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DELIVERY

Introduction

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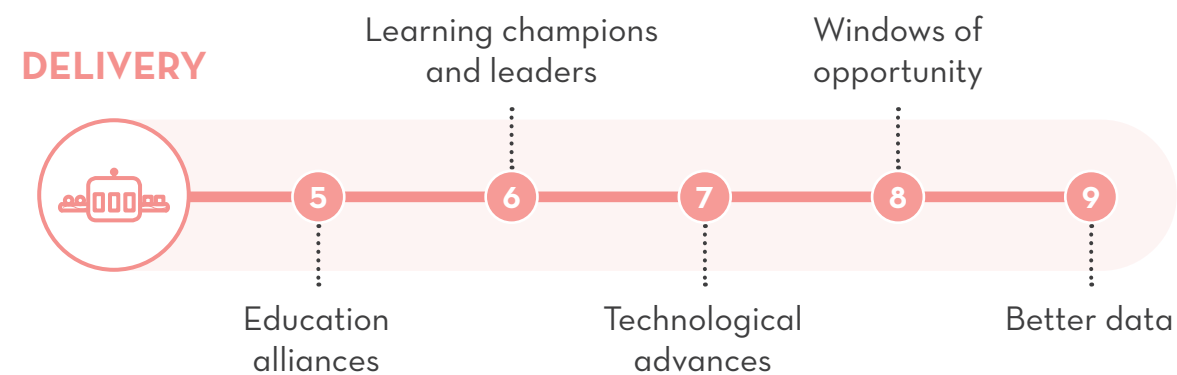
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Designing for scale is half the battle. At the end of the day, however, whether or not an education initiative successfully and sustainably scales depends as much on how it is implemented. As Chandy and colleagues write, "Delivery is what makes getting to scale not merely difficult but complex."[102] As a result, they identify the difficulties of scaling as a process challenge. Through a review of cases and literature, our analysis found that delivering at scale requires a combination of both technical and political strategies. These include leveraging the diverse resources and skills of various partners for large-scale gains in learning; cultivating "learning" leaders and champions both within and outside of the government and classroom; seizing key moments more open to spreading and adopting new ideas to improve learning; utilizing appropriate technologies to drive efficiencies and overcome context-specific barriers to learning; and using a range of data to continuously drive improvements in programs and policies as well as to motivate and sustain action in support of scaling quality learning.

5. Education alliances:

All actors need to work together to achieve a common goal.

"Social change depends, in other words, on alliances between what could be called the 'bees' and the 'trees.' The bees are the small organizations, individuals and groups who have the new ideas, and are mobile, quick and able to cross-pollinate. The trees are the big organizations—governments, companies or big NGOs—which are poor at creativity but generally good at implementation, and which have the resilience, roots and scale to make things happen. Both need each other, and most social change comes from alliances between the two, just as most change within organisations depends on alliances between leaders and groups well down the formal hierarchy."

— Geoff Mulgan, Nesta[103]

Although partnerships are notoriously difficult and some evidence shows they are not always effective, across the 14 cases we reviewed, they were essential in bringing all the right skills sets to the table. The enormous challenge of ensuring quality learning for all in the 21st century requires bringing all actors and assets to bear—both the bees, such as social innovators that can experiment and nimbly cross-pollinate, and the trees, such as government agencies, which are essential for any education effort, including reaching those most disadvantaged, to spread nationally. It is rare for any one actor to encompass all the skills required to scale sustainably and equitably. Even when governments are leading the way, as they are in some of the cases we reviewed, they often reach out to civil society, communities, or the private sector to bring in key expertise they are lacking. Certainly, however, governments are essential in ensuring all children and youth—not just those in the right place at the right time—are learning well.

Partnerships contribute to scaling quality learning by pooling resources and ensuring an appropriate division of labor.[104] The role of partners may include

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bringing financing, providing technical assistance, or generating political support. Cases and literature reviewed identified some of the key elements that contribute to partnerships working to enable a scalable approach to delivery.

While not exhaustive, these elements are interdependent and include: establish a clear, shared goal; align incentives toward meeting this goal; ensure accountability to the learners; and build trust among partners.[105]

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Establish a clear, shared goal

Interventions that have effectively leveraged partnerships for scale have focused on addressing a binding constraint that is present in multiple contexts, such as a lack of high-quality early childhood educational opportunities, a shortage of qualified teachers, or a mismatch between labor demand and supply. Successful interventions also approach these challenges, many of which are incredibly complex, with simple ideas that are understood and resonate with a broad audience—students, parents, teachers, government officials, and any other stakeholders. In fact, the greater and more complex the challenge, such as addressing a country's poor learning outcomes, the more important it is to have a clear definition of the problem being targeted, shared outcomes to achieve, and a strategy to address it.

