finding growth capital. A few high-profile organizations—such as the KIPP network—have gained substantial philanthropic backing to fuel their expansion. And a few venture philanthropists, such as the New Schools Venture Fund or the Walton-funded Charter School Growth Fund, explicitly invest in scaling up education entrepreneurs. Yet even the most successful ventures report that fundraising is an enormous constraint on their work. Most philanthropic funders are not used to thinking in terms of scale, and may have difficulty understanding why they should invest in an organization that appears to be succeeding already without their support. Moreover, relatively few foundations can commit enough capital to bring successful education ventures to a national scale.⁴⁵ The federal government could play a critical role supporting educational entrepreneurship by providing growth capital for proven educational entrepreneurs.

Limited human capital supply

Finally, limited supply of human capital is a substantial barrier to success and growth of educational entrepreneurs. As Hess writes, “entrepreneurship is a bet on the power of imaginative, creative, and talented people,”⁴⁶ without whom entrepreneurship could not succeed—but the supply of such individuals is limited. Moreover, there is little infrastructure to foster such individuals and develop their skills. Many of today’s education entrepreneurs entered the field as Teach for America corps members. Most social entrepreneurs agree that, without TFA’s human capital pipeline, today’s reform

efforts would not have had the staff, expertise, and leadership to accomplish what they have.⁴⁷ At the same time, today's teacher and administrator licensure policies still block many talented individuals from entering education.⁴⁸ Creating the infrastructure and organizations to develop successive generations of educational entrepreneurs, as well as educators and other individuals to staff the organizations they create, should be a critical goal for both private philanthropy and federal policy in the coming years.

3. *Few educational entrepreneurs achieve transformative educational innovation*

“Innovation” appears prominently in definitions of entrepreneurship, but the relationship between educational entrepreneurship and innovation deserves further scrutiny. In a sense, all educational entrepreneurs are “innovative” because the very act of creating new organizations outside the existing school system to address educational problems is in itself innovative, given that school districts have historically had an exclusive franchise in public education.⁴⁹ And one can plausibly argue that in our most broken school systems, providing parents with quality options within the public system is an innovation in itself.

But those looking for dramatic instructional innovations will be disappointed with today's educational entrepreneurs. Most of their innovations involve management, organization, and use of time, people, data, and other resources. Little has changed in the core educational function—the work of teaching and learning that goes on between students and teachers in the classroom.

Many of the most successful charter school operators, for example, have achieved their results by faithfully implementing a very traditional college preparatory curriculum and instructional approaches.⁵⁰ To be sure, adopting effective pedagogical techniques or curricula that have not been well utilized by existing schools is, in itself, a type of innovation.⁵¹ Educational entrepreneurs have also made better use of time, built more time into the school day, and used data to inform decision-making in a much more deliberate way than any traditional public schools and districts have. Important, yes. Game changing, no.

Why aren't existing educational entrepreneurs generating more radical instructional innovations? First, the context in which they operate severely constrains their ability to innovate. Our entire public education system, and the laws and regulations under which it operates, is based on certain assumptions about the institutions (schools) that educate children, what those institutions look like, and how they operate. Instructional innovations that challenge any of these assumptions—for example schools that provide a portion of students' instruction virtually rather than in traditional classroom settings, or that customize instruction by grouping students in flexible, multiage groupings rather than grades—face numerous regulatory, political,

and marketing barriers. As a result, educational entrepreneurs who want to have a far-reaching impact tend to eschew such innovations.

Second, as education historian Larry Cuban has noted, most (though not all) of today's educational entrepreneurs are not driven by particular educational philosophies or pedagogical visions, but are instead largely agnostic about pedagogical and instructional questions, adopting a "whatever works" approach. While this pragmatic approach makes sense from a results-oriented perspective, it is more likely to lead to adoption of traditional educational approaches rather than new breakthroughs in instructional practice that dramatically expand the horizon of what is possible in teaching and learning.⁵²

Third, when it comes to their children parents themselves are fairly conservative. A demand for better schools is not necessarily a demand for different ones. What Cuban and historian David Tyack have referred to as a "grammar" of public schooling exerts a strong pull on people's conceptions of what schools are supposed to look like and do.⁵³ Because schooling is such a familiar experience, adults—both parents and policymakers—largely expect schools to be like they were during their own education, even if it occurred several decades ago. This makes it difficult to attract customers for truly innovative educational endeavors.

A culture of entrepreneurship, which provides openings for entrepreneurs to create new organizations, solve educational problems in a variety of ways, try new approaches, take risks, and be held accountable for student results, is an essential prerequisite to unleash the forces of innovation in public education. In the public sector, however, that culture cannot alone generate major productivity breakthroughs absent more systemic policy changes that eliminate barriers to instructional innovation, and create new incentives for entrepreneurial innovations aimed at the core of teaching and learning.

IV. THE FEDERAL GOVERNMENT HAS A ROLE TO PLAY IN ADVANCING EDUCATIONAL ENTREPRENEURSHIP AND INNOVATION

A federal role in education entrepreneurship and innovation seems, at first glance, counterintuitive. What can the federal government, with its \$2 trillion budget and layers of bureaucracy, have in common with scrappy, rule-breaking educational entrepreneurs? The federal government is commonly perceived as standing in the way of innovation, rather than a font of innovative approaches to solving the nation's problems. Americans are particularly skeptical of the power of the federal government to improve education. Local control of education is virtually sacrosanct in the American public education system.⁵⁴ Americans tend to think that the adults closest to the children are best equipped to make decisions about them, and far-removed bureaucrats

in Washington would do best to get out of their way. Conservative politicians and policymakers, in particular, tend to make this argument, but since the passage of the No Child Left Behind Act in 2002, liberals increasingly express similar opposition to Washington interference in local education decisions.⁵⁵

1. *The federal government possesses unique scale and scope to advance educational innovation and entrepreneurship*

Washington must take the lead in supporting educational entrepreneurship and innovation because none of the other current players on the education landscape have the capacity to do so. States and local governments are generally focused on the day-to-day operation of public schools and too constrained by the political agendas of entrenched stakeholders that see any significant innovation as a threat to their comforts and prerogatives. Even if politics posed no barrier, most states lack the economies of scale needed to make significant research and development investments viable or cost-effective.

This does not mean that promising ideas do not sometimes flourish in different states. On the contrary, some of our most promising contemporary educational reform ideas—charter schools and standards-based reform, for instance—originated and were first implemented through leadership at the state level. But federal leadership brought these ideas to national scale. President George H.W. Bush and President Clinton took standards-based reform from an idea championed by a small bipartisan group of Southern governors to a cornerstone of federal education policy. Similarly, President Clinton's support of federal resources for charter schools helped spur their rapid expansion during the 1990s.

Private philanthropy is also inadequate to meet the challenge. Even the largest grantmakers do not have the resources to finance ongoing reform efforts at scale over time. Although non-governmental stakeholders and partnerships are vital to reform, only the federal government has the combination of national vision, political capacity, and financial resources to support effective educational innovation at the necessary scale.

2. *The federal government has initiated many important historical educational innovations*

The view that the federal government can have little positive impact on American public education, or that federal education programs may even be a malign influence on schools and students, does not reflect the many historical instances in which federal involvement has had significant and positive effects on public schooling. To be sure, federal funding has supported ineffective programs.⁵⁶ But as former Republican federal education official Christopher T. Cross writes, “Federal policy has made a positive

difference, especially in the education of our most at-risk students. Children who are poor, who are racial or ethnic minorities, or who are disabled have all been positively affected by federal law and by the way in which federal law has driven state law and local practice. While policies have sometimes been naïve, and even misguided, on balance the federal presence has been a net positive.”⁵⁷

At key times in the last half century, federal policies have played a game-changing role that expanded educational access and opportunity for specific underserved populations:

Advancing equity for underserved groups

The most significant example of a game-changing federal role in public education is the 1954 *Brown vs. Board of Education* decision striking down *de jure* racial segregation in public education. In overturning the 1896 *Plessy vs. Ferguson* decision that upheld *de jure* segregation and declaring that “Separate educational facilities are inherently unequal,”⁵⁸ *Brown* fundamentally changed how public education is delivered in every school district in the American South.⁵⁹ Supported by the 1964 Civil Rights Act and aggressive Justice Department enforcement during the 1960s, *Brown* advanced desegregation even in the face of substantial state and local resistance and dramatically expanded black students’ access to public education. To be sure, persistently segregated residential patterns mean that substantial *de facto* segregation remains a reality in America’s public schools even today, as does a large achievement gap for African American students.⁶⁰ Yet the very fact that the terms of national debate today have shifted from access to equity, to the results we achieve for African American students in schools, illustrates how far we have come.

Two decades after *Brown*, the 1975 Education for All Handicapped Children Act (later renamed the Individuals with Disabilities Education Act, or IDEA) again dramatically expanded educational access for another underserved population of students, children with disabilities. Prior to IDEA, children with disabilities were commonly denied access to an appropriate public education. Of 8 million American children with disabilities at that time, only half were appropriately served by public schools and nearly a quarter were excluded from schooling altogether.⁶¹ By requiring schools to provide these students a free, appropriate public education (FAPE), IDEA altered the shape of American public education. IDEA’s implementation has been far from flawless. But it has, without doubt, enabled millions of children to obtain an education and participate in mainstream society. Moreover, federal programs authorized under IDEA have played a valuable role in supporting research and innovation that have improved the lives and learning of individuals with disabilities. Federal investments through both the Department of Education and the National Institutes of Health continue to this day to improve our understanding of and ability to educate youngsters with reading disabilities, autism, and other special needs.

Federal education policy has also played a significant role in expanding educational opportunity for economically disadvantaged students. The cornerstone of federal education policy, Title I of the Elementary and Secondary Education Act of 1965 (most recently reauthorized as No Child Left Behind), provides school districts with funding to offset the additional costs of educating disadvantaged students. Now that Title I is over 40 years old, it's easy to forget that ESEA's focus on improving education for disadvantaged students was highly innovative in 1965. Indeed, the very act of creating a significant federal role in education was an innovation, because education had previously been left almost entirely to the states. Over time, as President Johnson hoped, ESEA has been a source of funding for a variety of innovative education reforms.

Supporting standards-based reform

Federal policy has also played a major role in catalyzing the current generation of state-driven standards-based reforms. President George H.W. Bush helped initiate this process by convening the 1989 Education Summit in Charlottesville, Va., that is widely regarded as the birthplace of standards-based reform, and by supporting the creation of the National Education Goals Panel. Under his successor, President Bill Clinton, the federal role in driving state standards efforts became substantially more robust. The Goals 2000: Educate America Act, passed in March 1994, provided grants to states to develop aligned systems of standards, assessments, and accountability for grades 4, 8, and 12, jump-starting the development of state standards and accountability systems. By 2000, 49 states had received funds and were participating in Goals 2000-related activities.⁶² Later in 1994, the Clinton administration's Improving America's Schools Act (IASA), which reauthorized the Elementary and Secondary Education Act, further established the federal role in supporting standards-based reform. By requiring states to establish systems of standards, assessments, and accountability based on them, IASA was arguably a bigger shift in federal policy and emphasis than the next ESEA reauthorization, more commonly known as the Bush administration's No Child Left Behind of 2001 (NCLB).

Like many of the federal reforms that preceded it, NCLB was also intended to "change the game." NCLB essentially gave greater teeth and focus to the 1994 IASA reforms. In theory, the pressure of increased accountability should also have led to increased innovation, by giving educators a strong incentive to seek new approaches that improve student learning. In turn, the demand for results would stimulate education entrepreneurship and investment in research and development (R&D).

Needless to say, this has not happened, for a variety of reasons. Almost as soon as the law was passed, established education groups that viewed it as a threat began seeking to undermine it.⁶³ States and school districts did not tap into the flexibility that

was available in the law.⁶⁴ Educators and school administrators, conditioned to be risk averse, responded to increased accountability with fear rather than innovation.

But perhaps most importantly, increased federal accountability was not accompanied by a strong federal investment in innovation to help schools, school districts, and states improve student learning. The No Child Left Behind law told schools *what* they should do by requiring states to set performance targets, but it did not do nearly enough to support them in figuring out *how* to do it. Less than one percent of federal Department of Education spending goes to support research, development, and statistics—a smaller percentage than any other federal government agency spends on R&D.⁶⁵ In fact, much-needed efforts to increase rigor in federally funded education research, which happened to coincide with NCLB, have had the unfortunate byproduct of de-emphasizing the “D” in R&D by prioritizing research that incorporates randomized trials over development of new and innovative approaches.⁶⁶

The current administration has largely failed to help educators and policymakers take real steps to modernize and improve public schooling to meet NCLB’s ambitious goals. The next generation of the federal role in education must go beyond NCLB to become a critical partner with philanthropy, social entrepreneurs, and school systems in supporting educational innovation and expansion of effective ideas.

