THE BROOKINGS INSTITUTION

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GETTING MILLIONS TO LEARN:
WHAT WILL IT TAKE TO ACCELERATE PROGRESS ON
MEETING THE SUSTAINABLE DEVELOPMENT GOALS?

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Scaling Quality Education: The Launch of the Millions Learning Report:

Welcoming Remarks:

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Presentation:

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Do Funders Help or Hinder Scaling in Education?

Moderator:

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Panel:

VINEET BEWTRA
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What Role Can Technology Play in Scaling Education?:

Moderator:

PHILIPP SCHMIDT
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Panel:

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P R O C E E D I N G S

(Video played)

MS. ROBINSON (on video): For decades, education systems around the world have been focusing on getting more children into school. The big question now, "Is this working?" If we take into account the number of children in school, it appears to be working.

In the 1950s, only 5 out of ten children of primary school age were in primary school. Today, that number is closer to 9 out of ten.

But is access to school translating to learning? As you can see, almost 38 percent of children around the world lack basic reading and math skills. When we look at current estimates, 250 million children lack these basic fundamental skills, and this includes 130 million children who have spent four years or more in primary school.

For example, in Mali, less than 20 percent of grade two students could read a single word in their language of instruction in 2009. In Kenya, Tanzania, and Uganda, two-thirds of grade three students were not at or above a second grade level of literacy and numeracy in 2012. In Morocco, approximately 55 percent of students reached grade four but didn't learn basic literacy and numeracy in 2013. In India, less than half of rural grade five students could read a second grade text in 2014. In Nicaragua, only 37 percent of primary school-age children learned basic mathematics in 2013. In Peru, only 20 percent of 15-year-olds were able to identify one piece of information in a text in 2009.

With these challenges, how do we ensure that millions more children have access to the quality learning opportunities that lead to lasting improvements in their lives? This is the focus of Millions Learning. Our central question is where and how quality learning opportunities have scaled for children and young people in low and middle income countries around the world.

Click here to learn more.

(Video ends; applause)

MS. WINTHROP: Good morning, everybody. Lovely to see you, Jenny, up on the video. We're going to see her live, real life, Jenny Perlman Robinson in a moment.

I'm Rebecca Winthrop. I'm the director of the Center for Universal Education here at

Brookings. Thank you all for coming out. I see there's lots of people standing at the back. This is an oversubscribed event, so there is some overflow seats in exactly the next row over where you can watch by video if you get tired of standing. Otherwise, we welcome you to join us.

We're very happy to have you all here. This is the day in which we are launching our Millions Learning report. It's being webcast, and welcome to all of those folks who are joining us by webcast from all over the world. If people want to follow on Twitter, it's #millionslearning.

The order of the day is three panels, with lunch break following this panel. Lunch will be directly out. It's time for networking, catching up, seeing old friends, and then two panels after lunch followed with a coffee break in between and a reception. Basically, talk, eat, talk, eat, talk, eat. And drink at the end. (Laughter) That's the sort of plan of action.

I wanted to just do two more things before we get going. I wanted to say a huge thank you to all of the people, a number of you are in the room, who have worked with us over the last two years on this Millions Learning project, and to really get this Millions Learning report out. Incredible case study partners around the world. Incredible advisory panel members who have made wonderful contributions. Wonderful donors who have supported the project, some of whom will be on panels. And I also need to say that if for any reason you don't like the report or what we're saying, don't blame any of those people. It's all our fault. It's our research. Brookings is uber-independent. So you can, if you have a problem, come to us, blame us, send us your critiques. We welcome them.

So what we're going to do for this first session is we will hear a presentation from Jenny Perlman Robinson, who has been leading this initiative within Brookings. And she will come up and walk you through some of the main findings of the Millions Learning report and research, and then we will welcome to the stage Julia Gillard, who is a distinguished fellow here at Brookings. She also has various other hats, such as the former prime minister of Australia and the board chair of the Global Partnership for Education. We're very honored and happy to have you, Julia. And she will be joined for a panel discussion with Madhav Chavan, who we're also very thankful for your trip from India, Madhav, and your input throughout this process. He is the cofounder and executive member of the Board of Pratham. Very warm welcome to you Esvah, who will also join the panel, who is the assistant director in the Directorate of Teacher Education and Specialized Services of the Ministry of General Education in Zambia. Thank

you for making the trip, Esvah.