One of the main learnings from Pratham's 15 years of experience in partnering with

government systems is that the best results come when all elements of the teaching-learning ecosystem prioritize common learning goals and align themselves to achieve them. It is essential that learning goals are clearly articulated in a way that teachers can understand and that they are achievable. If training, academic support, materials, teaching-learning methods, and measurement are all aligned to support each other, then the chances of success are high.

Sesame Street, the world's largest informal early childhood educator, began in 1969 with a well-founded, simple idea to address the inequity of children's school readiness, particularly among disadvantaged children, by combining entertainment with education. More than 40 years later, Sesame Street reaches more than 156 million children in over 150 countries by adhering to this same principle of developing engaging content

that creates an emotional connection with its target audience of preschool-aged children. Sesame Workshop's long-term success has depended on a broad base of partners, including funding agencies, local production partners, broadcasters, government ministries, the education and academic communities, local NGOs, and other private and public partnerships. Sesame Workshop's content creation model is a collaborative process among producers, educational content specialists, and researchers. Producers and writers are responsible for educational content and the creative elements of the production, whether it

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be television, radio, print, or other media, and researchers represent the voice of the child and provide information about the program's effectiveness. While local needs and contexts can differ around the world, Sesame Street partners share the objective of using media to meet the critical needs of young children.

Align incentives

Effective partnerships for scale require aligning incentives so that time, skills, knowledge, and efforts of multiple individuals are channeled in ways that produce jointly valued outcomes.[106] A focus on shared outcomes is a good way to align incentives. Hartmann and Linn identify incentives as a key to drive behavior of actors and institutions toward scaling. They discuss how in the absence of a profit motive in education, other incentives are needed to substitute for market forces. These can include rewards, competitions, evaluations, and pressure through political processes.[107] Worldreader's approach to scale, which provides digital books on low-cost e-readers and mobile phones, has been to identify "non-exclusive and growth-oriented partners" where interests align.[108] This includes publishers interested in expanding their market share with digital content and cellphone carriers interested in increasing customers' usage.

Demonstrating intermediate results can also help keep actors engaged so that they see the benefits to partnering.

For example, in 2003, the Naandi Foundation, in partnership with the government of Andhra Pradesh, established a midday meal program in response to the Supreme Court of India's decree that all regional governments must provide public school children with daily lunches. The program was initially designed to provide nutritious and hygienic food to 150,000 children in Hyderabad, free of cost. By the end of 2013, as a result of additional state government partnerships, the program was feeding 1.1 million children across 10,453 schools in Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Odisha, and Rajasthan. Through these partnerships between the Naandi Foundation and regional governments, Naandi was able to function with

government subsidies in the form of free grain, operational funding, and kitchen space, while regional governments, in turn, were able to fulfill their commitment to the Supreme Court's ruling that "cooked midday meals" are a necessary component of children's education. In addition to public sector partnerships, the Naandi Foundation partnered with private sector organizations, such as the Global Alliance for Improved Nutrition, Britannia Industries Ltd., and Faith Foods, as well as social sector organizations, such as PATH, to add nutritional diversity to midday meals.[109] Ultimately, these public-private partnerships helped the Naandi Foundation develop a very efficient process for addressing malnutrition.

Box 16. Worldreader

Worldreader provides culturally and linguistically relevant digital books to the developing world through low-cost e-readers and mobile phones. It aims to improve literacy skills and instill a love of reading by providing children and their families with immediate access to teaching, learning, and reading materials. The organization uses an integrative approach that combines context-appropriate technology, access to more than 31,000 books in 43 languages, teacher support, and community engagement. Since its first programs launched in Ghana in 2010, the organization has reached in excess of 5.6 million people, and as a result of the program, 1.1 million people in 69 countries are reading digital books every month. Data from an evaluation of Worldreader's early grade reading program in Ghana demonstrate improvements in oral reading fluency and reading comprehension, as well as the development of positive reading habits, among student users.

Ensure accountability to learners

Successful alliances for scaling quality learning ensure that each partner is held to account for mutually agreed upon results. According to Hartmann and Linn, a functioning accountability system includes three elements: availability and use of information, mechanisms for monitoring performance, and existence of adequate incentives for compliance. When it comes to scaling quality learning, it is not just accountability as to whether a program or policy is achieving good learning outcomes, but also whether it is creating the conditions for effective scaling of successful interventions.[110] At the same time, such an accountability system must not lead to a rigid compliance system of tracking milestones against inflexible models that might undermine the experimentation, risk taking, and long-term commitment required to scale. Rather, accountability systems for scaling quality learning should include feedback loops that allow for rapid learning and adaptation.

Camfed, a secondary education program for rural marginalized girls living in five sub-Saharan African countries, flips the premise of bottom-up accountability to one of bottom-up decision-making and top-down accountability. Communities are empowered with control over resources and determine how these can best be deployed to tackle local obstacles to girls' education—obstacles that they identify and understand firsthand. This reinforces a sense of accountability for girls' welfare; these are girls' entitlements, for which communities are responsible. In turn, Camfed ensures that communities have full access to program data, including on how well girls and schools are doing, so that they can be responsive and informed in their approach to tackling the obstacles girls face. This approach to governance and accountability has been critical to scaling Camfed's program and impact, and it challenges the common perception that community participation and efficient, accountable management are incompatible in the transition from small single-community initiatives to large-scale, multi-community or multi-country programs.