V. RECENT FEDERAL SUPPORT FOR EDUCATIONAL INNOVATION HAS A DISAPPOINTING TRACK RECORD

As long as the federal government has been involved in elementary and secondary education, it has pursued the goal of supporting educational innovation. The original Elementary and Secondary Education Act of 1965 provided \$150 million (the equivalent of more than \$1 billion today) for what was then called the Title III program, which made grants to school districts to support field-based innovation.⁶⁷ That program was succeeded by numerous other federal efforts to support educational innovation or R&D, including work by the Office of Economic Opportunity in the 1960s and early 1970s, the National Institute of Education (NIE) in the 1970s, the Office of Educational Research and Innovation (OERI) in the 1980s and 1990s, “Obey-Porter” Comprehensive School Reform Demonstrations starting in the 1990s, and the Institute of Education Sciences today. Some of these efforts have developed effective new models that have had lasting impacts on public education. Yet more often, federal efforts to support educational innovation have been anything but innovative, or have encountered obstacles that prevented them from achieving lasting success.

1. *Political forces frustrate effective federal support for educational innovation*

Federal efforts to support educational innovation through research and development have persistently fallen short for a number of reasons.

First, there are strong political forces that militate against a powerful federal role in educational R&D. When it comes to investing in the development of new and innovative ideas, the political penalties for failure are far greater than the rewards for success, so public officials perceive substantial risk in R&D investments that may not pan out. But some failure is an inevitable part of progress and innovation is inherently risky. Even successful R&D initiatives can be politically risky if the findings or innovative approaches they generate pose a threat to established interests. Both educators and the federal bureaucracy are highly risk-averse, so federal education officials have been doubly reluctant to invest in radically innovative ideas that could potentially fail or encounter political opposition.

Second, political timelines are often too short to achieve effective R&D investments. Major R&D investments can take years and even decades to produce workable models. But presidential administrations operate with a time horizon of four to eight years, at most, and congressional time horizons are often even shorter.

Third, the structure of Congress does not lend itself to focused R&D investments. Members of Congress tend to prefer funding education programs that will deliver dollars to schools and programs in their home districts. When Congress does invest in R&D, there is a natural political pressure to distribute R&D funding far and wide, with little attention to quality, rather than focusing funds on high-quality R&D aimed at solving pressing national education challenges.

Specific educational R&D efforts have faced their own problems. The original ESEA's Title III innovation program lacked both systemic evaluation of district-led innovations or any mechanism to disseminate them more broadly, and as a result had limited or unknown impacts and lost both favor and funding.⁶⁸ The National Institute of Education faced opposition immediately upon its creation in 1972, from education interest groups who viewed it as elitist and insufficiently field-oriented. This, combined with a lack of political savvy in the agency's dealings with Congress, eventually led to its demise.⁶⁹

2. *Current federal programs fall far short of stimulating true educational innovation*

Today, the federal government supports research and development through the Institute of Education Sciences, a quasi-independent research arm of the U.S.

Department of Education; the Office of Innovation and Improvement within the U.S. Department of Education; and the Fund for the Improvement of Education.

The Institute of Education Sciences

The Education Sciences Reform Act of 2002 (ESRA), which sought to reform the existing federal Office of Educational Research and Improvement (OERI), created the Institute of Education Sciences. ESRA took important, and largely successful, steps to depoliticize the federal role in education research and to improve the quality of federally funded research studies.

But these reforms have also had a downside. In an effort to improve the rigor of federal education research, IES has prioritized research that incorporates randomized trials, which are essential to identify effective educational programs. This emphasis on effective and rigorous research has come at the expense of the “D” in federal R&D investment, however.⁷⁰

Moreover, since ESRA’s passage in 2002, the amount of federal funding available for education research, development, and dissemination has stagnated, rather than growing to meet increased demand for research-based policy and programs. Out of IES’ \$546 million budget for fiscal year 2008 (less than 0.8 percent of total federal education spending), only \$228 million is available to support research, development, and dissemination outside of special education—and most of that is focused on evaluating existing programs, not developing new models.⁷¹

The U.S. Department of Education’s Office of Innovation and Improvement and its Fund for the Improvement of Education

The Bush administration established the Office of Innovation and Improvement (OII) in 2002 to spearhead a new federal role in supporting educational innovation, modeled after the work of philanthropic venture capitalists. A September 2002 press release described the new office as “a nimble, entrepreneurial arm of the Education Department, making strategic investments in promising practices and widely disseminating their results.”⁷² Unfortunately, OII has fallen short of these goals.

- **Divided mission.** From its start, OII has had a divided mission. Then-top Department of Education officials wanted to create a new office within the department that would focus on promoting and supporting school choice programs, including both the existing federal charter schools grant programs and private school choice programs the administration had proposed. At the same time, department staff also wanted to move several small, discretionary grant programs located in the

Office of Elementary and Secondary Education (OESE) and the then-Office of Educational Research and Improvement (OERI) to other offices, in order to free up OESE to focus on implementing the recently passed NCLB legislation, and to support legislation then moving in Congress to convert OERI into the Institute of Education Sciences.⁷³ As a result, OII's role in supporting innovation combines awkwardly with its roles in supporting school choice programs and overseeing small, discretionary grant programs, which include some of the least innovative or effective federal education investments.

OII's hybrid mission illustrates how the ways of Washington are an awkward fit with more entrepreneurial approaches. By the logic of Washington, the office is a success, because it controls a lot of programs and resources. In fact, some Bush officials felt that locating existing programs within OII would enhance the new office's credibility.⁷⁴ Yet responsibility for managing these non-innovative programs actually distracts from OII's core mission of supporting educational innovation, undermining its effectiveness.

- **Investing in programs rather than innovation.** Although OII nominally had a budget of nearly \$1 billion in fiscal year 2008, many of those funds were committed to activities that had little to do with innovation or strategic education reform goals. According to the Office of Management and Budget, nearly \$157 million in funding nominally controlled by OII is actually devoted to Congressional earmarks, over which OII has virtually no control.⁷⁵ Another \$183 million is tied up in small, competitive grant programs that have limited effectiveness and are not linked to national education reform priorities (see Table 1). OII has tried to manage these programs strategically to steer funding towards innovation in priority areas, but has limited leeway within the boundaries of authorizing legislation for these programs and the modest funding levels for each program. The remaining OII funding of more than \$600 million is primarily concentrated in two areas: recruiting and retaining qualified teachers (\$273 million) and supporting school choice (\$342 million).

At the time OII was created, the federal government also invested \$385 million in a program called State Grants for Innovative Programs, which provided formula-driven grants to states and local school districts, ostensibly to support locally driven innovation.⁷⁶ Tellingly, the State Grants for Innovative Programs were not placed under OII's authority when the office was created, but remained under the OESE's oversight. Despite its name, the program was never really about innovation: states and school districts had very broad latitude in the activities these funds could support, and there was no evaluation or accountability attached to the program. As a result, there is no evidence that the State Grants were effective in improving student achievement.⁷⁷ Because of its lack of focus or evidence of effectiveness, State Grants for Innovative Programs lost both political support and funding over the

past six years, and Congress eliminated their funding entirely in the fiscal year 2008 budget.⁷⁸

TABLE 1

The Office of Innovation and Improvement at the Department of Education Operates Many Small and Non-Innovative Programs

Program	Purpose	FY 2008 Funding (millions)
Teacher Incentive Fund	Support efforts to develop and implement performance-based teacher and principal compensation systems in high-need schools	\$97.3
Troops to Teachers	Help eligible military personnel begin new careers as teachers	\$14.4
Transition to Teaching	Encourage the development and expansion of alternative routes to teacher certification, and recruit highly qualified midcareer professionals and recent college graduates to teach in high-need schools	\$43.7
Teaching of Traditional American History	Promote the teaching of traditional American history in elementary and secondary schools as a separate academic subject	\$118
School Leadership	Assist high-need school districts to develop, enhance, or expand innovative programs to recruit, train, and mentor principals for high-need schools.	\$14.5
Academies for American History and Civics	Support intensive workshops for teachers and students in the areas of history and civics.	\$1.95
Charter School Grants	Provide financial assistance for the planning, program design, and initial implementation of charter schools, and the dissemination of information on charter schools.	\$211
Voluntary Public School Choice	Support efforts to establish or expand intradistrict, interdistrict, and open enrollment public school choice programs to provide parents with expanded education options.	\$25.8
Magnet Schools Assistance	Support the development and design of innovative education methods and practices that promote diversity and increase choices in	\$105

	public education programs.	
Advanced Placement	Increase the participation of low-income students in both pre-AP and AP courses and tests.	\$43.5
Ready-to-Learn Television	Develop of educational programming for preschool and early elementary school children and their families.	\$23.8
Reading is Fundamental/ Inexpensive Book Distribution	Provide books for low-income children and youths from infancy to high school age and support activities to motivate them to read.	\$24.6
Ready to Teach	A national telecommunications-based program to improve teaching in core curricular areas.	\$10.7
Fund for the Improvement of Education (less earmarks)	Provide authority for the secretary of education to support nationally significant programs to improve the quality of elementary and secondary education.	\$21.4
Excellence in Economic Education	Promote economic and financial literacy among all students in kindergarten through grade 12.	\$1.45
Parental Information and Resource Centers	Implement successful and effective parental involvement policies, programs, and activities that lead to improvements in student academic achievement.	\$38.9
Women's Educational Equity	Promotes education equity for women and girls.	\$1.85
Total		\$798 million

Earmarks	Recipient	FY 2008 Funding (millions)
National Writing Project	National Writing Project	\$23.6
Advanced Credentialing	National Board for Professional Teaching Standards	\$9.65
Close Up Fellowships	Close-Up Foundation	\$1.94
Fund for the Improvement of	383 projects in members of Congress' home	\$101

Education Earmarks	districts	
Exchanges with Historic Whaling and Trading Partners	Museums and cultural organizations in Alaska, Hawai'i, Massachusetts, and Mississippi	\$8.75
Arts in Education	VSA Arts and John F. Kennedy Center for the Performing Arts	\$14.3
Total		\$159 million

Source: U.S. Department of Education, *Fiscal Year 2009 Budget Summary* (2008).

- FIE hindered by earmarks.** The only pool of money over which the OII has real funding discretion is the Fund for Improvement of Education (FIE). In recent years, however, earmarks for specific projects in Members of Congress' home states and districts have eaten up nearly all of FIE's funding. While some of these earmarks may support worthy activities, they are not focused on national priorities, are not accountable to the public for their results or performance, and have nothing whatsoever to do with promoting educational innovation. In fiscal year 2008, for example, Sen. Ted Stevens (R-Alaska) secured a \$239,000 FIE earmark for the Alaska Sealife Center in Seward to educate the public about Alaskan marine life, and Rep. David Obey (D-Wisc.) secured a \$239,000 FIE earmark to support Wisconsin's Lake Superior Big Top Chautauqua. The connection between fishing education or Chautauqua performances and national school improvement priorities is, to say the least, murky.⁷⁹

In fiscal year 2008, more than \$100 million of FIE's total \$121 million budget was devoted to 383 congressional earmarks, leaving OII with only \$21 million in unencumbered funding to support nationally significant programs—a miniscule sum in the context of the \$68 billion federal education budget and the \$500 billion U.S. K-12 public education sector.⁸⁰ Even when OII has tried to use FIE funding strategically, for example by investing in the development of alternative, test-based teacher licensure, it has faced political problems, because FIE is widely viewed as a slush fund that the administration uses to advance its political priorities for education or reward interests and groups with which it is allied.⁸¹

- Even successful initiatives face political opposition.** OII has been effective in supporting educational entrepreneurship and R&D in teacher quality, where it controls significant amounts of money allocated to well-designed programs. For example, the Teacher Incentive Fund (TIF) program provides \$97 million in competitive grants to support development, implementation, and evaluation of performance-based teacher and principal compensation programs in high-need schools. By providing large grants, making multi-year funding commitments, being

very specific about the activities for which funding can be used (performance pay), and linking funding to evaluation, TIF has catalyzed significant expansion in district-level teacher pay innovations. It has done so in a way that will produce useful information on what works and does not work in performance pay, as well as the results of performance pay reforms.⁸² Unfortunately, this success has been tempered by politics. The program, which essentially gives a federal blessing to reforming how teachers are paid, has drawn criticism from some interest groups and become a political football during the congressional appropriations process, where TIF's funding has been cut several times.⁸³

Despite its limitations, OII has been effective as a contact point and advocate for education reformers and entrepreneurs within the federal education bureaucracy, a valuable role that should be maintained and strengthened in any expanded federal education innovation initiative.

Still, these modest activities fall far short of the need for an aggressive federal role in supporting educational entrepreneurship and fostering a culture of innovation within public education. The next administration must make a renewed commitment to fostering educational innovation and entrepreneurship at the federal level, and back it up with a new, empowered Office of Educational Entrepreneurship and Innovation that has the authority, flexibility, funding, and accountability to catalyze high-quality educational R&D and to help bring effective entrepreneurial educational models to a national scale.

VI. THE FEDERAL GOVERNMENT SHOULD PLAY A GAME-CHANGING ROLE IN SUPPORTING EDUCATIONAL ENTREPRENEURSHIP AND INNOVATION

The federal government cannot change the game in education simply by continuing and expanding the investments and policies that it already has in place. A game-changing strategy requires the federal government to make new types of investments, form new partnerships with philanthropy and the nonprofit sector, and act in new ways to support the growth of entrepreneurship and innovation within the public education system.

