



# Reimagining Learning

## A Big Bet on the Future of American Education

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NewSchools Venture Fund

## Acknowledgements

Writing *Reimagining Learning* was an incredible experience. It challenged us to synthesize years of work we've been doing alongside our teammates at NewSchools, our entrepreneurs and generous donors, and many, many partners. We are especially grateful to be on this learning journey with our colleagues on the leadership team at NewSchools – Deborah McGriff, Scott Benson, Tonika Cheek Clayton, Frances Messano and Mark Boone.

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*Technical appendix available online at:*  
[www.newschools.org/bigbet](http://www.newschools.org/bigbet)

## A Vision for the Future of Learning

Today's young people are the most diverse, connected generation in history and have incredible aspirations for themselves.<sup>1</sup> Educators all over the country are reimagining learning to better meet this generation's needs, rethinking classrooms and schools so they work better for students. It's an exciting time for innovation in education.

At the same time, *big bets* are an increasingly popular concept in philanthropy. Several articles and papers in the last year have encouraged donors to consider them as a way of creating meaningful change, including in education.<sup>2</sup> Big bets are usually defined as large grants to a specific issue or an individual organization.

### **We're proposing something different.**

We've been working with partners across the country who are pursuing a common vision: reimagining learning with a broad set of outcomes in mind, so that every student finishes high school with an abundance of choices and the freedom to pursue them. Philanthropists have an opportunity to make a big bet on this shared vision.

Most schools weren't designed with this vision in mind. But right now, all over the country, teams of educators are working to change this. They are partnering with families to create schools that speak to their hopes and honor their strengths. These schools prioritize rigorous academics and help students develop critical thinking skills, set important goals and create plans to reach them, and develop the mindsets and habits they need to take charge of their futures.

Through deep engagement with our partners, we've thought concretely about how these ideas might spread and where existing momentum and early evidence might shine a light on a path forward. In September 2015, with our partners Summit Public Schools and Transcend, we released a paper entitled *Dissatisfied Yet Optimistic (DYO)*, which made the case for reimagining learning.<sup>3</sup> This new companion piece explores what it might take to strengthen and accelerate the momentum created by the early pioneers who are designing schools consistent with the ideas in DYO.

**What follows is a big idea for how \$4 billion in philanthropy over 10 years could dramatically improve the performance of our schools by focusing on this emerging vision for how schools could produce much better and broader outcomes for students.**



As a country, our biggest bet on the future is our public schools. At nearly \$600 billion in annual public spending and nearly \$2 billion in philanthropy, K-12 public schools receive more funding and employ more people in an effort to have a positive impact on our future than any other single activity or institution. The future of every other issue that matters to today's Americans – national security, the economy, healthcare, immigration – will largely be shaped, experienced, and paid for by the 50 million young people currently in our public schools.

What do we know now about the odds of this bet paying off? The indicators are mixed. On the downside, overall performance is stagnant. Despite a doubling of per pupil spending over the last 45 years, national high school math and reading scores have improved very little. Many countries have improved their education systems over the last couple of decades, with their students surpassing U.S. students in international rankings. While not every young person in America will choose to go to college, they should all have the preparation and support it takes to make it a viable option. Right now, students are enrolling in two- and four-year college programs at higher rates than ever, but too many are not finishing degrees, especially low-income students. Right now, only 9% of children born in the bottom income quartile go on to complete a bachelor's degree.

But there is good news, too. High school drop-out rates are decreasing and graduation rates are rising. High-performing urban schools have shown that when students have the support they need to reach high expectations, they can do very well academically regardless of their race, ethnicity, or family income.<sup>4</sup> There is growing consensus among educators and families

that while scoring well on reading and math tests is important, students also need opportunities to develop a broader set of mindsets, skills and habits if they are to succeed over the long-term.

Most importantly, today's young people have big aspirations for their futures. When asked if they plan to go to college, at least 90% of eighth graders say 'yes' across all income groups. When presented with a list of professional careers, nearly 65% of high school seniors say they intend to pursue one.<sup>5</sup>

## **Moving from the Schools We Have to the Schools We Need**

Our young people deserve schools designed to help them reach their unique and full potential, empowering them to set big goals and develop everything they need to reach them. Such schools would ensure the next generation is not only well equipped to compete for today's jobs, but to build a stronger economy and a society full of opportunity for everyone.

Most of our current K-12 schools were designed for a different time and purpose: teaching basic knowledge and skills to the vast majority of students destined for work in the early-to-mid-20th century economy, with an elite few moving on to higher education. These familiar schools worked well enough for many Americans for several generations, but they consistently underserved others, especially Black, Latino, and low-income students.

Today, it is clear this approach to school is insufficient for most students. The ways we live and work today are dramatically different than 100 years ago, but our schools are largely the same. This mismatch is one of several reasons that, as measured by earning potential, the economic value of a high school diploma has declined sharply. In fact, of the 11.6 million jobs created since the recession ended in 2010, only 80,000 went to people with a high school diploma or less.<sup>6</sup>

All over the country, teams of educators are rethinking their classrooms and schools by incorporating scientific advances in our understanding of how people learn and how motivation works and harnessing the power of technology to support learning.