Build trust

At the core of these partnerships is trust. This has proved to be especially important during the startup phase. In the case studies reviewed, initial investments in the idea were crucial—and these were generally based on the investor's trust in the founder. As one early investor in Bridge International Academies shared, "we bet on the jockeys, not the horse." This was the case with Pratham getting started more than 20 years ago with an initial investment from the former chairman of the Industrial Credit and Investment Corporation of India, DfID's early investment in Asociación Bayán in Honduras in the 1990s, and early and long-term support of INJAZ in Jordan by the United States Agency for International Development (USAID). Aflatoun International defines its social franchise as a "trust-based" network that gives partners local autonomy over program implementation and the freedom to advocate for curriculum integration at the national level. Trust can be one of the most important assets for a partnership, particularly in contexts where there are few guarantees, formal contract law is rarely enforced, and infrastructure is limited.

While government remains the primary duty bearer of ensuring the right to a quality education for all, improving learning at scale requires the combined efforts of many actors to leverage diverse resources, capacities, and skills—particularly related to financing, service delivery, and knowledge generation. This requires the interaction of state and non-state partners at various levels and across various sectors, such as education, health, nutrition, workforce development, and economic growth.

6. Learning champions and leaders:

As scaling quality learning is a political and technical exercise, champions within and outside government and the classroom are crucial.

Scaling quality learning requires champions and leaders at all levels—inside and outside the classroom and education ecosystem. Addressing learning challenges at scale requires dedicated individuals—visionary leaders to create or lead an initiative, champions with political will and capital to scale and sustain an idea, and local leaders who might not be as well known but whose everyday efforts are contributing to children learning.

Visionary leaders

A common feature in scaling studies across disciplines is the critical role that visionary leaders played in driving the scaling process.[111] These leaders came from all sectors—government, civil society, and private sector—and served as the founders or leaders of their organizations or policy programs. They included people such as Amorim and Soares da Silva, the two secretaries of education in Amazonas state who created Amazonas State Government's Media Center; Madhav Chavan, co-founder of Pratham; and Joan Ganz Cooney, founder of Sesame Workshop. As Hartmann and Linn outline, common features of these leaders are their persistence, networking, and coalition-building skills, and their ability to articulate a clear vision and motivate others.[112] They also invested significantly in leadership development within their respective organizations and systems. While some are born leaders, others are cultivated through their experiences and practices. This, for example, is the idea behind Teach For All's partners placing individuals in classrooms, so that through the experience of working in communities and collaborating with parents, schools, and students, they gain a deep understanding of the problems and the potential solutions and then go on to become education leaders inside and outside schools.

Political champions

In many of the cases reviewed, a government champion at a national or local level was found to be the linchpin behind experimentation and greater participation in policymaking. In the case of INJAZ, the entrepreneurial training program in secondary schools that has been integrated across all 12 directorates in Jordan, Her Majesty Queen Rania Al-Abdullah provided early support that was instrumental in providing INJAZ with credibility and access to a wider network. Additionally, government support, specifically INJAZ's partnership with Jordan's Ministry of Education, has been crucial for scaling the school program, given the ministry's role in institutionalizing and accrediting programs in schools. In 2011, the Ministry of Planning and International Cooperation became another key partner in helping INJAZ expand into Jordanian colleges and universities.

In Mexico, the secretary of education in the state of Puebla, Luis Maldonado, and Patricia Vázquez, who at the time was the director of technology in the Department of Education in Puebla, made an important difference in helping Teach For All's partner Enseña por México (EPM) get started. Prior to both leaders' involvement, the organization was struggling to take off and with their support, CEO Erik Ramirez-Ruiz was able to scale EP's work. Today, EPM works in nine states across the country.[113]

Cultivating champions often involves engaging government officials in the co-creation of an initiative, rather than bringing them a fully baked, evaluated model to roll out across the country. STIR Education, which is catalyzing a teacher-led movement to reclaim teaching and improve students' learning, found success in working with governments in Uganda and India to co-create the initiative rather than presenting an already developed model for adoption.

Political champions need not reside at the national or state level. Sometimes, it is more effective to focus on policymakers who are closest to the problem—officials who see the challenges firsthand, understand the necessary action to address the issue, and can be held accountable if actions are not taken. Over the course of its 20-year history, Pratham has cultivated government supporters at all levels with mixed results. It has found that while time-consuming, it is often easier to cultivate champions at the local level, as those closest to the problem are generally more likely to understand the nature of the problem and be supportive of the actions required.