This new role requires the federal government to do three things. First, it must provide financial and technical support to enable educational entrepreneurs with demonstrated effectiveness to bring their operations to scale and have systemic impact at the metro-wide, state, or national level. Second, it must make strategic investments in seeding the next generation of transformational education innovations. Third, the federal government must deploy the variety of resources at its disposal—coercive authority, funding incentives, and, perhaps most importantly, the bully platform of the federal

government—to prod states and local school districts to eliminate barriers to entrepreneurship and innovation.

Through all of this, the federal government must create incentives and support states and local school districts that want to partner with entrepreneurs and innovators to improve student learning. In so doing, it must go beyond its current focus on supporting standards-based reforms, to stimulate and embrace a culture of educational innovation.

For the past 15 years federal education policy has invested heavily in catalyzing and supporting standards-based reforms at the state and local level. Forty-nine states now have statewide systems of standards, assessment, and accountability.⁸⁴ Standards-based reform has become the dominant framework driving federal, state, and local education reform initiatives. And the standards-based framework has placed a much-needed focus on student outcomes, particularly for historically underserved student groups. Moreover, recent trends in student academic achievement at the fourth and eighth grade levels—where the bulk of standards-based reform has focused—are positive, as measured by both state assessments and the National Assessment of Educational Progress (NAEP).⁸⁵ This is true both overall and for specific student populations, such as economically disadvantaged and racial/ethnic minority students, that have been a particular focus of reforms.

But we are approaching a point of diminishing returns on further investments in standards-based reforms. Standards-based reform is inherently limited because it focuses pressure on the existing public education system but does nothing to fundamentally alter the shape of that system itself. Standards-based reform sets expectations for student learning and creates incentives for educators to meet those expectations—essential conditions for improving student achievement. Once those are in place, however, the only tool for improving results that standards-based reform provides policymakers is to further tighten pressure on the system to meet expectations. Like squeezing water from a sponge, increasing the pressure of standards-based reforms will produce some results, but at increasingly diminishing returns to the effort exerted. Tightening pressures on the current system also has adverse results, such as “teaching to the test,” or a lack of attention to higher-performing students.⁸⁶ Unfortunately, too much federal education policy today continues to squeeze when the real need is for policies that open the taps to unleash a new flow of creative energy into the system.

To reach the lofty goals that standards-based reform has set, we need more than just pressure. We need new models of organizing schooling and new tools to support student learning that are dramatically more effective or efficient than what schools are doing today. Moreover, we need a system and culture of education that is premised on

habits of innovation and views the development of new, more effective approaches to educating students as central to its mission and a standard element of educators' work.

Creating a culture of innovation in public education is not antithetical to standards-based reform. Nor is it a replacement for it. Rather, the two are complements. As Hess notes, transparent information and clear standards for judging educational effectiveness are essential to supporting entrepreneurship and innovation in education, because educational approaches that break with typical practice or threaten established interests are much better able to withstand opposition if they can demonstrate they are effective.⁸⁷ By defining educational expectations and providing transparent information about school performance, standards-based reform creates the necessary conditions for a culture of educational innovation to emerge. At the same time, by shining a spotlight on the areas in which our schools are not succeeding, standards-based reform highlights the need for innovation to develop solutions to seemingly intractable challenges facing our lowest-performing schools.

Supporting innovation and entrepreneurship in public education does, admittedly, require the federal government to play a different sort of game-changing role than it played in advancing educational access and standards-based reform. In both of those cases, the federal government changed the game by mandating that states and school districts take certain actions, such as desegregating schools, establishing systems of standards and assessments, and identifying and intervening in low-performing schools. States often resisted such mandates, requiring the federal government to employ a combination of carrots (e.g., new funding programs) and sticks (e.g., enforcement) to prod them to comply. And in many places that compliance is still not complete, as states have found ways to circumvent federal requirements. But most game-changing federal actions in education have taken a largely top-down approach.

The federal government cannot mandate a culture of innovation as it mandated previous reforms. Rather the federal government must take an almost opposite approach—bottom-up and outside-in. It must invest directly in promising entrepreneurs and innovators working at the ground level, and it must partner with philanthropists and entrepreneurs to scale up promising models and bring them into the existing infrastructure of public schooling. There is a limited role for federal coercive authority in prodding states and districts to change policies and practices that currently serve as barriers to innovation, but that role must be melded with strategic use of the federal bully pulpit and new incentives for states and school districts to become partners in innovation.

Fostering a culture of innovation and entrepreneurship through federal education policy necessarily entails a much less linear approach than previous iterations of federally led education reform. But innovation itself is an inherently nonlinear process that does not always advance in predictable ways. Trying to fit a new federal role into

the constraints of existing federal programs to support education will stifle its ability to foster truly transformative innovations.

1. *The federal government should help bring successful educational entrepreneurs to scale*

Partnering with philanthropy

To date, most support for educational entrepreneurs has come from private philanthropy—particularly the new breed of venture philanthropists described earlier. Private philanthropy has been quite effective in identifying and providing start-up capital for promising entrepreneurial ventures. Nearly all successful nonprofit education entrepreneurs got their starts with philanthropic funding, and half of the 10 largest recipients of philanthropic funding for K-12 education in 2006 were education entrepreneurs.⁸⁸ Venture philanthropists have also invested significant resources in scaling up educational entrepreneurs with a track record of success, including Teach for America, the KIPP Network of charter schools, and several nonprofit and for-profit education entrepreneurs that receive funding from the New Schools Venture Fund. Foundations tend to lead government in investing in entrepreneurial innovation, because they are less beholden to established interests and can take bigger risks than government, and because they are funded with private rather than taxpayer dollars. Foundations have also played a vital role in injecting innovative ideas into the public discourse on education.⁸⁹

But philanthropy alone cannot bring education entrepreneurship to scale. The challenge is simply too large. In 2006, the top 50 foundations making grants in education awarded less than \$1 billion in grants for K-12 education—no chump change, to be sure, but less than five percent of the federal investment in K-12 education programs authorized under the No Child Left Behind Act.⁹⁰ Much of that philanthropic funding is directed to school districts, education policy or advocacy, and more established educational organizations. Bringing educational entrepreneurship to scale will require an even greater investment that only government can provide.

The federal government would be most effective if it partnered with philanthropy to provide the funding and support that effective educational entrepreneurs need to bring their models to scale and have wide-reaching impact on public education. In order to do this effectively, the federal government must itself act more like the venture philanthropists who have taken the lead in investing in educational entrepreneurship. Just as this new breed of philanthropists behaves in ways that are different from more established foundations, so a new federal role in supporting educational entrepreneurship should look different from traditional federal programs. It must take a much more hands-on, strategic role in identifying and investing in promising educational entrepreneurs than the current federal competitive grant processes utilize. It must make

multi-year investments that allow entrepreneurs time to grow their organizations. It must provide flexible funding to support the variety of needs that growing entrepreneurs have, but that flexibility must be accompanied by a relentless focus on results. In addition to providing funding to entrepreneurs, the federal government must also connect them with support and advocacy resources to help them succeed and use its investments to establish networks of entrepreneurs, funders, and like-minded education reformers at the metro, state, and national levels. And it must leverage federal funding by building collaborative relationships with venture philanthropists, traditional foundations, and other funders to jointly fund major investments in education entrepreneurship.

Models of federal support for social entrepreneurs

A growing number of social entrepreneurs and policy analysts are calling for a new, more active federal role in supporting nonprofit social entrepreneurship. Former Clinton White House staffer Shirley Sagawa has proposed creating an “SBA for Nonprofits.” The Small Business Administration (SBA), an independent federal executive branch agency, fosters small business entrepreneurship by offering federally backed loans to small business, helping small businesses compete for federal government contracts, and providing a variety of other supports such as disaster assistance and advocacy on behalf of small businesses. SBA’s activities are largely restricted to the for-profit sector. Sagawa’s SBA for Nonprofits would play a similar role in building nonprofit capacity by providing capital to help scale up nonprofits that achieve results, leveraging private philanthropic investments and filling gaps in private funding, providing technical assistance, and removing barriers that prevent nonprofits from working collaboratively with government agencies or participating in government programs.⁹¹

On a similar note, Michelle Jolin has proposed creating a White House Office of Social Innovation and Impact. This new White House office would invest in the growth of entrepreneurial models that have been shown effective in tackling social challenges. The White House Office of Social Innovation and Impact would also support entrepreneurial innovation; catalyze partnerships between government, business, and the nonprofit sector; work with other agencies to build capacity—particularly human capital—in the nonprofit sector; and explore possible tax code revisions to increase charitable giving and remove barriers to social innovation.⁹²

A 2006 SBA report, which specifically addressed the question of how the federal government can help foster social entrepreneurship, offered similar recommendations. The report identified five ways in which the federal government can advance the work of social entrepreneurs:⁹³

- . Provide seed funding to enable new social entrepreneurs to launch their organizations;

- . Enable social entrepreneurs by eliminating barriers in laws and policies that prevent entrepreneurs from being effective, lending credibility to entrepreneurial efforts, and supporting collaboration between entrepreneurs and government agencies or programs;
- . Provide performance-based awards to effective organizations;
- . Provide an influx of capital to support the growth of successful social entrepreneurial models; and
- . Conduct research and evaluations on programs and social problems to build the knowledge base that enhances social entrepreneurs' efforts

These various proposals suggest an emerging consensus on the need for a stronger federal role in supporting social innovation. The United States benefits from an extraordinarily vibrant nonprofit social sector, and nonprofit organizations play a critical role in developing and implementing solutions to our most pressing social problems. As such, an expanded federal role in supporting nonprofit organizations, in particular social entrepreneurs, could have tremendous potential, and would also complement and support a more aggressive federal role in educational entrepreneurship.

This report argues that the magnitude of the challenges facing our public education system, as well as the extent to which educational entrepreneurs are already at the forefront of efforts to overcome these challenges, demand a specific federal focus on and investment in educational entrepreneurs, distinct from (although closely aligned with) any broader federal effort to catalyze social entrepreneurship. The recommendations by Sagawa, Jolin, and SBA provide a useful starting point for thinking about how the federal government could more effectively support educational entrepreneurship.

How the federal government should scale up educational entrepreneurship

The federal government should establish an office and funding stream specifically dedicated to identifying, funding, and supporting educational entrepreneurs to enable them to grow to scale.

There is a clear precedent for federal investments in scaling up successful educational models from the nonprofit sector. Several federal education programs aim to replicate successful models first implemented by privately funded nonprofit groups. The GEAR UP college-readiness program, for example, is based on the successful models of Project GRAD and I Have A Dream, privately funded nonprofits that provide college preparation and scholarships to low-income students starting in middle school. Rather than directly funding entrepreneurs who operate these effective models,

however, these federal programs provide funding to state and school districts to imitate successful models. As a result, implementation is often spotty and larger-scale programs often fail to match the results of the models that inspired them. One of the benefits of an education system that provides space for entrepreneurship is that governments can invest directly in the expansion of proven models, rather than attempting to coerce the existing system into aping their practices.

Moreover, the federal government has already made significant investments in scaling up educational entrepreneurs through the Corporation for National and Community Service's National Direct Pool, which provides federal funding directly to service organizations operating at a national scale. Funding from the National Direct Pool helped fuel the expansion of entrepreneurial education organizations including Teach for America, Jumpstart, and City Year.⁹⁴

Previous secretaries of education have also used funding from FIE to help scale up entrepreneurial organizations focused on improving teacher quality, including the National Board for Professional Teaching Standards and the American Board for the Certification of Teacher Excellence. But this has typically occurred because of the political savvy and connections of individual donors and entrepreneurs, not because the federal government has made any type of systematic effort to support the spread of promising models. The challenge, then, is to create a structure within the Department of Education that could make these investments in a much more systematic, strategic way, and align them with key national priorities for education, the work of philanthropic funders, and a broader innovation and research agenda. Section VII presents a proposal for creating that infrastructure.

2. *The federal government should purposefully foster transformative educational innovation*

Establishing a federal infrastructure to identify and scale up effective educational entrepreneurs is an essential first step towards developing a culture of innovation within public education, but it is not sufficient in itself. Most of today's educational entrepreneurs achieve results by implementing traditional curricula and pedagogical techniques more rigorously and effectively than existing schools and by improving administration and organizational—rather than educational—productivity. While these efforts produce results, they also have real limitations. There are only so many educators willing to accept the significant demands that many successful educational entrepreneurs place of their staffs. If the United States is to achieve strong academic outcomes for disadvantaged students at scale, we need new, more productive educational approaches and technologies. Federal investment in educational entrepreneurs advances a more conducive environment for innovation to take root, but radical breakthroughs in educational technologies and productivity demand a more

concentrated federal investment in supporting educational R&D—something the education industry currently lacks.