## Attributes of Innovative Schools

*Innovative schools are still in the early stages of development and use a variety of approaches and practices, but most of them share a number of the following attributes*

- **Schools embrace an expanded definition of student success**, helping students master rigorous academic expectations and develop mindsets, skills and habits correlated with long-term success. These include critical-thinking and problem-solving as well as competencies such as self-management, social awareness, growth mindset, and perseverance, all of which are important factors in young adult success.
- **Students feel ownership of their learning and motivated to succeed.** Their learning experiences are tailored to their individual needs, skills and interests. They set short- and long-term learning goals and, with help from their teachers, create plans for how they might reach them.
- **Schools are designed to optimize time, pace, instructional methods and outside experiences** to enrich student learning and make the most of teachers' time. These experiences include projects that help students integrate what they are learning and connect it to their interests and potential career paths.
- **Students have the opportunity to build deep, trusting, sustained relationships** with each other, their teachers and other adults who care about them.
- **Technology supports learning**, from instructional software that helps students master academic content, to platforms that help teachers, students and families work together to manage personalized learning plans and collaborative projects.

We are still in the early stage of this effort, with only several hundred of the nation's 100,000 schools implementing this approach so far. However, interest and action are growing significantly every year. The next 10 years will be an important phase in the effort to redesign schools.

## How Philanthropists Can Help Accelerate Efforts to Reimagine School

Philanthropists can create enormous impact by investing in diverse teams of educators who are creating reimagined schools and in entrepreneurs who are building the tools that such schools need to be successful. With a total investment of \$4 billion in philanthropy over 10 years, approximately 7% of U.S. schools could effectively make the shift to innovative models through investments in three key areas:

1. Creating new schools and redesigning existing ones
2. Supporting targeted technology innovation
3. Launching a campaign to foster understanding and demand

Our estimate of 7% of schools over 10 years is conservative; it's possible that change could happen at a faster pace. And though 7% might sound modest, it represents 7,000 schools and 3.5 million students and their families. Compare this with the public charter school movement, which has taken 25 years to grow to a similar size. It also compares favorably with sweeping policy mandates over the last 15 years, which generated a great deal of activity but limited impact on student learning.

And while \$4 billion is an enormous amount of money on its own, if existing levels of K-12 education philanthropy continue, it represents less than 20% of the likely flow over the next 10 years. It is less than one-tenth of 1% of the more than \$6 trillion in public spending that will happen over the same ten-year period, and less than 1% of what we spend every year.

**Put another way, \$4 billion is only slightly higher than the nationwide cost of one day of school at current spending levels.**

The most important question is whether \$4 billion in philanthropy will help schools produce better results than they already do. Later in this paper, we provide estimates of the return on this investment (ROI) using some of the early outcome data from innovative schools. Because of the results of schools in the study, the ROI estimates range between 200% and 500%.

First, we discuss one way of thinking about how change can happen. Then we will briefly explain the three investment areas and close with suggestions for making them actionable.

INVESTMENT \$

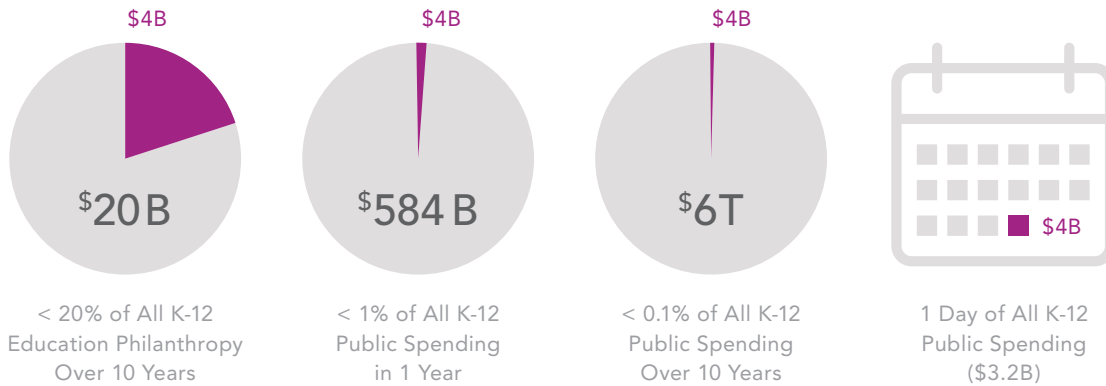
4B

10Y

7000  
SCHOOLS



## \$4B Over 10 Years Relative to Other Education Spending



## How Change Might Happen

Our thinking about how the shift to innovative schools might happen is informed in part by *The Diffusion of Innovations* by Everett Rogers, in which he described a common pattern of how new practices and technologies spread.<sup>7</sup> His insights have been used to describe change in many sectors, including agriculture, medical devices, and most consumer technologies.