The cases reviewed often benefited from continuity or stability in leadership. Media Center in Amazonas benefited from relatively stable and continuous political leadership. The current secretary of education, Rossieli Soares da Silva, assumed office in 2012, but he had been working with the previous secretary, Gedeão Amorim, for five years before that. Research by McKinsey and Company

If there is clear evidence of impact, people come to expect it and it becomes much more difficult to reverse.

identified leadership continuity as essential in not only catalyzing a reform but in sustaining it. It found that the median tenure of education leaders of improving systems is seven years. This is in stark contrast to the norm. For example, the average tenure for superintendents of urban school districts in the United States is three years; for education secretaries in England, it is two years; in France, it is two years.[114]

When continuity is lacking, the challenge becomes to sustain the reform beyond a champion's time in office. In the case of SAT, despite its success with cultivating local champions, Asociación Bayán finds it is an ongoing, time-consuming process to sustain this support, particularly in political systems that have high turnover of administrations and/or personnel. Pratham has also had the experience of programs unraveling when champions have left office, causing the associated government partnerships to disappear. The reforms that tend to survive are those that are firmly entrenched. Because citizens often feel strongly entitled to the reforms, it becomes politically impossible to retract them. This is another reason for strong community participation in change processes.

Beyond human relationships, organizations can take steps to help expand and sustain reforms. In its review of 17 large-scale health interventions, *Millions Saved* found that "mobilizing political leadership and champions takes a little luck and a lot of preparation."[115]

Drawing from our review of 14 education cases and the literature around the issue,

three approaches have demonstrated some degree of effectiveness. The first is to work across political party lines. One of the core tenets of Teach For All is that any country partner must be a non-state entity working in partnership with the public and private sectors. As a result, the partner organizations are less vulnerable to leadership changes. This has been the case with Teach First, which represents 20 percent of new teachers in disadvantaged schools across England and Wales,[116] after growing almost 25 percent per year during its first 11 years.[117] Part of this success is attributed to its deliberate approach to work across party lines. As a result, it was the only education initiative supported by all three political parties during the 2010 UK general election.[118] SAT has also insulated itself from changes in power and potential political patronage by retaining control of tutor hiring, placement, dismissal, and management.

A second approach is to build innovation or reform leaders and champions throughout the system so that continued support is not dependent on one champion. This was part of the motivation behind Fundación Escuela Nueva's founding. In the regions where Fundación Escuela Nueva has managed to bring partners together to integrally implement the model, educational outcomes have flourished.

The third approach relies on data to catalyze and sustain the political will needed for scaling. Often, evidence has been used to demonstrate the severity of the problem so that policymakers and

other leaders cannot be in denial. It has also played an important role in offering policymakers credible alternatives to show that the issue can be addressed. Pratham has been effective at providing decision-makers with a tested and proven menu of options for implementing its "teaching at the right level" approach.

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the experience with Schools of Tomorrow, a government initiative that focuses on reducing school dropout rates and improving learning in disadvantaged schools in Rio de Janeiro's favelas. While the effort was initiated under the former secretary of education in Rio de Janeiro, Claudia Costin, it has lasted into the term of her successor. Arguably, one of the factors behind this longevity is the program's strong evidence of impact.[119]

Champions within the classrooms

In addition to government support, teacher buy-in is critical for any large-scale intervention to succeed. Whether teachers directly deliver the program or support others to do so, experiences demonstrate that involving teachers as key agents of change is vital in scaling interventions. In the case of Lesson Study in Zambia, teachers were not merely taught a new teaching technique during an in-service workshop; they were also empowered to identify what was needed, collaboratively develop a lesson plan, and then practice delivering it and discussing the experience with peers.[120] This is also STIR's approach, where teachers are encouraged and supported to lead positive changes in their classrooms, through sharing and putting into action their own ideas for improvement through "micro-innovations."[121] They then are supported to build their own teacher networks and become "change agents" in pushing for broader systematic change within their schools and districts.

This does not mean, however, that teachers must be responsible for the delivery of any

new program, policy, or practice for it to be scaled successfully. In fact, case studies reveal that sometimes it was preferable that they were not responsible for it. But it was critical that teachers understood and were behind the reform. Educate! experimented with teachers delivering its co-curricular entrepreneurship, leadership, and workforce readiness program in secondary schools but encountered some resistance as teachers viewed it as an additional task that was not part of their job description or assessment. As previously discussed, Educate! found greater success (in terms of impact) by training mentors, who were graduates of the program, and young entrepreneurs to deliver the entrepreneurial curriculum and modeling new teaching methods that teachers could eventually integrate into the classroom. It also developed teacher associations to provide teachers with practical in-service training to develop the core interactive teaching skills and ultimately be better positioned to effectively adopt national education reforms. Similarly, Pratham works to ensure that head teachers and teachers are

supportive of its remedial program before bringing it to schools, even in instances in which trained volunteers, rather than teachers, deliver it.