And just on a sort of slightly personal note, we are very, very pleased to have Esvah with us in general, but also because we have been partnering very closely with the Ministry of Education for Zambia on a number of projects, and just last week the permanent secretary died suddenly and we were very sorry to hear that, and thank you for still making the trip and being with us. And I'm sure that will be what he would have wanted.

And finally, very happy to have Wendy Kopp joining us, who is the CEO and cofounder of Teach for All. Also very instrumental in one of the cases in helping work with us, so thank you, Wendy, for making time.

So with that, over to you, Jenny.

MS. ROBINSON: Hi. Good morning, everyone. Thanks, Rebecca.

So I showed that video last week to my four- and six-year-old boys, and partly to kind of explain to them why mom hasn't been around so much the past few weeks. And it was interesting, their reaction. My six-year-old son looked at me and he paused and he said, "You know, Mom, that's really unfair." And I said, "You know, you're right, Case, yeah, it's really unfair." And he said, "Well, when you go to D.C. next week, that's going to change; right? I mean, you're going to share this report and that's going to change." And I said, "Well, you know, again, Case, I wish it was that simple. I mean, the good news is they are really good, you know, smart, committed people who are working really hard on this day and night." And he said, "Well, when will it change?" I mean, this is my child. He likes a schedule. He likes to know the plan. And I said, um, you know, thinking 15 years SDGs, we're going to make it. I said, "Probably by the time you finish high school." And he paused and he said, "You know, I really hope I finish high school soon."

And I thought, you know what? At six-years-old, he immediately go the injustice of a world that allows us to determine in many ways the life outcomes of a child based on the location where they are born. He got the urgency of it, that we just can't be complacent and wait but that we urgently need to accelerate progress. And I think, in part, this is what Millions Learning is about. It's partly that, but I'd like to say that it's also about possibility. I mean, we're joined here by these amazing partners and many, many others around the world who are doing extraordinary work and showing that large-scale

progress and learning outcomes is possible, and it's possible in some of the most difficult to reach communities.

I could spend my entire time up here thanking everybody that's been involved in this project and report. I won't do that, but I would just very briefly like to thank, as Rebecca said, our International Advisory Panel, co-chaired by Julia and Homi Kharas here at Brookings. Thank you all for your ongoing support and guidance over the past two years.

I'd like to thank our case study partners as well. There would certainly be no Millions Learning report if it wasn't for you. You are incredibly generous, and frankly, I think courageous, to allow us to really learn from your scaling process and share that with others. Many of our case study partners have flown in from far and wide and are here today, so I really hope that you all have a chance to interact with them because they are truly the experts here.

I would also like to thank, of course, my coauthors, Rebecca and Eileen McGivney. I'm looking for Eileen. Thanks so much. My wonderful CUE colleagues and many consultants and interns have been involved, and in particular, I have to mention Priyanka Varma. I think it's fair to say there's probably not a single person in this room who hasn't received an email from Priyanka over the past nine months, a very organized email, and she's just been invaluably instrumental in this whole endeavor. I also thank the generosity of our donors. And finally, our partners that were involved in the final days of finishing the report, the perhaps painful final days of finishing the report. Our editor, Marcia Kramer and the designer, Blossom, who was flown in from Milan to join us today.

So now that we're through with the many thanks, and I could go on and on, as Rebecca said, I'll just quickly walk us through, give a brief overview, and then walk us through some of the key findings and recommendations.

So when we started this project more than two years ago, we were optimistic, but we weren't certain that education was going to be part of the next global agenda. And today, education figures prominently. One hundred ninety three countries have committed not only that every last child should be in school, but they should learn something of value while they're there. It focuses on the critical years of primary school, as well as the historically neglected book ends of early childhood development and post-primary.

So with this new agenda, we face both an urgent and opportune moment. While the scaling of schooling over the past 150 years has, I think, been one of our most successful going-to-scale stories to date, we know, unfortunately, that the scaling of schooling hasn't necessarily translated to the scaling of learning. Approximately, almost 4 out of 10 children of primary school are aren't learning basic reading and math, and what's most criminal is that many of these children have spent at least four years in school.