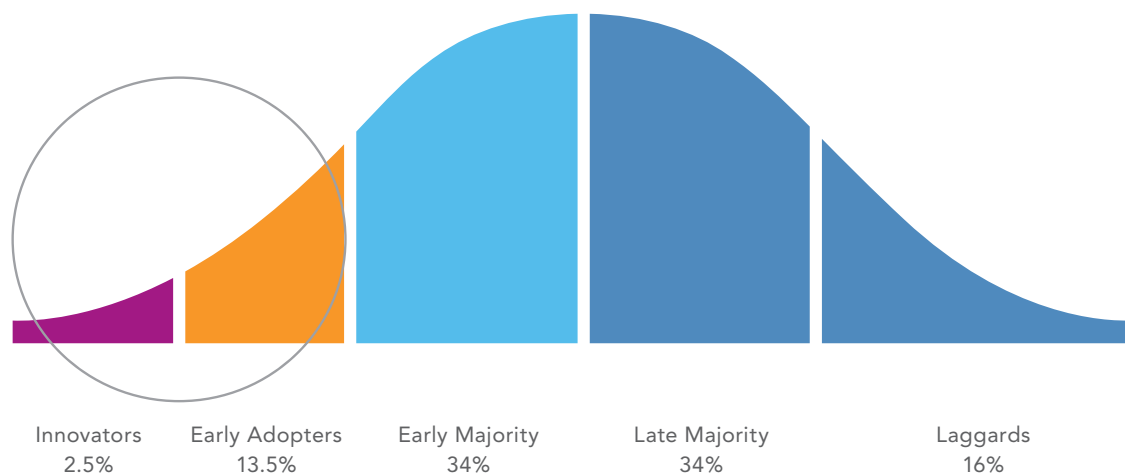
The central idea is that new ideas are forged by a small group of pioneers called *innovators*, taken further by *early adopters*, and later are adopted by other people and communities once they hear about them and become convinced they will work for them. Along the way, the ideas are adapted to work better in different situations, making them easier to implement.

Directing significant philanthropic support over the next 10 years to innovators and early adopters who are reimagining school will help them test, adapt and refine better school designs, positioning them for more rapid spread in the years following. Our estimate of 7% of schools over 10 years would represent about half of the innovator and early adopter categories.

The amount of time it takes an innovation to spread varies based on factors like cost, regulation, and the degree of change required to adopt it. We looked at a number of comparisons – airline e-tickets, learning management systems, and electronic medical records – and found that it took about 10 years for each innovation to be adopted by 50% of the people it was designed to reach.<sup>8</sup>

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## Diffusion of Innovations Curve



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New school designs have implications for students and families who want them and the educators who create and work in them. They require significant changes in mindsets and practices and a fair amount of new technology, all within a highly fragmented and regulated system. Teams of educators need time and resources to try out different designs, evaluate what works best to meet the needs of each student, and iterate to get better.

Because of these factors, we estimate efforts to reimagine schools will naturally move at a slower pace than examples from most other fields, but faster than other education reform efforts of the last two decades. This is because these new kinds of schools are focused on goals families care about, are growing in both districts and charter networks, and can be spread more effectively with the help of technology.

**We also believe philanthropists can help things move along faster and with much higher quality than might happen otherwise by supporting a common roadmap for change.**

The next few sections describe the three investment areas that together make up a roadmap for achieving this vision. These philanthropic investments are designed to be catalytic, helping to create change that can be sustainable on average public school budgets. More detailed assumptions and budget projections for each area are available in our online [technical appendix](#).



## Investment Area #1: Innovative Schools

### \$3 Billion over 10 years

Hundreds of innovative schools have been launched or redesigned in the last few years and interest is growing every year. More than 2000 school districts have signed a pledge to become Future Ready, and the XQ Institute's Super School Project attracted applications from 700 teams to create innovative high schools. Moreover, tens of thousands of teachers are using blended instruction to personalize learning for their students, paving the way for more fundamental redesign in their schools. Philanthropists can help accelerate and strengthen efforts to create more of these schools by providing \$3 billion over ten years for three kinds of activities:

- Creating new district and charter schools
- Redesigning existing schools
- Strengthening the ecosystem for innovation

### Creating New District and Charter Schools – \$800 million

Teams of educators are creating innovative new charter and district schools that embody the attributes we described earlier and discussed more fully in DYO. Approximately 1,500 new

charter and district schools open every year, and our proposal will help ensure many more of them use innovative designs. Teams need money to design, plan, and launch their schools, and many of them start small and grow to full enrollment over a few years. This requires some philanthropy for a time, but after four or five years these schools should be sustainable on the funding they receive from their local and state tax dollars. For the new charter schools in this category, the best of them need additional resources to grow their footprint beyond their first couple of schools, becoming new networks.

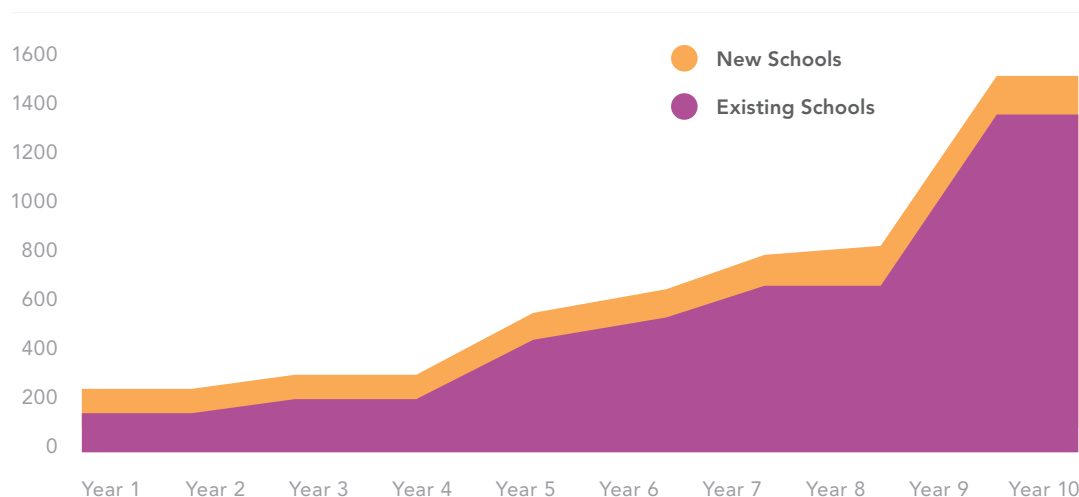
Based on our experience supporting new schools, most of them will require between \$500,000 and \$1 million in grants, depending on their local context and the inventiveness of their school designs. Our proposal is to support the creation of approximately 1200 of these new schools over 10 years.