Federal support or innovation in other sectors

The conventional wisdom, which numerous experts repeated in interviews for this report, is that the federal government is simply not well-suited to supporting innovation. To be sure, the record of federal efforts to support educational innovation is littered with projects that fell short of aspirations (although the federal government has spurred a good deal more innovation and progress in education than is commonly acknowledged). But the federal government has most certainly played a central role in supporting innovation in areas other than education. Several federal agencies, including the Defense Advanced Research Projects Agency (DARPA), the National Institutes of Health (NIH), and the National Reconnaissance Office have been effective in supporting groundbreaking innovation in their respective fields.

- **DARPA**, a part of the Department of Defense, has a mission to support radical innovation for national security. As such, DARPA invests in high-risk, high-payoff innovations with the potential to substantially transform warfare. Over the past 50 years DARPA has supported numerous breakthroughs in both military and civilian technology, including stealth aircraft technology and ARPAnet, a predecessor to the Internet.⁹⁵

DARPA is intended to be small and nimble, doing much of its work through contracts with external researchers and industry. DARPA hires expert program managers from industry, academia, and other fields and frees them to act entrepreneurially, protecting them from bureaucracy, allowing them to quickly make decisions about funding, continuing or stopping projects, and encouraging them to combine ideas and technologies across different fields. This is possible because DARPA has considerable autonomy and freedom from bureaucratic constraints: It is allowed to hire staff outside the civil service process and to use flexible contracting arrangements that are not typically possible for federal agencies. DARPA is also able to be innovative because it is independent from the military services. This independence allows it to take a mid- to long-range, rather than short term, perspective on its investments, looking beyond what the current military leadership believes it needs to identify the next generation of transformative military technologies.⁹⁶

In addition to contracting with outside entrepreneurs, innovators, and researchers, DARPA has the authority to run competitions for innovative ideas and to award substantial prizes to the winners. The best known example of this is the DARPA Grand Challenge, a competition to design a fully autonomous unmanned vehicle capable of completing an off-road course within a limited time. The Grand Challenge

is a good example of DARPA's high-risk, high-payoff philosophy at work: In the 2004 Grand Challenge, not a single entrant completed the course, but the Challenge was still considered a success simply because 21 teams designed innovative robots to capable of attempting it. The fact that 5 and 6 teams, respectively, completed the 2005 and 2007 Grand Challenges, drawing on lessons learned in the 2004 challenge, illustrates the wisdom of DARPA's approach.⁹⁷

- **The National Institutes of Health** oversees most of the nation's public investment in biomedical research. NIH supports basic science research, entrepreneurial projects that build on that research to develop new therapies, and evaluation and dissemination of those therapies.⁹⁸ NIH is composed of 27 independent institutes and centers that set their own research agendas, receive their own appropriations from Congress, and control their own budgets and staffing. In order to achieve dramatic scientific breakthroughs, NIH is often willing to support investments over a long period of time without immediate payoffs. NIH funded the research that led to the creation of a human papilloma virus vaccine (which helps prevent cervical cancer), for example, for two decades before the drug finally won FDA approval. Like DARPA, NIH has a variety of special authorities that allow it to hire expert staff outside regular civil service procedures. Most of the major biomedical breakthroughs we rely on today have roots in NIH research or funding.
- **The National Reconnaissance Office** operates reconnaissance satellites used to gather intelligence for agencies including the CIA and Department of Defense. In order to keep U.S. reconnaissance technology ahead of our global peers, the NRO's Director's Innovation Initiative (DII) provides seed funding to develop new innovative technologies that are expected to produce radical, rather than incremental, change in the field of intelligence gathering.⁹⁹ Like DARPA, DII has a high tolerance for risk in seeking technological breakthroughs. DII operates under the assumption that only 10 to 15 percent of the projects it funds will be successful enough even to justify further research, let alone to become useful reconnaissance technologies. Yet the organization realizes that its failures are essential to enabling the kind of breakthroughs that will keep the United States a leader in reconnaissance technology.
- Another promising model that supports both entrepreneurship and innovation is the **Small Business Innovation Research Program (SBIR)**, a federal initiative that sets aside a portion of research and development funds administered by 11 federal agencies for competitive awards to small, for-profit businesses.¹⁰⁰ To be eligible for SBIR awards, a firm must be American-owned and independent, for-profit, must employ the principal researcher for the funded project, and must have fewer than 500 employees. SBIR provides project start-up grants of up to \$100,000 and grants of up to \$750,000 for R&D work and product development. Firms must raise funding from other private or public sources to bring their products to market.¹⁰¹ SBIR

awards are highly competitive and have produced some important educational innovations, including new technologies designed to enhance the education of students with disabilities.¹⁰² A related initiative, the Small Business Technology Transfer Program, supports small business technology R&D, including partnerships between small businesses and research universities to develop new technologies.¹⁰³

Applying the lessons of innovative federal agencies to education policy

How transferable are the lessons from these agencies to the Department of Education? Admittedly, the sectors from which these models emerge differ from the education sector. Building predator drones does not seem to have much in common with educating children. Yet it is possible to overstate these differences. DARPA and NIH have both invested in research and development that addresses issues of human cognition and psychology that are relevant to education. NIH and NIH-funded researchers, in particular, have conducted groundbreaking research in brain development, language learning, literacy, and learning disabilities. Technology firms receiving contracts through SBIR have developed useful technologies to assist in learning for individuals with disabilities. Though the specifics of innovation may differ across sectors, the basic innovation process—identify promising ideas and entrepreneurs, invest in the development of prototypes based on their ideas, field-test and refine those models, eliminate those that don't work, test and refine further, and eventually arrive at a small number of effective innovations—remains the same.

It is noteworthy, however, that private industry plays a much larger role in these sectors than it does in education. National defense may be the ultimate example of a government activity, yet the military services rely heavily on goods and services purchased under contract with private sector firms, and DARPA conducts much of its work through contracts with private sector firms as well. These firms have a strong incentive to invest in innovation because firms that develop groundbreaking military technologies will benefit from contracts to sell them to the military services, and DARPA utilizes this dynamic to work collaboratively with private firms to develop new ideas and technologies. In biomedical research, the federal government funds basic research that leads to the development of new technologies and cures, but private sector R&D also plays an important role in translating basic research findings into usable products. Moreover, competition among private producers for customers creates demand for innovation to produce the next blockbuster drug or technological breakthrough.

This is not the case in education, where most public education is provided by government through local school districts that often have a monopoly in the provision of public education in a community. The private sector plays much less of a role in education than it does in many other sectors, and there is also much less competition. As a result, local school districts don't face competitive pressures that lead them to

demand new, more effective ways to educate students. This can make it difficult even for proven innovations to find a market in the public schools.

As discussed earlier, this is why the *federal* government must play a key role in stimulating innovation within public education—because the impetus to do so is not going to come from school districts or states that face little incentive to innovate. But simply seeding innovation is not enough: The federal government also must consciously seek to create openings within the public education market for proven educational innovations. Supporting the growth of effective educational entrepreneurs is one important step here, because educational entrepreneurs increase competition in public education and are also themselves more open to innovations that have evidence they improve student achievement.

The federal government can also stimulate demand by supporting policies that hold schools and school districts accountable for student performance. Schools that know they will be held accountable for how their students learn have greater incentives to seek out and implement more effective approaches to educating students. Indeed, one of the reasons that we are seeing a backlash against accountability today is that the federal government has not matched increased accountability with investments in identifying innovative and effective models that can help schools improve their results. To realize the goals of standards-based reform, the federal government must move beyond requiring standards and accountability and become a partner with schools and districts in improving student achievement by investing in the innovations that will make dramatic improvements in teaching and learning possible.

How the federal government should support transformative educational innovation

The education sector needs an institution, similar to DARPA or NIH, that will make high-risk, high-payoff investments in solving critical educational challenges and problems. The current system—where states and localities invest almost nothing in research or development, the federal government invests less than one percent of its education funding in research, and federal research funding provides very little support for the development of new tools and solutions that address the needs of school and classroom practice—will not develop the innovative solutions needed to meet the major challenges facing our schools today. This must change.

Education researcher Paul T. Hill has proposed creating a new federal R&D agency, modeled largely off of DARPA, that would identify a small portfolio of promising innovative ideas, work with researchers and entrepreneurs to develop workable prototypes based on those ideas, and rigorously test those models in a small number of schools in order to screen out ineffective ones and further refine promising models.¹⁰⁴ Similarly, Anthony Bryk, president of the Carnegie Foundation for the Advancement of

Teaching and a former professor at the Stanford schools of business and education, has proposed creating a federally funded Design, Engineering, and Development Enterprise (DED), which would bring together educational practitioners, academics, and business to develop innovative new tools, educational systems, and models of teacher preparation and development.¹⁰⁵

Both Bryk's and Hill's proposals would include support not just for researchers and entrepreneurs, but also for a small network of schools that would serve as innovation laboratories for clinical field trials of new tools and models. These networks would also support large scale adoption and evaluation of successful innovations. Under both proposals the R&D agenda would be solution-oriented, emphasizing development of practical tools and models for educators, rather than theoretical research. It would target the most pressing challenges in education and invest in audacious, even risky, strategies to overcome them.

A modest example of what Hill and Bryk are proposing is already in place in the form of the Strategic Education Research Partnership (SERP), a project initiated by the National Research Council to bridge the gap between research and classroom practice and initiate a program of focused research and development to improve teaching and learning in America's public schools. SERP forms partnerships between school districts, researchers, and communities to conduct "use-inspired" research and development designed to result in the creation and implementation of products and models that educators can actually use to improve teaching and learning. The bulk of SERP's work occurs in field sites in Boston, San Francisco, and nationally in school districts participating in the Minority Student Achievement Network. But much of this work remains theoretical. SERP's 2006 budget was less than \$3 million in federal grant funds, far less than its ambitious research agenda requires.

Federal policymakers have made laudable progress in improving the quality of federally funded research. But in the process they have given short shrift to the "development" side of "research and development," and at times seem to have lost sight of innovation entirely. If we are to overcome the significant challenges facing our public schools today, the federal government must play a DARPA-like role in supporting educational innovation, along the lines proposed by Hill and Bryk. The Department of Education must be empowered to support the kind of risk-taking, outside-the-box thinking that DARPA and similar agencies currently engage in. It must have the resources to make substantial investments in developing, testing, and refining potentially transformational education innovations. And it must partner with school districts, educational entrepreneurs, researchers, and philanthropy to field-test and implement successful innovations in a wide range of schools.

3. *The federal government should also seek to eliminate existing barriers to educational innovation and entrepreneurship*

Finally, in addition to scaling up educational entrepreneurship and seeding the next generation of education innovations, the federal government must also play a leadership role in creating space within the public education system for entrepreneurial innovation to grow and flourish. Federal investments to build the capacity of educational entrepreneurs must be complemented by action to eliminate barriers that too often impede their growth. Similarly, federal investments in seeding groundbreaking innovation will have only limited effect if school districts are too entrenched in their ways and unwilling to consider new, more effective ways of doing business.

In addition to investing in entrepreneurship and innovation, the federal government must “prime the pump” for education innovations by creating incentives for states and districts to adopt innovative practices, opening doors for educational entrepreneurs elsewhere in the federal government, and prodding states and school districts to eliminate barriers that slow the spread of educational innovation or prevent educational entrepreneurs from entering the market. To do this, it must deploy a variety of strategies, and leverage resources and authority from across the Department of Education and indeed the entire federal government.

VII. CHANGES TO THE DEPARTMENT OF EDUCATION WOULD ENABLE EFFECTIVE FEDERAL SUPPORT FOR EDUCATIONAL INNOVATION AND ENTREPRENEURSHIP

Carrying out these three roles—scaling up educational entrepreneurship, seeding the next generation of transformational education innovations, and eliminating barriers to entrepreneurship and innovation—will require a new organizational structure within the Department of Education specifically focused on supporting educational innovation and entrepreneurship. The next administration should create an Office of Educational Entrepreneurship and Innovation (OEEI), within the Department of Education, that will have as an explicit mission creating a culture of innovation within public education. This office would adopt the lessons of both venture philanthropy and successful federal R&D efforts in other sectors.

The new federal Office of Educational Entrepreneurship and Innovation would assume many of the functions currently carried out by the Office of Innovation and Improvement. For example, it would assume OII’s valuable role in serving as a contact point and advocate for entrepreneurs and education reformers within the Department of Education. But it would not operate many federal programs the way OII currently does. Most programs currently operated by OII would be transferred to other offices within the Department, such as the Office of Elementary and Secondary Education, and, where programs do not have strong evidence that they improve student learning, they should

be eliminated, and their funding reallocated to support the mission of the new Office of Educational Entrepreneurship and Innovation. OEEI should oversee only two programs: Grow What Works and Education Innovation Challenge.

1. A “Grow What Works” program should scale up successful educational entrepreneurs

The Grow What Works program would be OEEI’s primary tool for scaling up proven education entrepreneurs. The Grow What Works fund would identify promising educational entrepreneurs with both a track record of demonstrated success and the capacity and desire to take their operations to a national scale, and would partner with venture philanthropists to make significant investments of growth capital to help these organizations scale up. This new federal investment, and the private dollars it would leverage, would address the limited access to growth capital that constrains the growth and impact of many education entrepreneurs.