Given the extent of the learning crisis, the challenge today is how do we achieve this ambitious goal of inclusive and quality education and lifelong learning? Well, we know that "business as usual" is not going to get us there. At current rates, it will take us decades until all young people finish secondary school. In order to reach one of the SDG targets of 100 percent secondary completion by 2030, progress will need to be three times faster than our current rates.

The good news is -- there is good news -- the good news is that there is growing evidence of effective strategies that improve both access and learning. The question now is how do we scale up those strategies and how to ensure that we are doing so, particularly for the most marginalized? This is the focus of Millions Learning.

We have been looking at where effective approaches that have improved learning have scaled in low- and middle-income countries, and what have been some of the drivers and factors behind that process of going to scale. With the overall intention to share that information and insight with all of you in the room and on the web, policymakers, donors, practitioners, academics, to help to contribute to and hopefully accelerate the process of more children learning.

We focus in the report on the process of scaling, and here we define scaling quite broadly. We mean the range of pathways. On the one end, more deliberate replication, and on the other end, a more organic process of diffusion and spread. But the pathways that ultimately lead to both expanding and deepening these approaches that lead to lasting improvements in people's lives.

Our report draws from existing literature on scaling and development, as well as other disciplines. We looked at business. We looked at technology. We looked at behavioral science. We also held a number of consultations and meetings with many of you in this room, as well as we conducted an in-depth review of 14 case studies from around the world. These case studies were a range of both

programs and policies that span from early childhood development to secondary school. They were

initiated by both state and non-state actors in low- and middle-income countries, and they were programs

and policies that demonstrated a measurable improvement in learning. And here we defined learning

quite broadly, as well as that there was a significant number of young people and children that had been

reached.

These case studies included, for example, because I know it's difficult to see all of this,

but these case studies included, for example, Sesame Workshop, the largest informal educator of young

children today that is currently present in 150 countries, and it's been around for more than 40 years.

Brock, the largest private, secular school system in the world today, that's responsible for five percent of

all primary school enrollments in Bangladesh. And Media Center, a distance learning secondary

education program that was initiated by the secretary of education in the Amazonas state of Brazil and is

now being adopted to seven other states.

What we found when we looked at these cases was that for the most part they emerged

on the margins. And by the margins, we mean it could take a number of different forms. In some cases it

was a central government that gave the autonomy to a local official to experiment and try with a new way

of educating its children. In other cases, it was a community-based organization that was also trying and

experimenting with new ways of reaching marginalized children. But it was a story about how these

programs and policies that in many ways initiated on the margins of a larger system were able to be taken

up and spread across the system, eventually affecting and changing policies and programs.

I should say that our interest in these case studies wasn't about how one organization or

one agency was able to expand and scale, but it was really to better understand what were the factors

that contributed to, or in some cases stood in the way of that process, and what were the enabling

conditions in the environment that we should be scaling?

When we started this, we weren't sure at the end of the day if we were going to have a

really nice book of very interesting case studies or if there would be some common patterns and themes

that would cut across them. And what we found is while there is certainly no recipe or blueprint to

scaling, that we did find there were 14 core ingredients that were shared across these cases. We

organized these 14 core ingredients around four main areas -- designing, delivering, financing, and

creating the enabling environment for scaling.

So I'm just going to very briefly, as briefly as possible, try to walk us through these 14 core ingredients.

The first is clustered around the idea of designing for scale. That improving learning for scale starts with committed leaders who plan for scale from the outset. This is certainly reinforced in the literature and also what was witnessed in many of the cases. But what does this exactly mean? Well, here we have four core ingredients in particular. The first is around designing interventions based on local demand. Ensuring that participation of community from the start, as well as building local accountability. It seems very obvious, ensuring local participation, but there are countless examples from around the world where very well intentioned, well thought out programs or policies didn't take this into account and weren't taken up. They either didn't base it on any demand that was in the community or it wasn't designed in a locally relevant way.

The second core ingredient is that cost structure should be affordable at scale. They should be affordable no matter who is taking it up -- governments, parents. It's critical. And we find that too often we have programs and policies that are designed, that are sort of the programs are these sort of gold-plated bells and whistles programs that are designed solely for effectiveness and not for the efficiencies that are required for scale. It's not enough to just know, what is the impact of an intervention? We must also know, what is the cost of achieving that impact? We need this information in order to help policymakers make informed decisions about where to invest finite resources. And yet, there is a scarcity of costing data among many of the education projects that we looked at.