Paying attention to those who stand to lose

As critical as it is to dedicate time to cultivating champions, it can be equally important to understand those who stand to lose as a result of an effective approach scaling. Literature finds that programs may have failed at scale because they did not pay sufficient attention to institutional incentives, vested interests, and how those who stand to lose out would react.[122] Some of the latter may not be apparent until after the pilot stage if the intervention is showing success at scaling.[123] This can quickly undermine any gains made. Daron Acemoglu, an economist at MIT, dubbed this the "seesaw effect"—making a change without redistributing power or the equilibrium of power usually leads to a counteracting force so strong that the change is unlikely to have significant impact.[124] This was experienced with the scaling of a contract teacher intervention in Kenya. While an NGO-led pilot in western Kenya found the hiring of contract teachers to be effective in raising students' tests scores, its impact

disappeared when the government implemented the intervention across the country.[125]

Getting consensus around a new and relatively unproven model is difficult, particularly if it requires reallocation of funding resources, adjustments in human resources, and other politically difficult activities such as curtailing some services and replacing them with others. Those who benefit from additional resources are likely to be excited by the prospect, while those who stand to lose through reallocation will predictably feel otherwise. It is important to think about what it takes to generate partnerships and overcome opposition where people stand to lose.[126]

Often, there is reluctance to redraw lines, close down programs, or replace existing resources. Jaideep Prabhu, a Cambridge professor who has written extensively about innovation, calls these kinds of changes a "willingness to cannibalize" and considers them a key characteristic of innovative systems.[127] Many cases we reviewed were strategic about launching an intervention where it would likely not threaten vested interests or upset power balances. Media Center, for example, did not start with its distance-learning program in the capital of Amazonas, but rather, in the middle of the jungle where it was not threatening to existing actors.

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7. Technological advances:
Context-appropriate technologies can accelerate education progress.

To date, the vast majority of developing country governments' engagement with technology in education at scale has been putting computers into classrooms. However, this was not the situation with the cases reviewed. Where technology was used, it was to overcome a context-specific barrier, such as poor infrastructure or a lack of materials or trained teachers. Media Center employed multi-point videoconference capabilities to overcome long distances (and few roads) between communities and secondary schools. Bridge International Academies addressed the shortage of trained teachers by recruiting high school graduates from local communities and supporting them through not only training but comprehensive teacher guides developed by expert subject matter teachers and delivered via tablets. While seasoned teachers would for obvious reasons feel constrained by scripted lessons, Bridge argues that the new teachers in their schools are reassured by the guidance and it is the best way to ensure all their students learn. At its inception, Worldreader aimed to address the lack of appropriate books and other reading materials in developing countries

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by digitizing a variety of textbooks, storybooks, and reference materials that could be accessed through e-readers and cellphones.

In some cases, as discussed earlier, technology brought cost saving and efficiency-generating processes, such as automating payment through cellphones and automating data collection and analysis systems. Bridge International Academies' teacher guides have been important in freeing up time for teachers to focus on teaching and individual engagement, rather than on lesson planning, attendance tracking, administrative paperwork, and other activities that detract from active engagement with students in the classroom. Similarly, by automating and centralizing all of the back-office work, managers can focus on monitoring and supporting teachers and students, rather than time-consuming administrative work.

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Educate! has identified mobile money as one of the biggest cost- and time-saving measures as it has scaled. The staff working across Uganda no longer have to travel back and forth to Kampala to receive their biweekly paycheck or money for their programs. That saves time, which frees them up to focus on their day-to-day work. It also saves money that would have gone for travel, gas, and lodging.

As technological advances occur, many of the cases reviewed underscored the central importance of human involvement in the process of integrating technology within their operations. In the case of Pratham, having people interact with, analyze, and interpret the data is important for learning from data. Pratham CEO Rukmini Banerji described the human interface as the glue between back-office technology and front-office visualization. Unfortunately, far too many interventions have fallen into the trap of choosing a technology first and then looking for an educational problem to solve with it, rather than the other way around. Teacher training, power supply, and systems for maintenance have not received equal attention. Many of the cases reviewed underscored how technology has to be appropriate for the context and the users, and that "high tech" was not always the best solution, especially in the contexts of low resources or low literacy. Sesame Workshop's projects, for example, use technology that run the gamut from high-tech (i.e., tablets and smartphones) to low-tech (i.e., print materials, radio, and radio over basic mobile phones). In addition to creating content that directly targets children, Sesame Workshop also develops resources to support caregivers using technology. In India, for example, it has used mobiles phones as a tool to remind teachers about the Galli Galli Sim Sim videos and activities they should use with their class each week; preloaded feature phones and pico projectors to bring content to classrooms in low-income communities; and interactive voice response systems to enable users to access radio episodes on their mobile phones.

One potential risk of leveraging technology for scaling is that it often targets and benefits those who already have access to the Internet and therefore may perpetuate inequalities that exist in access to technology. For example, in many countries, men tend to control the household phones. However, with deliberate, targeted action, technology can be leveraged to help overcome historical inequities. Worldreader found that, on average, women spent six times as much time reading on mobile phones as men. The organization is examining the reasons further, but hypotheses include that the mobility and privacy of digital reading—and perhaps technology in general—drive adolescent women and girls to read more.