Like venture philanthropists, the Grow What Works fund not only would provide funding to education entrepreneurs, it would also collaborate with other funders to build the capacity of educational entrepreneurs to achieve scale. The Grow What Works fund would invest in intermediaries (See Boxes 1, 2, and 3) that provide technical assistance and capacity-building for these entrepreneurs. It would help support the development of a human capital pipeline to provide high-quality human capital to staff the expansion of educational entrepreneurs. And in exchange for federal investment, entrepreneurs would agree to participate in rigorous federally funded evaluations designed to determine their effectiveness and identify the characteristics that enable them to be effective.

A meaningful federal investment in scaling up entrepreneurship through the Grow What Works fund should cost \$100 to \$200 million in its first year, scaling up over five years to \$300 million. Because there are a limited number of existing educational entrepreneurs with both evidence of effectiveness and the capacity to scale up nationally right now, funding would start at relatively modest levels and grow over time as more entrepreneurs demonstrate results or reach capacity to scale up. At scale, Grow What Works would constitute a substantial federal investment in educational entrepreneurship, made even more substantial by the private philanthropic investment it would leverage.

We anticipate that the largest portion of Grow What Works awards would go to support the expansion to scale of educational entrepreneurs who found networks of schools or build the supply of high-quality human capital in education. These are the areas of both the greatest need and the greatest concentration of educational entrepreneurs who are demonstrating results. A smaller share of funding would go to expand entrepreneurs that provide out-of-school support for student learning, such as

afterschool or parent engagement programs, or that build tools to support student achievement. Federal funds would also support grants or contracts for intermediary organizations, such as New Schools Venture Fund or New Schools for New Orleans, that would providing capacity building and technical support to educational entrepreneurs either nationally or in particular metropolitan areas (see Boxes 4, 5, and 6 for descriptions of investment opportunities for the Grow What Works program).

A portion of the Grow What Works budget (less than 5 percent) would be devoted to rigorous independent evaluations of the results achieved by the entrepreneurs in which the Grow What Works Fund invests. With the exception of funding for evaluations, all Grow What Works awards would require at least a 50 percent match from private philanthropy, business, state or local funds. All entrepreneurs receiving Grow What Works funds would be required to submit a sustainability plan showing how their programs would achieve financial sustainability, from state and local funding sources and service fees from schools and districts purchasing their services, without additional philanthropic or federal support, within a reasonable timeframe.

The work of the Grow What Works fund, particularly its investments in building networks of high-performing schools, would complement and overlap with the work of the federal charter schools program, even more so if proposed changes to that program are implemented in the reauthorization of No Child Left Behind. It is possible that the part of OEEI responsible for overseeing the Grow What Works program would also oversee the federal charter schools program, as well as programs that support entrepreneurial approaches to human capital in education, such as the Teacher Incentive Fund and Transition to Teaching program.

A group of leading education entrepreneurs has developed draft legislation to create a federal Grow What Works fund that would recognize and invest in expanding the operations of educational entrepreneurs with demonstrated results.¹⁰⁶ The proposal has already been shared with leaders of the House and Senate education committees, for potential inclusion in No Child Left Behind when the law is reauthorized in the 111th Congress. The next administration should embrace this idea and make administering a Grow What Works fund the key function of a new Office of Educational Entrepreneurship and Innovation. By incorporating these effective programs into a broader vision of supporting educational entrepreneurship, the Grow What Works fund could amplify their impacts.

Box 4

Creating Metro-Wide Entrepreneurship Networks

The existing literature on business and social entrepreneurship, as well as extensive interviews with successful educational entrepreneurs and venture philanthropists, suggests that networks play a critical role in fostering successful entrepreneurs. Networks allow educational entrepreneurs to connect with one another, learn from others' successes and failures, and access pools of high-quality human capital. Geographic concentration of entrepreneurs in a particular region or community can also have highly synergistic effects. For example, the concentration of technological expertise and entrepreneurial organizations in Silicon Valley fueled the boom in technology entrepreneurship. Similarly, the post-Hurricane Katrina effort to rebuild New Orleans' public education system from the ground up has attracted a concentration of nationally recognized educational entrepreneurs, smaller nonprofits, and talented individuals to tackle the challenge of creating radically different and better public education institutions in New Orleans.

Creating networks of educational entrepreneurs at both the national and metro-wide level should be a core goal of a new federal Office of Education Entrepreneurship and Innovation. The Office would inherently support the creation of national networks of educational entrepreneurs by investing in organizations that want to grow and expand or replicate their models nationally. The KIPP charter schools network, Teach for America, and New Leaders for New Schools offer examples of the sort of national networks these investments could foster.

At the same time, the Office would focus on making these investments in a way that would produce concentrations of educational entrepreneurs in metropolitan areas that have substantial needs for entrepreneurial solutions and provide a hospitable environment for them. The Office would support the creation of these dense metropolitan networks in at least two ways. First, it would work with entrepreneurs it funded to target expansions to selected metropolitan areas, creating a concentration of entrepreneurs in these areas. For example, the Office might fund one or more charter school networks to open new schools in a particular metro area, while also funding groups like Teach for America and New Leaders for New Schools to establish operations in these areas to provide human capital for the new charter schools. It might also support the expansion of social entrepreneurs providing supplemental student services or parental advocacy programs to work in communities served by those schools. This would create a critical mass of educational entrepreneurs in these metro areas, enabling them to serve a significant percentage of the area's children, and to drive changes within the entire public education environment for all children in the region.

The Office of Educational Entrepreneurship and Innovation could also support creation of metro-wide networks of educational entrepreneurs by investing directly in metro-level intermediaries that would recruit, convene, invest in, and provide support for educational entrepreneurs operating in a metropolitan area. Indianapolis' MindTrust

(see Sidebar 2) provides one example of this model. The Office could invest in creating a dozen or more MindTrusts in cities and regions across the United States to catalyze and support educational entrepreneurial efforts in those areas.

Sources: Interview with Matt Candler; Kim Smith and Julie Petersen, "What is Educational Entrepreneurship?" in Frederick M. Hess, ed., *Educational Entrepreneurship* (Cambridge, MA: Harvard Education Press, 2006).

Box 5

Building the Supply of Human Capital

Research indicates that of all the in-school factors affecting student achievement, the effectiveness of teachers is the most powerful variable. Despite substantial changes in the labor market and changes in the performance that is expected from public schools, the nation still lacks a coherent strategy for recruiting and retaining human capital in education. There is also a lack of systemic attention to the kinds of tools and support that teachers need to do their jobs as effectively as possible. At the same time,

In some ways human capital is the area where the federal government has been most effective to date in supporting innovative educational entrepreneurship. Various sources of federal funding have helped Teach for America, The National Board for Professional Teaching Standards, and the American Board for Certification of Teacher Excellence grow and expand. Despite the controversy that surrounds it, the Teacher Incentive Fund is helping pilot various differentiated compensation schemes for teachers around the country.

Yet to date this funding has been idiosyncratic in the sense that it is not tied to any larger theory of action or aligned with a broader set of policy goals. The federal government spends approximately \$3 billion annually on "teacher quality" activities, but most of this funding goes to low-leverage investments in professional development and class-size reduction with scant attention to quality, and there is substantial disagreement about the efficacy and transformative nature of various federal teacher quality initiatives. Teach For America, one of the most transformative teacher quality initiatives, has received most of its federal funding from national service programs, rather than the Department of Education.

More coherent federal leadership in this area would further two goals. First, it would support policy innovation such as efforts to differentiate teacher compensation based on roles or performance or new approaches to teacher professional development or evaluation. The Teacher Incentive Fund offers a small example of the leverage and leadership that the federal government could exert here. Federal dollars could, for

instance, support states, large cities, or metropolitan consortia of school districts that wanted to implement new ways of aligning teacher compensation with larger school reform goals, or states or localities that sought to develop new ways of training and credentialing educators. Federal dollars could also support innovation with new and more effective ways to support and mentor new teachers and evaluate new and veteran teachers.

Second, federal dollars could support organizations undertaking various research and development efforts to improve teaching. New strategies to help teachers access and use data, develop and disseminate curricular materials, and new methods of coaching and training teachers are all needed in the field. Because the public education marketplace is so poorly formed—low-quality providers face essentially the same barriers to entry, access to funding, and level of consumer knowledge as high-quality ones—federal dollars, invested in effective organizations and initiatives, could play a powerful role in building a stronger support infrastructure for teachers.

Source: Jason Kamras and Andrew J. Rotherham, "America's Teaching Crisis." *Democracy: A Journal of Ideas* (Summer 2007).

Box 6

Investing in New Schools

There is an inadequate supply of effective, safe public schools in urban areas. No Child Left Behind requires school districts to allow students in low-performing schools to transfer to better performing ones, but the policy has produced disappointing results—in part because there simply are not many better schools for students to transfer into. Providing quality schooling options for all children in urban areas will require both improvement in existing schools *and* the creation and replication of new, high-quality schools serving these communities. The Elementary and Secondary Education Act (of which No Child Left Behind is the most recent reauthorization) essentially establishes a national school improvement strategy, albeit one that requires more support than the federal government currently provides. What American public education lacks is an organized strategy to expand the supply of new public schools in communities that need them.

The federal Charter Schools Program, which helps charter schools with start-up costs, does provide some support for new school creation, and a small federal credit enhancement program provides some support for charter school facilities for charter schools. This program has played a valuable role in growing the national charter schools movement. But in its current form, the federal Charter Schools Program is insufficiently attentive to charter quality or scale, and lacks a strategic focus on

expanding the supply of high-quality schools in areas that lack them. Charter school advocates, led by the National Alliance for Public Charter Schools, have recommended a variety of changes to the federal Charter Schools Program that would better align federal funding in this area with quality and access goals. Even with these changes, however, the \$250 million annual federal investment in charter-related programs is insufficient to meet the need for new school options in historically underserved communities.

A federal Grow What Works program would complement proposed changes to the federal Charter Schools Program by making strategic investments in proven charter school networks, to dramatically expand the supply of high-quality schools in the nation's most disadvantaged urban communities. Although Grow What Works would invest in a variety of educational entrepreneurs, the growing number of established high-quality charter school networks makes it likely that a plurality of program funding would go to expand the supply of these charter schools.

Further, federal Grow What Works investments would leverage existing and new philanthropic investment in public charter schools. Charter schools face a systemic funding shortfall overall. On average they receive about one-fifth less funding than other public schools. To make up the gap, especially among the highest performing networks of charter schools, philanthropic interests are essentially underwriting the operating costs of many charter schools, especially the higher-performing networks of charter schools. It is debatable whether ongoing operating costs are an especially high-leverage use of philanthropic dollars that could be used for higher risk activities around R & D and to support more innovation.

Federal dollars should not, of course, aim to offset long-term problems with state school finance systems. But by focusing on helping high-quality charter schools replicate, the federal government can take some of the pressure off of philanthropists while expanding the supply of good public schools in underserved communities.

Source: National Alliance for Public Charter Schools; Chester E. Finn, Jr., Bryan C. Hassel, Sheree Speakman, et al., *Charter School Funding: Inequity's Next Frontier* (Washington, DC: Thomas B. Fordham Foundation, 2005).

2. An "Education Innovation Challenge" *should invest in developing potentially transformative educational innovations*

In addition to the Grow What Works Fund, OEEI would also operate a new Education Innovation Challenge program to invest in the development of transformative educational innovations. The Education Innovation Challenge would draw heavily from

the lessons of DARPA, NIH, and other less-known but also successful federal offices and initiatives that invest in groundbreaking innovation outside the education field.

Like many of these initiatives, the Education Innovation Challenge would be small and nimble. It would hire a small number of project managers for short-term assignments (possibly using staff detailed from other agencies, such as NIH or the National Science Foundation), and would empower them to invest in potentially high-payoff educational innovations. Project managers would have expertise in a wide range of areas—including business, cognitive psychology, organizational theory, and technology, as well as education—allowing them to draw from a variety of disciplines to invest in truly innovative approaches. In order to carry out this work effectively, the Education Innovation Challenge would need to have substantial flexibility in its hiring and staffing authority, as well as flexible contracting authority. In return, it must be subject to relentless accountability for the results it accomplished.

The Education Innovation Challenge would have a clearly defined research agenda that would be solution-oriented, non-ideological, and focused on developing usable products for educators. It would target a limited set of the most pressing challenges facing American education, and would be judged solely based on its success in identifying transformative solutions to address those challenges.

Like the Small Business Innovation Research (SBIR) program, the Education Innovation Challenge would make investments in two phases. In the first phase project managers would contract with researchers, inventors, or entrepreneurs for relatively modest amounts of funding for a period of less than one year to develop an idea and explore its feasibility for potential application in the field. In the second phase, the most promising phase-one ideas would receive much more substantial funding for two to five years to develop prototypes of their innovations and field test them in actual school settings.¹⁰⁷ This model would provide the Education Innovation Challenge the flexibility and accountability to fund the development of projects over a sustained period of time.