## **Redesigning Existing Schools – \$1.4 billion**

Because there are 100,000 public district and charter schools in the United States, reimagining learning in existing schools is a big opportunity to create impact. School districts and established charter networks are undertaking school redesign efforts, including pioneering efforts in places such as Lindsay, California; Henry County, Georgia; and the Achievement First charter network. Tens of thousands of teachers have redesigned their own classrooms, softening the ground for more significant redesign of their schools. Philanthropists can play an essential role in accelerating this momentum in cities around the country.

Existing schools embarking on redesign need flexible funding for design and implementation and to evaluate how well their new ideas are working. This includes resources to engage students and families in the design work, observe other innovative schools in action, help teachers make the necessary adjustments to their approach, and purchase new curriculum and technology. Depending on their size, context, level of ambition, and willingness to work with established partners, the range of funding necessary for redesign is quite wide. High schools are often a more ambitious redesign challenge than earlier grade schools. Teams that choose to implement designs and practices that been developed in other places can do so for as little as \$200,000. Those that aspire to take on more original redesign projects could require an average of \$5 million over five years. Our proposed investment in redesigning existing schools assumes a mix of these approaches, for a total of around 5800 schools over 10 years.

## Number of Schools Implementing Innovative Models Per Year



## Strengthening the Ecosystem for Innovation – \$800 million

In addition to supporting new and redesigned schools, we recommend funding organizations that together will make up a strong ecosystem that can help communities more easily make the shift to innovative schools. Many educators are eager to adopt existing designs and practices as they redesign their schools, but they often lack the tools and resources to do so.

Over the last few years, organizations such as [Transcend](#), [Springpoint](#), and [2Revolutions](#) launched to provide design and implementation services, helping schools build on lessons learned across many projects and rethink their models more effectively. Nonprofits such as [4.0 Schools](#) and [CityBridge](#) help teachers and aspiring school leaders develop and pilot early-stage innovative ideas.

A more racially and ethnically diverse generation of educators is emerging with stronger shared experiences with their students and a commitment to not only reimagine learning, but to work alongside families to tackle other barriers to opportunity in their communities. Pipeline organizations like [Camelback Ventures](#) attract and support Black and Latino leaders who are creating new education organizations, including innovative schools.

Pioneers such as [Summit Public Schools](#) and [New Classrooms](#) designed innovative learning models and then built software and services to help other schools adopt them. More of these model providers are emerging, and deep investments in them can help thousands of teachers

and schools make the shift to new designs more effectively and affordably. Philanthropists can help more of these kinds of organizations emerge and grow, making it easier for more teams to redesign their schools without having to start from scratch.

By catalyzing a mix of professional services, technology platforms, talent pipelines, and model providers to support the implementation and spread of innovative designs, philanthropists can help create a stronger ecosystem to support the spread of innovative schools and ensure they are building on lessons learned.

## Investment Area 2: Targeted Technology Investments

**\$700 Million over 10 years**

Education technology (ed-tech) is one common feature of the kinds of innovative schools we described in Investment Area 1. Ed-tech is no silver bullet and will never be the primary mode of learning for most young people, but it can be an important part of more personalized learning experiences and can help schools adopt more innovative designs more easily and effectively.

Collectively, K-12 schools spend about \$9 billion per year on instructional software, digital assessments, and laptops and tablets for students and teachers. Instructional technology purchases are growing much faster than spending on textbooks and other kinds of print material, spurring an increase in private investment in K-12 ed-tech companies, which grew from \$77 million in 2010 to \$537 million in 2015. But most investments have been in backend software, classroom management tools and informal learning apps used outside of school, rather than on content and tools that can help schools more easily and effectively make the shift to innovative learning models.<sup>9</sup>

Given this, there are two compelling ways to use philanthropy to strengthen the availability and quality of education technology that matters more for student learning and supports the shift to innovative schools. First, it can fund long term research and development directed at big questions about how to dramatically increase learning outcomes. Second, it can help identify and address gaps in the availability and effectiveness of products in existing ed-tech segments.

### Expanding Research & Development –\$600 million

Philanthropists have an opportunity to significantly increase the sector's long-term research and development capacity. U.S. education has never had a coordinated research and de-

velopment engine to drive technological breakthroughs for its toughest challenges, unlike other segments of the economy. Other sectors of national importance such as healthcare and defense have enjoyed R&D budgets equal to between 4% and 15% of industry revenues.<sup>10</sup> By comparison, R&D routinely accounts for less than 0.05% of total K-12 dollars.

We are not the first to identify this R&D challenge. Over the years, many education innovation advocates have promoted the creation of a government agency to address it. President Obama's education department crafted an idea dubbed ARPA-ED as a response, and the president included funding for the creation of the new agency in his 2012 and 2016 budget proposals.<sup>11</sup> Congress did not authorize it. It's unlikely the next Congress will prove any more receptive.

We think there is a better way. Philanthropists could work together to create an education version of private sector legends such as Xerox PARC and Bell Labs and public sector agencies such as DARPA and National Institutes of Health, one that operates independently in the nonprofit sector.