While there is great potential in the ways technology can accelerate progress in learning at scale, the cases reviewed identified more modest, albeit important, ways that technology was contributing to scaling. This included so called front-office technology that interfaced with leaners and teachers, such as interactive videos in Media Center, e-readers and mobile apps with Worldreader, and television with Sesame Street. The cases also identified how technology provided critical back-office support that helped to improve operations, such as Bridge International Academies and Educate! generating cost savings by automating payments and more rapid learning through more real-time data collection and processing via tablets and mobile phones. All of this ultimately helped to increase transparency and accountability and to free up educators' and implementers' time. At the end of the day, the cases underscored that it was not about a specific piece of technology but rather about how technology enabled society to do something better.

8. Windows of opportunity:
Effective education approaches are more likely to take root and spread when they align with country priorities.

Scaling requires a certain aptitude for opportunism—not bound by rigid strategy, but flexible enough to take advantage of windows of opportunity. Programs that were successfully integrated into the national education system often identified opportunities for a win-win proposition. Case studies demonstrated how innovation more readily takes root and spreads when it responds directly to challenges facing the state and aligns with existing government priorities and policies. As Chris Dede, professor at Harvard's Graduate School of Education, and colleagues write, "If an innovation is designed to fit a larger reform agenda, that innovation will almost certainly be more sustainable and therefore scalable."[128]

SAT has benefited from, and in some cases strategically leveraged, key external moments to advance its mission. For example, in the 1990s, many Central American governments felt political pressure to provide secondary schooling in rural areas. In some cases, such as in Colombia, Nicaragua, and Honduras, the government was open to alternative models to help address the problem of teacher shortages in rural areas. SAT was ready to step in and provide its program. Today, Central American governments are motivated by the challenge of stemming the tide of rural to urban migration. At various strategic points from the 1970s to present day, SAT has been poised to leverage recognition by national governments that space exists for both traditional and alternative programs.

Scaling requires a certain aptitude for opportunism—not bound by rigid strategy, but flexible enough to take advantage of windows of opportunity.

Media Center, the state-led distance learning secondary school program in Amazonas, launched at an opportune time in Brazil, as the country was in the process of enacting a law guaranteeing universal secondary education. By 2016, states would be responsible for ensuring that all children have access to three years of secondary school—an enormous achievement for a middle-income country like Brazil, where more than 2 million children are not attending secondary school.[129] It is also an enormous task for under-resourced states such as Amazonas, where only six of the 62 municipalities are connected by road to the capital. For the thousands of young people living in small communities scattered along the Amazon jungle, it could take days or even weeks to travel to secondary school by boat. Ensuring that all children stay in school for all 12 years would have been difficult to achieve without innovative models such as Media Center.

Bridge International Academies had not originally planned to open in Nigeria in its first phase of international expansion, but it responded to a DfID request for bids to improve learning outcomes in the private market for education serving more than 1 million children in Lagos. Bridge now works in Lagos as part of a government-sanctioned program, the result of a multiyear relationship between DfID and the Lagos State Ministry of Education.

As Educate! expands into additional countries beyond Uganda, it has made the strategic decision to target countries with active skills-based reforms that align to its model. For example, Educate! decided to enter Rwanda in 2015, when the country was undertaking curriculum reforms to its secondary education, with a stated goal of a competency-based curriculum. Educate! had clearly identified gaps in both the Uganda and Rwanda school systems, where the skills being taught did not match the labor market demand. It had also pushed for reforms to teaching methods that moved from rote learning to practice-based education and from more theoretical to skills-based education. That positioned Educate! to provide the education ministries with an evaluated and effective solution to an urgent problem that the country needed to address, rather than trying to create a parallel structure.

Crises have also provided moments more amendable to adapting or reforming existing systems. Room to Read was one of the first organizations that the government of Nepal turned to for support after the devastating earthquakes in 2015. In this unprecedented situation that destroyed more than 700,000 homes and 47,000 classrooms around the country, the thought was that Room to Read could distribute storybooks to affected communities in ways that would create some joy and learning.

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Although this request fell outside of the regular programming, staff were very happy to use Room to Read's resources and distribution networks to support the recovery efforts. The organization mobilized the movement of 500,000 books to affected communities.

Through the global financial crisis, Aflatoun International found itself as one of the few organizations providing financial education in primary and secondary schools around the world through its network of NGO partners. It has been able to leverage the interest of national actors, including central banks, ministries of finance, and financial institutions, to support 28 education departments on integrating financial education into their education systems.