Under SBIR, programs are no longer eligible for funding after the second stage, and must seek funding from the private sector to bring their products to market. This will be an option for some projects funded under the Education Innovation Challenge, particularly those that develop new tools, instructional materials, or technologies, but for others it will not be an option. However, innovations that have demonstrated strong results during the second phase of their contracts, and are ready for broader implementation, could then receive funding from the Grow What Works fund to grow their models to scale.

In addition to these investments, the Education Innovation Challenge would have the authority to conduct annual competitions for innovative approaches to address major national education challenges, and to award a substantial prize to the most

effective model or innovation addressing that challenge. These competitions would be modeled after the DARPA Grand Challenge and the X Prize, a private initiative that makes \$10 million awards to the first team to achieve specific goals with the potential to benefit humanity.¹⁰⁸

The Education Innovation Challenge is a high-risk, high potential payoff strategy. Most of the innovations that receive first phase funding awards would not make the cut for a second phase, and many of those that make the cut for a second phase will prove ineffective or unworkable in field trials—perhaps one out of every ten phase-one ideas will produce scalable results. But because the Education Innovation Challenge will invest in a diverse portfolio of truly groundbreaking ideas, the payoffs to those that do succeed would be substantial.

As in both Hill's and Bryk's proposals, the Education Innovation Challenge would support a network of schools as innovation laboratories for clinical field trials of new tools and models. The schools and educators in this network would also serve as active partners in the Education Innovation Challenge's research and development work, and would themselves be a source of some of the innovative ideas in which the Challenge would invest. There are natural synergies between this network of schools and the school building work of entrepreneurs receiving support from the Grow What Works fund, but this network would also include traditional district-operated public schools.

The federal government should invest \$150 million annually in the Education Innovation Challenge. This is roughly 5 percent of what DARPA will spend this year on defense R&D and about one half of one percent of what NIH spends annually on biomedical R&D. Given the importance of education to our nation's future, and the fact that the federal Department of Education is the only major source of funding for education R&D, this seems like an eminently reasonable figure. Roughly 90 percent of funding would be spent on contracts with entrepreneurs, researchers, and innovators to develop educational innovations and field test them in schools (see Boxes 7 and 8 for examples of fields in which the Education Innovation Challenge might invest).

Less than 10 percent of Education Innovation Challenge funding would be set aside for research, primarily evaluations of the results and effectiveness of funded innovations. The Education Innovation Challenge is not intended to replace or infringe on the role of the existing Institute of Educational Sciences (IES), but rather to complement it. IES has taken important steps to strengthen the rigor of educational research and improve the knowledge base about what is and is not effective in improving student learning. IES' capacity to develop new breakthroughs in education models or technologies is at best modest, however.

To do this effectively, however, the Education Innovation Challenge needs the ability to contract for basic research when that proves necessary to answer questions

relevant to the problems it seeks to solve. DARPA's model is illustrative here. That agency's work is high-risk and high-payoff precisely because it invests most of its resources and energy in R&D work that bridges the gap between fundamental research discoveries and their application as useful technologies—exactly what the Education Innovation Challenge seeks to accomplish.¹⁰⁹ But sometimes DARPA finds it necessary to invest in basic research or to invest in more direct technology applications. To succeed in its work, the Education Innovation Challenge requires that same flexibility. The Education Innovation Challenge would fill that gap in IES' current portfolio, while also drawing heavily on IES's capacity to support high-quality evaluations of the innovative models and technologies that it develops.

Box 7

Supporting Innovations in Student Assessment

The standards and accountability movement, including NCLB, relies on the assumption that we can and do accurately assess what students have learned and how well schools are educating students. Yet despite the increasing reliance on assessments to evaluate student performance, guide instructional and policy decisions, and create incentives for educator performance, we have not simultaneously improved the quality of assessments on which our entire accountability system rests.

Complaints about existing assessments abound: They are of poor quality, poorly aligned with state academic standards or coherent curricula, insufficiently rigorous and easily gamed. They are expensive. We rely heavily on multiple choice assessments that do a poor job of assessing important skills such as writing or critical thinking. Grading errors are rampant, and even when the information tests produce is accurate, it may not be easy for educators and parents to understand or use. New investments and regulatory fixes will likely make marginal improvements to today's technology. But the limits of pencil and paper testing are clear, and substantial investments in improving this technology are a dubious strategy.

Real breakthroughs will instead come from entirely different approaches to assessing students and using data to inform school improvement efforts. There is some innovation now. For example, Virginia is a leader in giving its standardized state assessments online, administering more than a million such tests annually. But these tests are essentially online versions of existing paper and pencil tests; the more adaptive benefits of technology are unrealized. More substantial changes are needed to genuinely address the concerns of educators about time spent on assessment, timeliness and utility of data derived from assessments, or whether the assessments really challenge students. Unfortunately, today there is relatively little support for real innovation that could lead to breakthroughs in assessment technology. Regulations,

inertia, and a lack of funding all conspire to essentially reinforce today's status quo around assessment and accountability.

However, through a competition to develop a new generation of assessments and data feedback strategies the federal government could, within the No Child Left Behind framework, support substantial innovation to modernize our system of educational assessments and accountability. Doing so would meet the twin goals of continuing the current emphasis on holding schools accountable while putting federal resources behind new ideas and innovation.

The Office of Educational Entrepreneurship and Innovation could sponsor a competition for genuinely new public-private approaches to assessing students, using data, and linking these activities to school improvement. Consortia of school districts or even states would compete to participate and an external review board representing key stakeholder groups would judge the applications. Applicants could partner with non-profit organizations or other service providers, including testing companies. As with other inducement strategies, in addition to the winning approach, the competition would also generate other worthy ideas and strategies.

Source: See Thomas Toch, *Margins of Error: The Testing Industry in the No Child Left Behind Era* (Washington: Education Sector, 2006) for a discussion of common complaints about existing assessment systems.

Box 8

Supporting Policy Innovation in Early Childhood Development

Over the past decade, developments in neuroscience research demonstrating how the brain develops, research on children's language and early cognitive development, and economic analysis of the large return on various early childhood education investments have dramatically increased public attention and investment in early childhood education. Much of that investment has focused on expanding publicly funded preschool, improving childcare quality, and interventions for high-risk populations.

Most child development experts agree that parents play the most important role in shaping young children's development. Nurturing parental relationships are critical to children's emotional and cognitive development. Dramatic inequities in the financial, educational, and emotional resources parents bring to the table have tremendous long-term impacts for children's development—a fact dramatically illustrated by Betty Hart and Todd Risley's accounting of the differences in children's early language exposure in impoverished versus professional homes. By age five, children from professional families have heard 30 million more words than poor children, and the average four-year

old child of professional parents has a greater vocabulary than the average poor adult. Yet most interventions and investments in early childhood development focus on factors other than parenting because we do not currently know how to dramatically improve parenting behavior in high-risk families.

Numerous intervention programs have tried to improve children's outcomes by providing education, training, and support to parents, but (with one exception, David Olds' Nurse Home Visiting Program) there is very little evidence that these programs improve children's outcomes. That's not surprising. Trying to improve child outcomes by improving parenting is a sort of bank shot; the intervention can succeed in improving children's outcomes only if it first succeeds in improving parents' behavior. And while many programs show evidence of improving parents' knowledge and skills, evidence of actual changes in behavior is much weaker. Ultimately, it is easier for policy to invest in programs that provide services directly to children. Yet given the critical importance of parents, if we could identify effective ways to dramatically improve how at-risk children are actually parented, the potential educational payoffs would be enormous.

Developing new interventions that radically improve the parenting behaviors of high-risk families is exactly the type of challenge that federal education R&D should undertake. The Office of Educational Entrepreneurship and Innovation program manager could bring together a cross-disciplinary team of experts who could draw on new findings from the fields of psychology, child development, adult learning, community organizing, behavioral economics, and social psychology to develop a prototype for interventions with the potential to create real changes in parent behavior. These prototypes could be further refined and field-tested in selected communities (possibly in conjunction with community outreach and parent engagement programs operated by other education entrepreneurs). Although the track record of unsuccessful interventions in this area demonstrates that the risk is high, the potential payoffs provide adequate justification to take that risk.

Sources: Jack P. Shonkoff and Deborah A. Phillips, eds., *From Neurons to Neighborhoods* (Washington: National Academy Press, 2000); Betty Hart and Todd Risley, *Meaningful Differences in the Everyday Experiences of Young American Children* (Paul H. Brooks, 1995); David L. Olds and others, "Home visiting by nurses and by paraprofessionals: A randomized controlled trial" *Pediatrics* (2002) 110(3): 486–496 (a full listing of research studies on Olds' program is available at www.uchsc.edu/sm/psych/postdoc/folds.html); Deanna S. Gombo, Patti L. Culross and Richard E. Behrman, "Home Visiting: Recent Program Evaluations—Analysis and Recommendations," *Future of Children* (Spring/Summer 1999); National Association of Child Advocates, "Making Investments in Young Children: What the Research on Early Care and Education Tells Us" (Washington: National Association of Child Advocates, 2000).

3. *The Office of Educational Entrepreneurship and Innovation must be structured to build a stronger culture of innovation within the Department of Education*

The Office of Educational Entrepreneurship and Innovation would not simply operate funding programs, it would also play a key role in developing a culture of innovation within the Department of Education. In that vein, it would serve as a contact point for educational entrepreneurs, venture capitalists, and school reformers; advocate for these groups within the federal government; and connect with other offices in the Department and across the federal government to advance shared goals.

For example, OEEI might work with the Office of English Language Acquisition to commission R&D work to improve education for English Language Learner children. It might partner with the Department of Health and Human Services' Administration for Children and Families (which administers Head Start and federal childcare programs) to scale up educational entrepreneurs providing high-quality early childhood education programs. In addition, OEEI would work closely with other Department of Education offices and federal government agencies to open doors for educational entrepreneurs to participate in other federal funding programs—in much the same way as the Small Business Administration works to enable small businesses to compete for federal grants, and as Jolin and Sagawa's proposed offices would help social entrepreneurs generally.

OEEI would also work on a more global scale to eliminate barriers to innovation and entrepreneurship in federal, state, and local policies. It would work within the federal government to change policies that create barriers to innovation and entrepreneurship. It could also deploy funding streams at its authority to provide incentives for state and local policymakers to eliminate barriers to innovation and entrepreneurship. For example, the Office might work with leaders in a particular metropolitan area struggling with poor school performance to recruit a critical mass of high-performing educational entrepreneurs to expand operations there (See Box 4). But it could make its investments in that expansion conditional upon state and local policy changes—such as elimination of charter school caps—that would remove important barriers to entrepreneurship and innovation.

Perhaps most importantly, OEEI would take advantage of the federal platform in several ways, by: shining a spotlight on the most problematic barriers to entrepreneurship and innovation; highlighting outstanding educational entrepreneurs; spreading the word about proven innovations that improve teaching and learning; and encouraging an innovation mindset within public education. While such activities may seem superficial, when done strategically they can have substantial positive impact. Perhaps the best known example is the 1983 *A Nation At Risk* report, which transformed the national discourse on education and launched the standards

movement. President Bill Clinton's support for charter schools in the 1992 presidential campaign and during his administration also helped to create a more politically friendly dynamic for charter schools at the state level across the country, demonstrating the power of the federal bully pulpit to change the shape of political debates about entrepreneurship and innovation.

Finally, OEEI would build networks of educational entrepreneurs and innovators who can exchange ideas, share lessons and best practices, create synergies between efforts, and work collaboratively to advocate for policy changes. These networks would provide a safe and fertile climate for entrepreneurship and innovation to flourish. They would also help to connect entrepreneurs and innovators with policymakers, funders, media, and others in a position to influence their success and the climate in which they do their work.

How OEEI Would Operate

In order to carry out its work effectively, OEEI would need to operate in ways that are substantially different from other offices in the federal Department of Education, borrowing lessons from the examples of DARPA, NIH, and venture philanthropy. Like these organizations, it must be insulated from both the political leadership of the education department and the programmatic bureaucracy. Private-sector firms frequently spin off separate R&D units to keep them from coming into conflict with or being constrained by the established norms and procedures of the firm's core business.¹¹⁰ OEEI would play a similar role in relation to the federal education department. But it needs to be located within the education department, rather than in a separate agency, so that it can work to create a culture of innovation throughout the Department and leverage other Department of Education resources to support a culture of entrepreneurship and education throughout public education.

To provide this organizational insulation, OEEI should be headed by an appointed Department of Education official, such as an Assistant Secretary or Deputy Undersecretary. More importantly, it should be governed by an Independent Review Board, composed of leading individuals from the fields of education research, philanthropy, public policy, business, technology, and educational entrepreneurship, as selected by the Secretary of Education, chairs of the House and Senate education committees, and ranking members of those committees. The Independent Review Board would:

- Oversee the office's operation and budget;
- Approve all Grow What Works funding awards;
- Approve Phase Two awards for the Education Innovation Challenge;

- Set the research agenda for the Education Innovation Challenge, with input from the field;
- Hold the Office and its staff accountable for how public funds are used and the results they produce; and
- Publish an annual report to Congress, the Secretary, and the public documenting the Office of Educational Entrepreneurship and Innovation's activities and the results they have produced

There are several advantages to this type of structure. First, it would leverage high-level capacity in business, education, research, and policy to guide OEEI's direction and decision-making. Second, it would provide an independent citizen oversight structure to protect taxpayer interests and ensure public accountability while also shielding the Office from political pressures. Finally, the Board would provide key congressional figures from both parties a voice in the Office's establishment, encouraging congressional buy-in and preventing the Office from becoming a partisan tool of the current administration. A nonpartisan image and congressional buy-in for the Office are crucial. Education policy is highly politicized, so a partisan image could seriously undermine the Office's effectiveness in carrying out its work or institutionalizing its investments. Unless key members of Congress buy into the Office's mission, they could use Congressional power of the purse to stifle it before it achieves impact; previous federal R&D investments in the NIE foundered due to a lack of congressional support.