The value of such R&D entities is well established. Consider this: Bell Labs' work on information theory led to the development of the Unix operating system, which was subsequently enhanced at Xerox PARC with the graphical user interface, which Apple and Microsoft used to launch the personal computer, an entirely new technology segment. This is just one of many examples of technology breakthroughs at Bell Labs and Xerox PARC having broad and deep impact on many industries.

DARPA's work on mission-training tools for site mapping and simulation led to the development of GPS, navigation systems, and 3D mapping. These technology breakthroughs make navigation tools like Google Maps and Waze possible, as well as ride sharing services like Uber and Lyft. Facebook's new Aquila internet project, an unmanned, solar-powered airplane designed to provide internet connectivity in unwired locations, integrates and builds upon decades of research at DARPA and other public and private labs to provide connectivity for the 1.6 billion people living in the world's most remote areas.

The nonprofit R&D entity we're proposing, which as a placeholder we'll call Edu-R&D, should adopt key features of DARPA, including perhaps its most important lesson regarding *directed development projects*. Different from applied research which is aimed at creating a specific product, directed development uses existing basic research in areas such cognitive science, developmental psychology, and technology from other domains to solve clearly defined practical and complex problems.<sup>12</sup>

% TOTAL SPENDING  
ON R&D

Pharma & Biotech	15.5%
Healthcare	> 9%
Leisure Goods	6.2%
Aerospace & Defense	4%
Automotive	almost 4%
Telecom	1%
Energy	1%
K-12 Education	.038%

Source: [Deloitte](#) & [Statista](#)

Projects should be conducted by teams of experts from research universities and private companies, with Edu-R&D program officers identifying important problems, issuing challenges to address them and then managing the projects. Edu-R&D will need to attract a diverse team of the very best educators, technologists, and learning scientists to serve as program officers.

Edu-R&D could explore breakthroughs in how to use technology to solve problems such as the ones below.

### Illustrative Ideas for Edu-R&D Projects

- How might we ensure every student masters fractions by the end of 5th grade, preparing them to succeed in algebra, calculus and statistics at much higher rates?
- Is it possible to help English language learners from any native language become fluent English speakers, readers, and writers within two years, regardless of their age?
- What are the best ways to develop, measure and assess student competencies such as self-management, perseverance, growth mindset, and intellectual curiosity in schools?
- What are the most effective ways to bundle instructional practices, content, and assessments into models that can be more easily adopted by schools?

Edu-R&D would have up to nine projects underway at any given time, each with an average three-year project budget of \$18M. Some of these might be continuations of earlier projects with promising results. With operating costs in addition to direct project support, we estimate that a total 10-year investment of \$600 million would underwrite approximately 30 projects. This would increase the probability of our more optimistic ROI scenarios discussed later in this paper by making it easier for schools to tackle the toughest learning challenges.

As we were completing this paper, Priscilla Chan and Mark Zuckerberg announced the launch of the [Chan Zuckerberg BioHub](#), which will take on breakthrough R&D projects for curing diseases, with initial funding of \$600 million over 10 years. The timeframe and funding level is a coincidence, but the model and level of ambition are a strong validation for an entity like Edu-R&D.

EDU-R&D  
OPPORTUNITY





## Addressing Market Gaps – \$100 million

Philanthropic funding can also strengthen parts of the existing ed-tech market that have been slower to develop. Teachers have clear ideas about how current products could help students learn better and where new products could be useful. For instance, while elementary school teachers are relatively satisfied with available math products, middle and high school teachers remain deeply dissatisfied. With the growing number of English language learners in our schools, teachers are looking for tools that can help students develop fluency more quickly so they can better access rigorous academic content.<sup>13</sup>

Philanthropists can mobilize entrepreneurs to address these gaps through mechanisms such as prizes or open challenges. By understanding and publicizing high priority gaps, attracting diverse entrepreneurs to compete to address them, and awarding modest product development grants to the most promising solutions, philanthropy can help foster stronger choices among content and tools that will make it easier for schools to transition to innovative models faster and with higher quality. Prizes and challenges could also be useful in motivating entrepreneurs to use the breakthroughs from Edu-R&D to create products and services.

These types of challenges create much stronger pipelines for other investors looking for attractive opportunities. For philanthropists, providing funding through such vehicles helps them catalyze innovation in key areas to boost availability and quality without making large grants to a single player, thereby bolstering its reputation and ‘picking a winner.’ Foundations often compound this problem by requiring free or below market pricing, insisting on a focus on certain customers, or directly subsidizing purchases. This distorts the market and almost always ends badly.<sup>14</sup>

Given our experience tackling market gaps in this way, we estimate \$10M per year for 10 years would help generate targeted product development from existing companies and nonprofits and mobilize new, diverse entrepreneurs to effectively tackle approximately three market gaps per year, including classroom trials and evaluations of each product’s feasibility, usability and learning outcomes.

## Investment Area #3: Campaign to Foster Understanding and Demand \$200 Million over 10 years

Reaching the number of new and redesigned schools in our forecast, especially after the first few years, will require a deep understanding of what families want, and a reciprocal level of understanding among families about the promise of redesigned schools. Educators will also need awareness of different innovative school designs and how they are performing to help increase their interest in them. Policymakers need an understanding of what works and how various policies constrain or enable innovative schools. These stakeholders are key to the strength of the vision during and beyond the first 10 years. We recommend a significant investment in a campaign to create a diverse coalition in support of the vision, along with evidence and stories about what is working and why.