Governments can also serve as "pull" forces, conducting due diligence to find partners that meet their needs or that can carry out a reform agenda. In Liberia, following reforms in the civil service and Ministry of Health that enabled the government to better engage with citizens' needs and drive service delivery, President Ellen Johnson-Sirleaf sought improvements in the delivery of education.[130] This led to review of education interventions in Africa, formation of a public-private partnership technical committee, and ultimately, the Partnership Schools for Liberia program, where education service providers are contracted to operate public schools on behalf of the government, financed by government and free to children's families. Bridge International Academies was asked to host an inspection by the Liberian government, and after several months of engagement, agreed to become

a public school operator in Liberia—starting with a pilot of 50 schools. What made this possible for Liberia was that the cost basis of the delivery of service of the Bridge intervention at scale is comparable to the ministry's per capita spending for primary education. Consequently, Bridge can deliver its model and not reduce teacher salaries from public sector levels. A budget limited by a parent-funded model, having demonstrated learning impact at scale, is now serving government needs and is being integrated into the public sector.

This example demonstrates a government's willingness to experiment and allow different partners to participate in the delivery of education while retaining ultimate responsibility for achieving good quality outcomes. However, this is not to underestimate the challenges such a partnership needs to overcome in order to succeed. It is yet to be seen to what extent Bridge will need to deviate from its original model to adhere to government demands, and if in turn this will affect the quality or innovation of the schools it is operating. In addition, the pilot may uncover some evidence about the impact of Bridge's model for the poorest children who would be unable to access any school that required a fee to be paid by parents.

What the case studies underscore is that change depends to a great degree on the social and political atmosphere. The organizations that were most successful seized those moments where there were supportive, positive attitudes toward change. These cases successfully framed their intervention as an effective means of achieving the education priorities of the country.

9. Better data:

Data on learning and scaling play a central role by motivating informed action at the policy and practice levels.

The case studies and literature underscore the central importance of evidence in scaling efforts. Various forms of data—from experimental, scientifically designed evaluations, to qualitative data, to student testimonials—all play an important role in shaping policy and practice. Across the case studies, data play at least three important roles in the scaling process: motivating action to address the problem; shaping the design and implementation of the response; and sustaining the response.

Motivate action

In each of the case studies, data have been instrumental in cultivating key champions by arming decision-makers with the information needed to make difficult decisions about where to invest finite resources. As Adele Cassola, PhD student at Columbia University, and Jody Heymann, Dean of the Karin Fielding School of Public Health, describe, evidence-based decision making is about the best use of scientifically based knowledge in a realistic time frame with limited resources.[131] One of the best weapons against the status quo is actionable data. Worldreader's use of e-book sales data has been key in demonstrating the viability of digital publishing to African publishers, by proving the existence of a robust local market and a nascent international one. Vicky Colbert, co-author of the Escuela Nueva pedagogical model and founder of the nonprofit Fundación Escuela Nueva, claims that a strong research and evidence base was a major reason Escuela Nueva was successful in affecting national policy in Colombia and scaling to other countries.[132]

Case studies also revealed that various forms of evidence have been effective in influencing policymakers to scale certain interventions. Impact evaluations certainly can play a role in building a knowledge base of "what is working here," but experience shows that the spread and integration of interventions may require firsthand knowledge of change in a community, which can be particularly important for policymakers. This is supported by Rogers' seminal work, in which he writes, "Most individuals evaluate an innovation, not on the basis of scientific research by experts, but through the subjective evaluations of near-peers who have adopted the innovation."[133] A pattern across the case studies was that once key decision-makers saw an intervention's results firsthand, the program or policy was expanded. There was typically a pivotal moment when information—often

in the form of rigorous evaluations—was translated into an emotional imperative to act. Educate! found that some of its earliest champions knew students who had gone through the program and were impressed with its impact. Policymakers identified that this secondhand evidence, which was then backed up by more rigorous quantitative data, contributed to the incorporation of Educate!'s curriculum into Uganda's national education system.

Asociación Bayán's leadership, the organization behind SAT in Honduras, was savvy and brought along local politicians and donors to visit schools (known as centers) since the program's inception. It invited the DfID to participate in an early evaluation so that DfID could see the impact firsthand. Similarly, Asociación Bayán spent considerable time inviting local politicians to personally see the changes in students. Once local policymakers were onboard, Asociación Bayán worked tirelessly to turn political support into binding legal frameworks and agreements.

While even the most rigorous and accessible data will not necessarily be acted on, they certainly can play an important role in changing behavior. Experience shows that the first step in motivating action is often to show the severity and urgency of the problem, demonstrate that change is possible, and ensure that capacity exists to take action. This is the premise behind Lesson Study in approaching teachers as key change agents. Teachers work collaboratively to identify challenges in their classroom, develop lesson plans to address the challenges, and practice delivering the lesson with other teachers observing and offering constructive feedback.