The third core ingredient is what we call flexible adaptation. What we found with these case studies, more or less across the board, is they tend to occupy the sort of sweet spot between a more wholesale replication. It looks the same. It's rolled out across countries, around regions, versus a very costly process of customization -- it must be completely tailored 100 percent in each location. And it was really achieving this balance of identifying what were the core components that were essential and that should look the same everywhere, and what were the other aspects that were much more flexible, and not only could be adapted but really needed to be adapted to local context?

I think Sesame Street is a great example of this, where it's 39 local co-productions share

a universal style. They all have this very cute, sweet, loveable, fuzzy Muppet. They share a target age group of children three to five, and they share a whole child-centered approach. But then they leave it up to the local production teams, in combination with a number of partners in those countries, to determine the programming based on the children's needs in that country and the national education goals.

The fourth core ingredient is around elevating and supporting teachers. Certainly, the research shows, and these case studies also underscored, that teachers are central in determining whether and what children are learning. And at the same time in so many countries around the world, teachers are overburdened. They're asked to do a range of tasks not all of which relate to their direct and structural activities. And they're doing this under incredibly difficult circumstances. And so the cases very creatively found ways to both elevate the role of teachers, as well as to better support them to do their work.

They did this in a number of ways. One is through leveraging community expertise. For example, INJAZ, a Jordanian NGO, partners with the private sector, and together trains their employees to volunteer to teach entrepreneurial training classes within the formal secondary school schedule in Jordan. The other way was through leveraging technology. That tasks were split between what were those activities that require the more human interaction and the more face-to-face time with the students, and what were those activities that were non-instructional in nature and could be better supported by technology.

And the third way was around diversifying pathways to teach. That given the variety of roles that teachers played in this case study, it wasn't a surprise that there were oftentimes different pathways and approaches for them to becoming teachers.

The second area we looked at is around delivering. Even if you design for scale, we know that's only half the battle; that improving learning at scale requires attention to the operational realities of implementing at large scale, and that these are a combination of both technical and political strategies.

The first core ingredient here is what we refer to as education alliances. Certainly, I'm sure everyone in this room can attest to the fact that partnerships are not always easy, but for these case studies, across the board they were fundamental in bringing the range of skills and resources together. In

the cases we looked at, governments were leading the way, while at the same time reaching out to civil society, to academia, to the private sector, to communities, to contribute their key expertise. We found the most successful partnerships shared a clear goal, were focused on accountability to the learners, and that they had their incentives aligned so that the time, skills, and efforts were all channeled in a way to produce shared outcomes.

World Reader, an NGO that's digitizing linguistic and culturally appropriate books on low cost e-readers and mobile phones -- it's currently reaching 5.6 million users, although I imagine since our research that number has already increased -- in 69 countries around the world, is an example of this, where it focuses on aligning interests, where it focuses on partners, where there's a shared interest of creating an ecosystem of reading. Partners such as government officials, teachers, local publishers who are interested in expanding their market, cell phone carriers who are interested in increasing their customer usage on their cell phones, all to align towards this very clear shared objective of getting more appropriate materials into the hands of children.

The second core ingredient is we know that scaling takes learning champions and learners, both within and outside of government and within and outside the classroom. Visionary leaders to create and lead initiatives. I'm looking at Wendy and at Madhav. It takes leaders in government with the political capital and will to scale and sustain leaders like Esvah, who we'll hear from next. And then it also takes local leaders. It takes the parents, the teachers, the community members, people who are less well known but whose everyday efforts are contributing to more children learning. And part of cultivating these leaders we found also means paying attention to those who stand to lose when that initiatives successfully scales. I think too often we see initiatives fail because they didn't take into account what were the institutional incentives or the vested interests in maintaining the status quo? When we looked at the media center program that was initiated by the secretary of state in Amazonas, one had to wonder, would that have taken off as successfully had it not started off in the jungle region but instead in the capital?

The fourth core ingredient is that scaling, frankly, requires being quite opportunistic. That innovations are much more likely to scale when they respond directly to a problem facing the state and align with the government's policies and programs that is not about creating a parallel structure.