### Mobilizing a Diverse and Effective Coalition for Change – \$150 Million

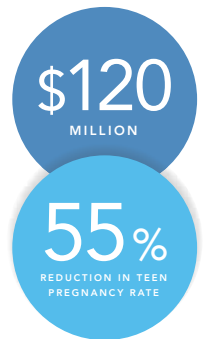
Prior efforts for large scale change in K-12 education have focused on a variety of top-down methods for getting people to do what experts think they should do, usually by dictating specific technical solutions that touch every student or teacher in a particular state or district. These are usually aimed at creating uniformity, standardization and compliance. Policies such as class-size requirements, stronger teacher evaluations and centralized textbook adoptions are examples of these approaches. They usually end up mattering very little for engaging families and educators or creating better outcomes for students.

We are recommending a different approach, one that recognizes that most parents and teachers already agree that schools should help every student do well academically and develop additional mindsets, habits and skills that help them reach their full potential. They have great ideas for how to make schools work better for kids. Helping them work through their ideas together, understand what people in other communities are doing to reimagine learning, and find ways to take collective action to make change in their neighborhoods is more likely to accelerate interest in innovative schools than mandates ever could.

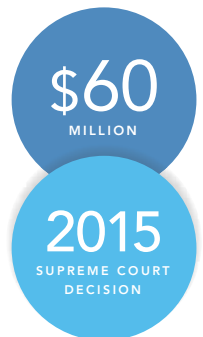
Many groups and organizations are already working to make this happen, and with more connection and resources they could be much more effective in their efforts. The biggest challenge to our forecasts about how many innovative schools will be created over the next decade is how much interest exists among educators and families after the first few years. This approach can help inspire educators and families to redesign their schools and create new ones.

Our recommendation is to create a coordinated effort to generate understanding and demand, inspired by lessons from organizations such as the National Campaign to Prevent Teen & Unplanned Pregnancy (National Campaign) and Freedom to Marry, two organizations that helped accelerate progress on very complex issues.

The National Campaign was founded in 1996 as a multi-faceted effort to dramatically reduce teen pregnancies in order to improve many long-term social outcomes. The organization clarified the importance of the issue and its root causes by leveraging existing research. It funded additional targeted studies to shore up knowledge gaps and then shared the information with experts, teens and the general public in simple, powerful ways. The National Campaign relied heavily on storytelling to motivate change among teens, their families, and popular culture. It influenced the agendas of existing reproductive health organizations, advocates, and state and federal policymakers. Even though the issue was potentially controversial, the organization made the case for change in ways that attracted a bipartisan coalition without reinforcing ideological differences. After 20 years, the teen pregnancy rate is down 55%; the organization has spent \$120 million to accomplish these results.<sup>15</sup>



Freedom to Marry was founded in 2003 to create a focused national strategy to win the right to marry for gay Americans. Building on three decades of efforts, Freedom to Marry created a road map to victory that included coordinating existing efforts, building new coalitions, and creating a shared strategy for state legislatures and courts. The organization also developed and quarterbacked a messaging and communications strategy designed to shift public opinion, focused on values such as liberty, equality, and love. Freedom to Marry played the role of connector and mobilizer, eventually building a bipartisan coalition that included conservative attorneys and opinion leaders. Its positive, aspirational communications strategies drove a massive shift in public opinion. In 2003, around 30% of Americans supported marriage equality; by 2015, 63% did so. This translated into concrete results. In 2003, no states allowed gay couples to marry, but by the time the Supreme Court made it the law of the land in June 2015, 37 states had passed same-sex marriage laws. Freedom to Marry spent approximately \$60 million between its founding and the Supreme Court victory in 2015.



A campaign to reimagine schools would face similar challenges as those aimed at teen pregnancy and marriage equality, but would have many unique challenges as well. For instance, while both examples have successfully influenced beliefs and behaviors, a campaign to reimagine education will also face the difficulty of influencing systems change. Nonetheless, the National Campaign and Freedom to Marry contain useful lessons to build on for creating a similar hub for this campaign.

We estimate a coordinated campaign as described here will require \$150 million in philanthropy over 10 years. This might be accomplished through an existing nonprofit or could require

the creation of a new organization. Several early efforts to build a coalition for innovative schools are underway. An initiative called Education Reimagined secured a diverse group of signatories to a vision similar to the one we've described. The XQ Institute generated enormous interest in reimagining school through its year-long Super School project. Together these efforts are an encouraging sign of the potential to create a broad coalition for change.

## Generating Evidence and Stories about Implementation and Results – \$50 million

Most families, teachers, and school leaders will need solid information about how innovative schools are working before being willing to try them. Generating rapid-cycle evidence about whether and how designs and practices are leading to results will be important.

We recommend two types of knowledge generation:

1. Rigorous quantitative studies of a broad range of student outcomes that can also produce interim data that helps educators improve as they go along.
2. Deep qualitative studies of school designs and practices that can help demonstrate the variety of models and approaches as they emerge, generalize common principles and practices from them, and create easy to understand stories based on them.

If done well, this effort would require \$50 million over 10 years, including support for translating the lessons into plain language that speaks to families, educators, and policymakers.