The Office will also need the full political support of the Secretary and the administration, to allow it to take necessary risks and invest in potentially controversial innovations that will ultimately improve student achievement, but threaten the interests of education stakeholders. And it will need a politically savvy leadership capable of navigating the political challenges this Office will face without sacrificing its core mission and entrepreneurial character.

OEEI must also be small and nimble, with the minimal staffing and overhead needed to do its work effectively. It must use its limited human capital strategically, taking advantage of excepted service appointments, temporary assignments, and staff detailed from other agencies (such as NIH or the National Science Foundation) to supplement its base of expertise. It must have authority to hire its own staff, control its own budget, and to enter into more flexible contracts with vendors and grantees than federal agencies often have.

Any federal R&D initiative faces an inherent tension between the need for flexibility and independence to allow innovation to flourish, and the need for government accountability and transparency in the use of taxpayer dollars. Program managers must

feel free to make risky investments that have the potential to generate high payoffs, but they must also be conscientious in their use of public funds. The temptation in government programs is to ensure transparency and accountability by putting in place elaborate rules about use of funds and bureaucratic structures to ensure compliance. Giving into such temptation would undermine the potential of this office, however. Rather than relying on bureaucratic procedures to protect the public's interest, the next administration should rely on the Independent Review Board to ensure public accountability and transparency, create an incentive structure for employees that emphasizes results, and then give the Office substantial freedom and flexibility to carry out its work in new and innovative ways.

While OEEI must have some degree of organizational independence from other parts of the Department of Education, that does not mean it should be isolated. In fact, partnerships and collaboration are essential to the Office's success. Perhaps most importantly, the Office must build strong relationships with philanthropic funders, with whom it would work collaboratively to fund major investments in scaling up educational entrepreneurship. It must also partner with other Department of Education Offices and executive branch agencies to support entrepreneurship and innovation to advance shared goals, create opportunities for entrepreneurs to participate in federally funded programs, and eliminate barriers to innovation and entrepreneurship. Finally, OEEI must foster collaboration across the entrepreneurs and innovators it funds by building networks that allow entrepreneurs and innovators to learn from one another, identify high-quality human capital, and develop new enterprises that take advantage of the natural synergies between innovation, entrepreneurship and different types of entrepreneurial education activities.

VIII. CONCLUSION

Supporting the development and spread of effective new educational strategies should be the next presidential administration's key education policy goal. If we spend four more years debating the educational reforms and challenges of the past two decades, we will squander a tremendous opportunity. But by making new investments in scaling up successful educational entrepreneurs, developing the next generation of game-changing educational innovations, and eliminating barriers that prevent entrepreneurship and innovation from taking hold in our public school system, the next administration can play a vital role in creating a culture of entrepreneurship and innovation that fundamentally transforms how America's public schools operate and what it is possible for our students to achieve.

The two previous generations of federal education leadership—which brought about school desegregation, the passage of the Elementary and Secondary Education Act, the Individuals with Disabilities Education Act, and standards-based reform—have

accomplished much. But there is still much to be done to improve public education, and neither of the previous models will get us there. It is time for a new generation of federal educational leadership focused on educational entrepreneurship and innovation to improve student achievement.

NOTES

¹ *A New Day for Learning: A Report from the Time, Learning, and Afterschool Task Force* (Flint, MI: C.S. Mott Foundation, 2007); Gene Maeroff, *Building Blocks: Making Children Successful in the Early Years of School* (New York: Palgrave MacMillan, 2006), pp. 75–81; Frederick M. Hess, “Technical Difficulties,” *Education Next* 4:4 (Fall 2004); Bill Tucker, *Laboratories of Reform: Virtual High Schools and Innovation in Public Education* (Washington, D.C.: Education Sector, June 2007).

² Max McConkey, Testimony Submitted to Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Committee on Appropriations (May 14, 2008).

³ Jay P. Greene and Marcus A. Winters, “Leaving Boys Behind: Public High School Graduation Rates” (New York: Manhattan Institute, Civic Report 48, April 2006). The National Assessment of Education Progress is designed so that raw test scores for students in 4th, 8th, and 12th grade are scored against the same scale. Thus, an 8th grader who achieves a score of 270 on the 8th-grade NAEP in reading reads at the same level as a 12th grader who achieves a score of 270 on the 12th-grade NAEP in reading. A 10-point scale score difference on the NAEP is equivalent to roughly one grade level difference. In 2005 (the most recent year that NAEP assessed 12th graders) the average NAEP scale score for black students in reading was 267 and the average scale score for white 8th graders was 272. See Wendy S. Grigg, Patricia L. Donahue, and Gloria Dion, *The Nation’s Report Card, 12th Grade Reading and Mathematics 2005* (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, February 2007); Jihyun Lee, Wendy S. Grigg, and Patricia L. Donahue, *The Nation’s Report Card: Reading 2007* (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, September 2007).

⁴ The 27-point gap between NAEP 8th-grade reading scores for black (245) and white (272) students is very close to the 24-point gap between NAEP 8th-grade reading scores for students who are eligible for free and reduced-price lunches (a proxy for poverty) (247) and those who are not (271). See Lee, Grigg, and Donahue, *The Nation’s Report Card: Reading 2007*.

⁵ M. Lemke and others, *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (U.S. Department of Education, National Center for Education Statistics, 2004).

⁶ Organisation for Economic Cooperation and Development, *Education at a Glance: 2006* (OECD Directorate for Education, 2006), Indicator A1.

⁷ U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2006*.

⁸ See, e.g., Diane Ravitch, *Left Back: A Century of Battles Over School Reform* (New York: Simon and Schuster, 2000).

⁹ Data available via NAEP Data Explorer at www.nationsreportcard.gov. The suburban-urban gap is smaller, however, among specific student subgroups, such as low-income or racial/ethnic minority students. This suggests that equity problems in our how public education system serves low-income and minority students extend beyond urban areas to more affluent, suburban, and rural communities as well. In other words, urban school failure should not be confused with larger socioeconomic challenges in the American public education system.

¹⁰ Christopher B. Swanson, "Cities in Crisis" (Bethesda, MD: Editorial Projects in Education Research Center, 2008).

¹¹ See, e.g., Michael J. Petrilli, "School Reform Moves to the Suburbs." *The New York Times*, July 11, 2005.

¹² American Heritage Dictionary, available at <http://dictionary.reference.com/browse/entrepreneur> (accessed September 10, 2008).

¹³ Joseph Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper & Row, 1950).

¹⁴ Paul A. London, *The Competition Solution: The Bipartisan Secret Behind American Prosperity* (Washington: American Enterprise Institute Press, 2005).

¹⁵ Michelle Jolin, *Investing in Social Entrepreneurship and Fostering Social Innovation* (Washington: Center for American Progress, December 2007), p. 1.

¹⁶ Kim Smith and Julie Landry Petersen, "What is Educational Entrepreneurship," in Hess, ed., *Education Entrepreneurship* (Cambridge, MA: Harvard Education Press, 2006), p 21.

¹⁷ Although Jolin, Smith, and Petersen define entrepreneurs as individuals, in this paper we use the term interchangeably to refer to both individual entrepreneurs and to the new organizations they found to implement their entrepreneurial visions.

¹⁸ See, e.g., Paul T. Hill, "Entrepreneurship in K-12 Public Education," in Marilyn L. Kourilsky and William B. Walstad, eds., *Social Entrepreneurship* (Dublin: Senate Hall, 2003).

¹⁹ See www.dcrep.org (accessed September 10, 2008).

²⁰ *Focus on Results: An Academic Impact Analysis of the Knowledge is Power Program* (Educational Policy Institute, 2005); Harold C. Doran and Darrel W. Dury, *Evaluating Success: KIPP Educational Program Evaluation* (New American Schools, 2002); Jane L. David and others, *Bay Area KIPP Schools: A Study of Early Implementation, First Year Report 2004–2005* (SRI International, 2006); Amy Beck Andersen and Dale DeCesare, *Opening Closed Doors: Lessons from Colorado's First Independent Charter School* (Augenblich, Palaich, and Associates, Inc., 2006).

-
- ²¹ Frederick M. Hess and David Leal, *An Evaluation of Student Performance in National Heritage Academies Schools: 2000-2003* (National Heritage Academies, 2003).
- ²² Brian Gill and others, *Inspiration, Perspiration, and Time: Operations and Achievement in Edison Schools* (Santa Monica, CA: RAND Corporation, 2005).
- ²³ Teach for America website, "Our History," available at www.teachforamerica.org/about/our_history.htm (accessed September 10, 2008).
- ²⁴ Teach for America website, "Alumni Impact," available at www.teachforamerica.org/mission/our_impact/alumni_impact.htm (accessed September 10, 2008).
- ²⁵ Paul T. Decker, Daniel P. Mayer, and Steven Glazerman, *The Effects of Teach for America on Students: Findings from a National Evaluation* (Princeton, NJ: Mathematica Policy Research, 2004).
- ²⁶ See: Zeyu Chu, Jane Hannaway, and Colin Taylor, *Making a Difference? The Effects of Teach for America in High School* (Washington: Urban Institute, National Center for Analysis of Longitudinal Data in Education Research, 2007); Margaret Raymond, Stephen Fletcher, and Javier Luque, *Teach for America: An Evaluation of Teacher Differences and Student Outcomes in Houston, Texas* (Stanford, CA: Hoover Institution, Center for Research on Educational Outcomes, 2001).
- ²⁷ The New Teacher Project website, "Our Impact," available at www.tntp.org/ourimpact/overview.html (accessed September 10, 2008).
- ²⁸ New Leaders for New Schools website, "Results," available at www.nlms.org/Results.jsp (accessed September 10, 2008).
- ²⁹ Academy for Urban School Leadership website, available at <http://www.ausl-chicago.org/index.html> (accessed September 10, 2008).
- ³⁰ Wireless Generation website, "Company," available at www.wirelessgeneration.com/company.html (accessed September 10, 2008).
- ³¹ Carnegie Learning website, "About Carnegie Learning," available at www.carnegielearning.com/company.cfm (accessed September 10, 2008).
- ³² Geoffrey D. Bowman and Gina M. Hewes, "The Long-Term Effects and Cost Effectiveness of Success For All," *Educational Evaluation and Policy Analysis*, 24:4 (2002).
- ³³ Citizen Schools website, "What We Do," available at www.citizenschools.org/whatwedo/index.cfm (accessed September 10, 2008).

³⁴ Lee M. Pearson, Juliet Diehl Vile, and Elizabeth R. Reisner, *Establishing a Foundation for Progress Toward High School Graduation: Findings from Phase V of the Citizen Schools Evaluation* (Washington: Policy Studies Associates, Inc., 2008).

³⁵ College Summit website, "Our Reach and Growth," available at www.collegesummit.org/about/results-and-metrics/our-reach-and-growth/; "Our Outcomes," available at www.collegesummit.org/about/results-and-metrics/our-outcomes/ (accessed September 10, 2008).

³⁶ Jumpstart website, "Results," available at www.jstart.org/index.php?submenu=early_child_education&src=gendocs&link=Results&category=Main (accessed September 10, 2008).

³⁷ For more on venture philanthropy see Frederick M. Hess, ed., *With the Best of Intentions* (Cambridge, MA: Harvard Education Press, 2005); and Jane Wei-Skillern et. al., *Entrepreneurship in the Social Sector* (Cambridge, MA: Harvard Business School Publishing, 2007).

³⁸ See Frederick M. Hess, ed., *Educational Entrepreneurship: Realities, Challenges, Possibilities* (Cambridge, MA: Harvard Education Press, 2006).

³⁹ Frederick M. Hess and Chester E. Finn, Jr., "What Innovators Can and Cannot Do." *Education Next* 7(2): 48-56 (Spring 2007). For an example of how educational entrepreneurs are transforming public understanding of what is possible in public education, see: Paul Tough, "What it Takes to Make a Student." *New York Times Magazine* (November 26, 2006).

⁴⁰ Frederick M. Hess, "Politics, Policy, and the Promise of Entrepreneurship," in Frederick M. Hess, ed. *Educational Entrepreneurship: Realities, Challenges, Possibilities* (Cambridge, MA.: Harvard Education Press, 2006).

⁴¹ Ibid.

⁴² Interview with Aaron Lieberman.