Educate! is an example where the NGO is providing leadership and entrepreneurial training in secondary schools in sub-Saharan Africa. They've targeted countries in particular, like Uganda and Rwanda, where those countries have been undergoing a skills-based curriculum reform, and Educate! was in position to hand a tested and evaluated model that could then be adapted to those local contexts and could respond to an urgent need facing those countries. In this case, a mismatch between labor supply and demand.

Data was central across the board. We could have put it in design. We could have put it in finance. We could have put it anywhere. We chose to put it in deliver. But it was central across the cases to motivate, to inform, and to sustain action, both at the programmatic level and a policy level. Data was used to sound the alarm bell and show the urgency of a problem to decision-makers. It was also used to demonstrate that change is possible; to demonstrate that actually things can change and this is how. It was used to inform the design and delivery of initiatives, recognizing that scaling is, quoting Johannes Linn, one of our scholars here, "the circular integrative process," and that data was used to continuously drive improvements.

Pratham, the largest education NGO in India, found a key to its success of scaling its remedial education program, Read India, was this emphasis on both experimentation and on learning. Pratham combined field level expertise with rigorous evidence they had collected in partnership with JPAL to inform its strategies, both internally how it was delivering its programs, as well as offering a menu of options to state governments.

The third area we looked at is financing. Scaling certainly takes resources, but we found that often it's as much about how those resources are allocated in structure as the absolute amounts. If we're talking about scaling education, certainly domestic resources, domestic funding is clearly needed, but external support also played a critical role. Support in terms of financial, technical, in-kind, and particularly in the early days. This includes the flexibility of funding, stability and flexibility needed to ensure that scaling cannot only take off but that it can sustain. Part of this we found includes investments in what might be referred to as overhead. Some of the core infrastructure and systems that an agency and institution and organization needs as it's scaling. It's not to suggest that an agency or organization should just continue to grow proportionately with its impact, but a recognition that there are certain

systems that need to be in place as it grows in order to be able to monitor and evaluate, to attract the right talent, to digitize the systems that are needed for the efficiencies that are required.

It also required long-term financing. Stable and predictable financing, and oftentimes, looking across both the literature and the cases, this type of financing was for a decade or more. Lesson Study, which is a Japanese-originated peer-to-peer teacher training approach that's been scaled across 50 countries, and we looked at it specifically in Zambia, it didn't scale overnight across all 10 provinces of Zambia, but the government really took a very deliberate step-by-step approach to scale it over these 10 years, so along the way it could learn and refine it as it went. And during that time, the Japan International Cooperation Agency, JICA, remained a consistent partner throughout those 10 years.

And the last core ingredient in financing was middle-phase financing. We found that financing to bridge the sort of pilot prototype stage and the large-scale implementation phase was really required; that this area sometimes referred to as a "valley of death," where really good inventions -- interventions, rather, go and end up and die. And the reason is because there's not enough funding and focus and clarity on who is funding at which stage of the scaling and innovation cycle. That it calls for greater clarity, coordination, and segmentation of education financing.

The fourth area that we looked at was around the enabling environment. Certainly, none of this happens in a vacuum. The environment in which scaling occurs directly impacts the likelihood of facilitating or repeating the process. And here we looked at two core ingredients. The first is around a supportive policy environment, which was key for these good ideas to really take root and flourish. It was environments where the government had the primary duty to ensure the right to education for all, but then they also provide a platform in space for a multiplicity of actors to bring their talent and resources and expertise to the table.

An example is an alternative secondary education program educating rural youth in five Latin American countries known by the acronym SAT. In the case in particular in Honduras, the Honduran Government pays for the teachers', or they're known in SAT as tutors' salaries, but then allows the NGO to have the flexibility and autonomy to directly manage and implement the program.

The second core ingredient is about creating a culture of R&D in education at all levels. This requires greater investments in basic and applied research, more appetite for risk taking, and more

honesty about failures and course corrections that are needed, as well as feeding data back into the system.

That was a lot. So what does this all mean? While we certainly don't know what the future will hold, we do know that it will require lifelong learners, learners who are agile and adept and can pick up and learn new knowledge and skills at the same time while filtering and analyzing a dizzy array of information. To foster this we need inclusive and adaptive education ecosystems. Inclusive in that they reach all children and that they involve all actors engaged in the teaching and learning process. Adaptive in that there is space to innovate and learn and evolve.