## Estimating Return on Investment

Calculating a return on investment for any type of philanthropy is a thorny task. It requires assigning a dollar amount to improvements in social outcomes, which can be difficult. Researchers often try to correlate the results of educational interventions to financial metrics such as improvement in individual lifetime earnings. It's a great way to assess the long-run effects of individual achievement and attainment for large swaths of the population, but not as helpful for evaluating the shorter-term effectiveness of specific changes in policy and practice.

We are using a different approach, based on the potential for innovative schools to produce better results for about the same amount of money schools spend now. Using this approach,

we estimate that the return on a \$4 billion philanthropic investment could be between roughly 200% and 500%.

How did we arrive at these estimates? Several studies show that students in hundreds of innovative schools learn more over the course of a school year than students like them in traditional schools.<sup>16</sup> The most rigorous of these so far was conducted by the RAND Corporation, a three-year evaluation of 62 innovative schools serving 11,000 students.<sup>17</sup> The study used a statistical measure called *effect size* to describe the results achieved by these schools.

To make the findings more concrete, we've converted the effect size into a real-world estimate called *days of learning* using an approach developed by Professor Eric Hanushek at Stanford University.<sup>18</sup> This conversion is widely used to communicate the results of education research.<sup>19</sup> The basic idea is that because we know the average amount students usually learn in a typical 180-day school year, it's possible to translate better than average results into the number of additional days of school it would take to achieve them.

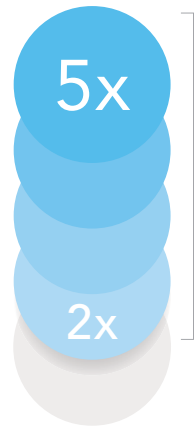
In the RAND study, students in 75% of the schools performed better than students like them in traditional schools, with the average difference in learning gains equal to 122 additional days of school. In other words, though they attended school for approximately 180 days, students in innovative schools learned at a faster pace than their peers in traditional schools, about as much as if the school year had been 302 days long. Fifty-six percent of schools in the study performed at or above this 122 day average. More simply, the innovative schools produced much better results with about the same time and money.

Will average performance levels stay this high as the number of innovative schools grow? It's possible they will get better as we learn more about which designs and approaches work best and R&D investments result in better learning technologies. But it's also possible the results could trend lower with more widespread adoption.

We are cautiously optimistic that performance among innovative schools over the next 10 years will be the same as or better than schools in the RAND study. However, we decided to use a conservative approach to calculating the potential return on investment, using the assumption that as a group, the average performance of innovative schools will be the same as or lower than that of schools in the RAND study.

In the chart below, we set the RAND average of 122 days as the top of the range, and then discounted it in 10% increments to reflect the possibility that as the number of innovative schools grows to 7000, average performance might go down. Using the current average cost of one day of school, we calculated the estimated value of each of these possible performance levels and the resulting ROI.

ROI ESTIMATE  
BETWEEN 2x-5x



Performance Compared with RAND Results	Average Additional Days Of Learning	Estimated Value of Additional Days	ROI on \$4 Billion
100 %	122	\$ 27.7 Billion	693 %
90 %	110	\$ 24.9 Billion	623 %
80 %	98	\$ 22.2 Billion	554 %
<b>75 %</b>	<b>92</b>	<b>\$ 20.7 Billion</b>	<b>520 %</b>
<b>70 %</b>	<b>85</b>	<b>\$ 19.4 Billion</b>	<b>482 %</b>
<b>60 %</b>	<b>73</b>	<b>\$ 16.6 Billion</b>	<b>416 %</b>
<b>50 %</b>	<b>61</b>	<b>\$ 3.8 Billion</b>	<b>346 %</b>
<b>40 %</b>	<b>49</b>	<b>\$ 11.0 Billion</b>	<b>277 %</b>
<b>30 %</b>	<b>37</b>	<b>\$ 8.3 Billion</b>	<b>208 %</b>
20 %	24	\$ 5.5 Billion	139 %
10 %	12	\$ 2.8 Billion	69 %

Please see technical appendix for more detail on ROI calculation: [www.newschools.org/bigbet](http://www.newschools.org/bigbet)

In our view, an ROI as low as 200% would make this an investment worth making, which would happen if average performance turns out to be at least 30% of the RAND results. We expect ROI to come in closer to 500% because we are optimistic that innovative schools created by the \$4 billion investment will perform as a group somewhere between 50% and 75% of the RAND averages.

As we noted earlier, test scores are only one important measure. The practices, measures, and instruments available for broader outcomes such as self-management, growth mindset, and perseverance are still nascent, so the data isn't strong enough yet to include them in our ROI calculation. As these competencies become more widespread and studied, these estimates can be revised.



## Making this Big Bet Actionable

We framed our recommendations as a big bet on a vision for the future, rather than defining big bets as grants of a certain dollar amount to a single issue or organization. We believe this approach has the potential to produce real, lasting results for young people. With this in mind, here are four pieces of advice for donors on how to begin investing in all or parts of this vision.