⁴³ Larry Berger and David Stevenson, "K-12 Entrepreneurship: Slow Entry, Distant Exit," prepared for the American Enterprise Institute Conference, "The Supply Side of School Reform and the Future of Educational Entrepreneurship" (October 25, 2007).

⁴⁴ Kim Smith and Julie Petersen, "Social Purpose Capital Markets: Financing Capital for Social Entrepreneurs in Education," prepared for the American Enterprise Institute Conference, "The Supply Side of School Reform and the Future of Educational Entrepreneurship" (October 25, 2007).

⁴⁵ Smith and Petersen, "Social Purpose Capital Markets: Financing Capital for Social Entrepreneurs in Education."

⁴⁶ Frederick M. Hess, "Politics, Policy, and the Promise of Entrepreneurship," in Hess, ed. *Educational Entrepreneurship*.

⁴⁷ Andrew J. Rotherham, *Achieving Teacher and Principal Excellence: A Guide for Donors* (The Philanthropy Roundtable, forthcoming).

⁴⁸ Hess, "Politics, Policy, and the Promise of Entrepreneurship."

⁴⁹ Ted Kolderie, *Beyond Choice to New Public Schools: Withdrawing the Exclusive Franchise in Public Education* (Washington: Progressive Policy Institute, 1990).

⁵⁰ Larry Cuban, "Educational Entrepreneurs Redux," in Hess, ed. *Education Entrepreneurship*.

⁵¹ Smith and Petersen, "What is Educational Entrepreneurship?" in Hess, ed., *Educational Entrepreneurship*

⁵² Cuban, "Educational Entrepreneurs Redux."

⁵³ David Tyack and Larry Cuban, *Tinkering Toward Utopia: A Century of Public School Reform* (Cambridge, MA: Harvard University Press, 1997).

⁵⁴ Matt Miller, "First Kill All the School Boards." *The Atlantic Monthly* (January/February 2008).

⁵⁵ See, e.g., Rep. Scott Garrett (R-N.J.), "Returning Education to the Basics by Leaving No Child Left Behind," *Human Events* (July 16, 2007). New Mexico governor and former Democratic presidential candidate Bill Richardson's education policy plan, which strongly opposed NCLB, stated that, "The key to a good education is not narrow testing or Washington wisdom." Richardson for President, "Governor Bill Richardson Unveils National Education Policy," available at www.richardsonforpresident.com/newsroom/pressreleases?id=0314 (accessed September 10, 2008).

⁵⁶ See, e.g., U.S. Department of Education, "PART Ratings for ED Programs Assessed to Date," in *FY 2009 Budget Summary* (January 23, 2008).

⁵⁷ Christopher T. Cross, *Political Education: National Policy Comes of Age* (New York: Teachers College Press, 2004)

⁵⁸ Supreme Court of the United States, *Brown et. al. vs. Board of Education of Topeka, Shawnee County, Kansas, et. al.*, Decided May 17, 1954. 347 U.S. 483, 74 S.Ct. 686, 98 L.Ed. 873, 38 A.L.R.2d 1180, Opinion of the Court written by Chief Justice Warren, available at www.brownat50.org/brownCases/BrownCasesFrameset.htmlhttp://www.brownat50.org/brownCases/BrownCasesFrameset.html (accessed September 10, 2008).

⁵⁹ Cross, *Political Education*.

⁶⁰ Gary Orfield and Chungmei Lee, *Historic Reversals, Accelerating Resegregation, and the Need for New Integration Strategies* (Cambridge, MA: Harvard Civil Rights Project, 2007).

⁶¹ Tyce Palmaffy, "The Evolution of the Federal Role," in Chester E. Finn, Jr., Andrew J. Rotherham, and Charles E. Hokanson, Jr., eds. *Rethinking Special Education for a New Century* (Washington: Thomas B. Fordham Foundation and Progressive Policy Institute, 2001).

⁶² U.S. Department of Education, *Goals 2000: Reforming Education to Improve Student Achievement* (Washington: U.S. Department of Education, April 30, 1998).

⁶³ See, e.g., Joe Williams, "Echo Chamber: The National Education Association's Campaign Against NCLB" (Education Sector, 2006).

⁶⁴ Margery Yeager, "Stiff Armed: No Child Left Behind's Unused Funding Flexibility" (Education Sector, 2007).

⁶⁵ Max McConkey, *Testimony Submitted to Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Committee on Appropriations* (May 14, 2008), available at www.nekia.org (accessed September 10, 2008).

⁶⁶ P.L. 107-279, *Education Sciences Reform Act of 2002*.

⁶⁷ Although the 1965 ESEA was the predecessor to NCLB, the 1965 Act's Title III program is completely unrelated to the current NCLB's Title III program, which provides funding for states and school districts to educate English language learner students, and is, if anything, more similar to the current law's Title V state grants for innovative programs.

⁶⁸ Interview with Michael Kirst.

⁶⁹ Interview with Christopher T. Cross; interview with Paul T. Hill.

⁷⁰ *Education Sciences Reform Act of 2002*.

⁷¹ U.S. Department of Education, *Fiscal Year 2009 Budget Summary* (2008).

⁷² Department of Education Press Release, "Paige Announces formation of Two New Offices" (September 17, 2002), available at <http://www.ed.gov/news/pressreleases/2002/09/09172002.html> (accessed September 10, 2008).

⁷³ Interview with Mike Petrilli.

⁷⁴ Interview with Nina Rees.

⁷⁵ Office of Management and Budget Earmarks Database, "List of Accounts for the Office of Innovation and Improvement," available at http://earmarks.omb.gov/by-tracking/spendcom_short_title/agency_title/bureau_title/%5Bla%5D.%5B018%5D.%5B12%5D_summary.html (accessed September 10, 2008).

⁷⁶ U.S. Department of Education, *Fiscal Year 2003 Budget Summary* (2002).

⁷⁷ Office of Management and Budget, "Detailed Information on the Education State Grants for Innovative Programs Assessment" (2005).

⁷⁸ U.S. Department of Education, *Fiscal Year 2009 Budget Summary* (Washington: U.S. Department of Education, 2008); for more on the shortcomings of the State Grants for Innovative Programs, see Justin King, "Closing the Achievement Gap" (Washington: New America Foundation, 2006).

⁷⁹ Office of Management and Budget Earmarks Database, "2008 List of Earmarks for U.S. Department of Education, Office of Innovation and Improvement," available at http://earmarks.omb.gov/2008-appropriations-by-agency/agency_title/bureau_title/account_title/%5B018%5D.%5B12%5D.%5B0204%5D_summary.html (accessed September 10, 2008).

⁸⁰ Office of Management and Budget Earmarks Database, "List of Accounts for the Office of Innovation and Improvement."

⁸¹ Interview with Mike Petrilli.

⁸² U.S. Department of Education, "Teacher Incentive Fund," available at www.ed.gov/programs/teacherincentive/index.html (accessed September 10, 2008); Interview with Mike Petrilli; interview with Jon Schnurr.

⁸³ Stew Magnuson, "Bush's Proposal Thrusts Merit Pay Back in Limelight," *Education Daily* (February 25, 2005).

⁸⁴ The exception is Iowa, which has local instead of state standards. But recent signs indicate even Iowa may be moving in the direction of statewide standards.

⁸⁵ Stephanie Stullich, Elizabeth Eisner, Joseph McCrary, and Collette Roney, *National Assessment of Title I Interim Report* (U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service, 2006).

⁸⁶ Anne Duffett, Steve Farkas, and Tom Loveless, "High-Achieving Students in the Era of NCLB" (Washington: Thomas B. Fordham Institute, 2008).

⁸⁷ Frederick M. Hess, "Politics, Policy, and the Promise of Entrepreneurship," in Hess, ed., *Educational Entrepreneurship*.

⁸⁸ “Top 50 Recipients of Foundation Grants for Elementary and Secondary Education” (The Foundation Center, 2008) available at http://foundationcenter.org/findfunders/statistics/pdf/04_fund_sub/2006/50_recip_sub/f_sub_b20_06.pdf (accessed September 10, 2008).

⁸⁹ Interview with Dan Fallon.

⁹⁰ “Top 50 U.S. Foundations Awarding Grants for Elementary and Secondary Education.”

⁹¹ Shirley Sagawa, “An SBA for Non-Profits.” *Democracy: A Journal of Ideas* 8 (Spring 2008).

⁹² Jolin, *Investing in Social Entrepreneurship and Fostering Social Innovation*.

⁹³ Small Business Administration, Office of Advocacy, *The Small Business Economy: For Data Year 2006* (2007).

⁹⁴ Interview with Aaron Lieberman.

⁹⁵ Defense Advanced Research Projects Agency, *Bridging the Gap* (February 2005).

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ National Institutes for Health, “Mission,” available at www.nih.gov/about/index.html#mission (accessed September 10, 2008).

⁹⁹ Director’s Innovation Initiative website, available at <https://dii.westfields.net/index.cfm> (accessed September 10, 2008).

¹⁰⁰ The 11 agencies include the departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Housing and Urban Development, Homeland Security, and Transportation, the Environmental Protection Agency, NASA, and the National Science Foundation.

¹⁰¹ Small Business Administration Office of Technology, “Description of the Small Business Innovation Research Program,” available at www.sba.gov/aboutsba/sbaprograms/sbir/sbirstir/SBIR_SBIR_DESCRIPTION.html (accessed September 10, 2008)

¹⁰² Interview with Chris Cross.

¹⁰³ Small Business Administration Office of Technology, “Description of the Small Business Technology Transfer Program,” available at

www.sba.gov/aboutsba/sbaprograms/sbir/sbirstir/SBIR_STTR_DESCRIPTION.html (accessed September 10, 2008).

¹⁰⁴ Paul T. Hill, "Toward an R&D Initiative on New Instructional Systems: Background and Options" (2007).

¹⁰⁵ Anthony S. Bryk, "Ruminations on Reinventing an R&D Capacity for Educational Improvement," paper presented at American Enterprise Institute Conference, "The Supply Side of School Reform and the Future of Educational Entrepreneurship" (October 25, 2007).

¹⁰⁶ Jolin, *Investing in Social Entrepreneurship and Fostering Social Innovation*; Amy Hustad and others, *America Forward: Invest, Invent, Involve* (Cambridge, MA: America Forward, 2007).

¹⁰⁷ Small Business Administration Office of Technology, "Description of the Small Business Innovation Research Program."

¹⁰⁸ X Prize Foundation website, available at www.xprize.org (accessed September 10, 2008); author communication with Tom Vander Ark.

¹⁰⁹ DARPA, *Bridging the Gap*.

¹¹⁰ Interview with Jane Hannaway.

About the Metropolitan Policy Program at Brookings

Created in 1996, the Metropolitan Policy Program provides decisionmakers with cutting-edge research and policy ideas for improving the health and prosperity of metropolitan areas including their component cities, suburbs, and rural areas. To learn more visit www.brookings.edu/metro

The Blueprint for American Prosperity

The *Blueprint for American Prosperity* is a multi-year initiative to promote an economic agenda for the nation that builds on the assets and centrality of America's metropolitan areas. Grounded in empirical research and analysis, the Blueprint offers an integrated policy agenda and specific federal reforms designed to give metropolitan areas the tools they need to generate economically productive growth, to build a strong and diverse middle class, and to grow in environmentally sustainable ways. Learn more at www.blueprintprosperity.org

The Metropolitan Policy Program Leadership Council

The *Blueprint* initiative is supported and informed by a network of leaders who strive every day to create the kind of healthy and vibrant communities that form the foundation of the U.S. economy. The Metropolitan Policy Program Leadership Council—a bipartisan network of individual, corporate, and philanthropic investors—comes from a broad array of metropolitan areas around the nation. Council members provide us financial support but, more importantly, are true intellectual and strategic partners in the *Blueprint*. While many of these leaders act globally, they retain a commitment to the vitality of their local and regional communities, a rare blend that makes their engagement even more valuable. To learn more about the members of our Leadership Council, please visit www.blueprintprosperity.org

For More Information

This policy paper, and an accompanying brief version, are available at
www.blueprintprosperity.org

Sara Mead
Senior Research Fellow
Director, Early Education Initiative
New America Foundation
mead@newamerica.net

Andrew J. Rotherham
Co-Director
Education Sector
arotherham@educationsector.org

Acknowledgments

Jessica Goldberg, Anabel Lee, and Troy Scott provided valuable research assistance for this report. The authors would also like to thank Anthony Bryk, Matt Candler, Christopher Cross, Fritz Edelstein, Emerson Elliott, Daniel Fallon, Checker Finn, Kevin Hall, Jane Hannaway, David Harris, Rick Hess, Paul Hill, Jack Jennings, Vanessa Kirsch, Michael Kirst, Paul Koehler, Aaron Lieberman, Bruno Manno, Joe Nathan, Mike Petrilli, Danica Petroschius, Nina Rees, Jonathan Schnur, Robert Schwartz, Kim Smith, Mike Smith, Michael Usdan, and Tom Vander Ark for the insights they shared with us for this paper. Christopher Cross, David Stevenson, Kim Smith, Mary Jean Ryan, and Jeremy Nowak provided valuable comments on a draft of this report.