It is also part of the premise of a movement to understand how well children are learning to read in their first years of primary school. RTI International, with support from USAID, developed the Early Grade Reading Assessment (EGRA) in 2006, motivated by the concern that limited reading skills in the first years of school were holding many children back from successfully proceeding through school. Because RTI made the EGRA tool open source and freely available, its use spread rapidly across the developing world, and today, the tool has been adapted and used by governments, schools, civil society organizations, and the private sector in over 40 countries. Data from the wide range of contexts in which EGRA has been used, which showed the surprisingly low levels of reading proficiency within many countries, provided a wake-up call to many education actors, from teachers to ministers to global policy leaders.

The case studies and literature, particularly in behavioral economics and psychology, show the importance of quick wins to demonstrate that change is possible. This is also the theory behind Rapid Results, an approach that focuses on mobilizing communities to overcome specific challenges through leveraging their own assets. The idea is based on the premise that what is lacking in development is not specific information, money, or technology but the motivation and confidence to use available resources. Rapid Results Institute widely implements this approach with great success across developing countries, including with corporations in Ethiopia to increase HIV testing of employees, in Nicaragua to improve dairy farm's milk quality, and in Rwanda to double the number of attended births—each one in less than 100 days.[134]

Shape design and delivery

A common feature of interventions that have successfully scaled is that they rarely follow a linear path of research to action.[135] Rather, they undergo a more circular process of experimentation, learning, and course corrections. This requires ongoing testing, evaluation, and revision of models—beyond proving the initial efficacy of a model as it continues to expand. Historically, there has been much greater attention to and support of the proof of the concept phase, with too few resources and attention to scaling plans after the initial intervention is proved.[136] As a result, it should not come as a surprise that many pilots do not survive beyond their beginning phase.[137]

From Sesame Workshop's start, research played a prominent role in its content creation model. Programming is a continuous process that begins with the assessment of need and includes ongoing formative research and, where possible, summative evaluations of the program's impact. All of this, in turn, feeds back into thinking about the needs for the next season of programming. Every season of Sesame Street is an experiment. The integration of research into the production process and the spirit of experimenting have resulted in programs that are examined critically, where teams test new ideas and make important course corrections as necessary. As founder Joan Ganz Cooney has said, "Without research, there would be no Sesame."[138]

A key driver behind Pratham's success resides in its emphasis on experimentation and learning. This includes an openness and honesty about where things are not working. Pratham has used this evidence-based approach for making critical decisions. In this way, it has managed to multiply impact in the face of competing needs and scarce resources. Over the past 20 years, Pratham has combined lessons from rigorous evidence with field-level experience to formulate and inform strategies and programs. To track the progress of more than a million children a year, Pratham uses simple tools and methods to measure and monitor learning gains made by each group in learning camps through the year. These data are uploaded on a portal from the field and are available for all team members to view at any time. According to Banerji, "The biggest need for data in our system is for us."[139] This learning has been incorporated into a suite of evidence-based options for implementing Read India that is offered to state governments to adopt, as has been taken up to various degrees with the states of Bihar, Maharashtra, and Uttar Pradesh.

Bridge International Academies is somewhat of a unique case in its ability to continuously strengthen its programs. It collects and mines an enormous amount of data in real time through the use of

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its teacher tablets in schools. Bridge is then able to very quickly, efficiently, and effectively roll out any changes across its more than 450 schools, as it controls the entire supply chain—from school construction to curriculum design to teacher training. Room to Read, meanwhile, uses data to evolve and improve its programs, as it considers transparency central to its success. When findings showed that the national curriculum in Vietnam was already achieving strong outcomes in foundational reading skills among students, Room to Read decided to focus its Literacy Program resources on growing its network of learning environments and publishing quality reading materials. It was therefore able to save financial and human resources in this area and divert them into other more pressing work in Vietnam and elsewhere in the Room to Read network.

Sustain scale

The role of data extends beyond persuading decision-makers to invest scarce resources into scaling an initiative—data can also have an impact on an initiative's sustainability. Once data demonstrate improvements, it is difficult to reverse progress. In their seminal scaling work, Hartmann and Linn argue that well-designed evaluations can build political support even if political parties change.[140]

Educate! invests considerably in building tools that go beyond tracking participation to measuring impact. It dedicates 12 to 13 percent of its budget toward monitoring and evaluation. This includes tracking 20 performance indicators on a weekly and trimesterly basis through SMS messaging and smartphones. Educate! built its own tool to measure leadership, creativity, self-efficacy, and savings behavior, since it could not find any existing tools to measure these "soft" skills appropriate for the sub-Saharan African context. This instrument is called the Secondary Skills Assessment Tool and is open source for other organizations to use. It is continuously refined based on adjustments made to the program. Data are collected in real time, allowing Educate! to monitor performance and make any necessary changes across all schools. This rapid program monitoring helps to maintain quality control, as Educate! continues to expand.

As the former secretary of education in Rio de Janeiro, Costin explained, while discussing Schools of Tomorrow, "In Latin America, there are lots of laws that are written but that do not happen, things that cannot be enforced. Through my experience as a public policy specialist, I see the best way to ensure continuity of any program is to really bring results, as then it becomes something desirable."[141]

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