1. **Partner with a small number of other funders on big projects.** Edu-R&D from Investment Area #2 is one example of an idea that would benefit from this type of partnership. A few large donors could collaborate to establish an independent R&D organization and fully fund it with \$60 million annually for at least the first five years so that it can pursue breakthrough projects without concern for an annual fundraising campaign. The Campaign described in Investment Area #3 is another opportunity for a few funders to work together to select a home base for the effort at an existing high-capacity organization or launch a new independent entity to coordinate the work, similar to the role of the National Campaign to Prevent Teen & Unplanned Pregnancy.
2. **Invest through intermediaries.** In the same way as many investors do when seeking financial returns, education philanthropists can mitigate risk and leverage the knowledge of experts by investing through intermediaries. This is a great way to create more impact with a modest gift by combining it with funds given by others, and an equally good way to put a significant amount of money to work very quickly. Several of these vehicles exist for

the investment areas outlined in this paper. For example, [NewSchools Venture Fund](#) (our organization) is a national intermediary focused on innovative district and charter schools and ed-tech market gaps. This advice isn't entirely self-serving; there are many intermediaries focused on parts of the vision to reimagine schools, such as [Charter School Growth Fund \(CSGF\)](#), which helps the best innovative charter schools grow into networks. Like NewSchools, CSGF is staffed by professionals who build strong, diverse pipelines, invest with expert pattern recognition, and then support the teams they invest in to create great schools all over the country. A number of local and regional intermediaries support innovative schools as well, such as [Education Forward DC](#) in the nation's capital, [LEAP Innovations](#) in Chicago, [New Schools for New Orleans](#), and [Silicon Schools Fund](#) in the California Bay Area.

Donors with significant resources to deploy might consider supporting a local vehicle in a city of interest while also investing in a national player to leverage the knowledge and resources of a portfolio of schools from around the country to help strengthen work in specific place.

3. **Support more racially and ethnically diverse innovators and school leaders.** Efforts to improve schools and create better tools too often happen without leadership or engagement from people who have shared experiences with the students and families they serve or a deep understanding of the communities they work in. Teams of educators and entrepreneurs launching and redesigning schools and building the tools they need to be successful are becoming much more diverse, and there is plenty of evidence that this leads to better results. It's important for funders to prioritize supporting diverse leaders in their direct giving and to require intermediaries they work with to do the same.
4. **Prioritize schools.** When supporting the redesign of existing schools in districts or networks, structure grants so that the vast majority of resources end up with schools rather than being controlled by central office or other non-school departments. In many cases, it can be important to allocate a small percentage of grant dollars to system-level expenses in order to provide light coordination, but district and network leaders should plan to reallocate existing funds to sustain the system-level work rather than relying on philanthropy over the long term. If redesign efforts are to be effective, educators in schools must lead them and have the resources they need to make the necessary shifts to serve their students more effectively.



## The Time is Now

Over the next 10 years, philanthropists are going to give \$4 billion to K-12 education whether it flows in the way we suggest or to other priorities, and it's just a fraction of the more than \$20 billion they will likely distribute. Why not carve out this amount to invest in what it will take to create schools designed for today's students and teachers and then evaluate how it's going every few years? If the shift is on track and the reimagined schools are meeting our impact and ROI forecasts, let's keep investing. If not, let's learn, adapt and improve. If after several years this approach isn't living up to the potential we imagine, let's change course. But let's also evaluate every other idea for how to direct the \$20 billion in education philanthropy over the next 10 years based on concrete estimates of the improved outcomes we should expect for students in a given timeframe.

Twenty-five years from now, it's possible for all students to have at least one school in their neighborhood that is designed to meet them where they are, help them figure out where they want to go and how they might get there. Today's schools weren't designed to accomplish this, so families and educators are tasked with squeezing as much as they can out of schools designed for a very different time and purpose. Given our work with many of the pioneers on the forefront of efforts to create innovative schools, we believe the next ten years is critically important to the long-term vision. Philanthropists can help this phase happen faster and with better results.

This vision for the future can become a reality with sufficient commitment, resources, and patience. If you are a philanthropist interested in investing in this vision for the future, please get in touch with us at [bigbet@newschools.org](mailto:bigbet@newschools.org). We would love to connect you with opportunities to make a difference.

## About the Authors

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Stacey Childress is CEO at NewSchools Venture Fund.

Prior to joining NewSchools, Childress led the K-12 Next Generation Learning team at the Bill & Melinda Gates Foundation, investing in schools and technologies that support personalized learning for middle and high school students in the United States.

Prior to joining the foundation, Childress was on the faculty of the Harvard Business School where she wrote and taught about entrepreneurial activity in public education in the United States. Her work focused on urban public school districts, charter schools, and nonprofit and for-profit enterprises with missions to improve the public system. During her time at Harvard she wrote three books and more than thirty cases and articles about education entrepreneurship. She also won teaching awards from her students and the HBS dean for her elective course on education entrepreneurship, which was taken by nearly 1000 students between 2004 and 2010.

Before working in academia, Childress was a co-founder of an enterprise software company and also spent ten years in a Fortune 500 company in sales and general management.

Early in her career, she taught in a Texas public high school. She is a graduate of Baylor University and Harvard Business School. In 2012, she was named one of Forbes Magazine's Impact 15, a group of innovators revolutionizing education in the United States and around the world.

### Meghan Amroffell

Meghan Amroffell is COO at NewSchools Venture Fund. She leads operations and the HR, financial and communications teams.

Prior to joining NewSchools, Meghan served as the Portfolio Manager of the Next Generation Learning team at the Gates Foundation. She coordinated the investment strategy and execution of \$75 million in annual grantmaking and led the execution of complex investment initiatives. Before that, Meghan was a management consultant with Point B for 7 years, where she led strategy development, product development, operations, partner engagement, and technology implementation in the education, non-profit, financial services, healthcare, and retail industries. Earlier in her career, Meghan was a product manager with Charles Schwab & Co, Razorfish, and a variety of tech startups.

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