We offer five key recommendations to move to this new norm of inclusive and adaptive education systems to help scale effective approaches. The first is around developing a culture of R&D in education. A culture where ideas are exchanged openly, where new approaches are tried and evaluated, and where failures, again, are honestly shared. This can include, for example, leaders in governments who are adapting rules and policies to try new things, in the case of the secretary of education in Amazonas and Brazil. It can include governments being willing to try and fund new approaches, in the case of SAT in Honduras. More specifically, we call for building a cohort of learning leaders. Initiatives that should be housed in country to develop a cohort of leaders that cut across all sectors and levels, from senior officials to principals, to program officers that have these competencies that we're talking about of experimentation, of learning, of adaptation to embrace this approach.

The second recommendation we have is to share new ideas through what we're calling idea hubs. We found with Millions Learning, there is no shortage of good ideas in innovation and education, but we need a more nimble mechanism, in particular to help governments in partnership with civil society and the private sector with identifying those good initiatives, with evaluating the evidence behind them, with adapting them as needed, and ultimately, with identifying those practices that are improving learning and governments believe are ripe for scaling with their involvement. We think that these idea hubs that would be housed within countries should be linked through a global network so that these lessons could be shared across countries and regions.

The third recommendation is about activating talent and expertise outside of the classroom, and here we recommend launching an all-in community initiative to leverage the talent and the

interests and the desire that exists in communities, with parents, with civil society, with the private sector, and to support teachers so that they have more time to interact directly with students and help reduce some of their non-instructional burdens. At the same time, we suggest bringing together the tech community to continue to find both practical and sustainable ways that technology can continue to support teachers.

The fourth recommendation is around funding this middle phase I spoke to, and again, the need for greater clarity of who funds at which stage of the scaling and innovation cycle, and that this would include greater flexible support for some of those costs that are essential for supporting a scaling of impact.

And the fifth and final recommendation is both to measure and learn what works through both better learning and scaling data. That if we're going to make this shift from scaling schooling to scaling learning, we need systematic data on what it is that children are learning. We need that data at the individual, the classroom, the school, the national level. And so governments and donors who we're suggesting, should strengthen national assessment systems, systems that are systematic, that are transparent, and that they are ideally housed in country.

We also suggest that folks continue to work around ways how to evaluate and measure these 21st century skills. So looking beyond literacy and numeracy is critical to how we assess collaborative thinking, creativity, problem solving, such skills.

And we also need more data on scaling. While we certainly hope that Millions Learning will be a contribution, there is much more information we need on both the process and implementation factors that are contributing to the final outcomes at scale. As part of this at the Center for Universal Education, we plan to launch a real-time scaling lab that will be comprised of a number of actors who are involved in the process of scaling so that they can learn from one another and that we can document and share this process as it unfolds.

Ultimately, we hope that millions learning will contribute to an ongoing discussion based on this new evidence and insight on how best to ensure that millions more children are learning the valuable skills and knowledge that they need today and into the future. Thank you.

(Applause.)

MS. GILLARD: Thank you so much to Jenny for that wonderful presentation. I know she worked hard on it, including very early this morning I think with some anxiety. But that's been a fantastic presentation of the content of what's in Millions Learning. So Jenny, thank you so much.

Now we get to, with the panel and with Jenny, work through some of the things that Jenny has spoken about, and I'm very excited to have this opportunity. We will have the panel discussion, and before the session ends, we will turn it over to you and look to take your questions and hopefully get some energy in the room and some ideas flowing.

I've been with Homi in the very special position of chairing the advisory group for Millions Learning, so I've had an insight into the work that Jenny and Rebecca and Eileen and the fantastic team here were doing over some time. I was in San Francisco in January for a purpose not connected with Millions Learning, but I did take the opportunity when I was there to meet with a person who has made a lot of money in the technology world, and I talked with him about his work. And because he knew I was involved in Education Global Partnership here at Brookings, he told me about the work that his wife does. She leads a philanthropic effort for school education in Africa. And as we were having this conversation he said to me, "What she does is so much harder than what I do." And I sort of wanted to drill into that to see if he was just being polite, and I said, "Well, what makes you say that about what your wife does?" And he stopped and he paused, this man who qualified as an engineer, has made a lot of money in social media, and he said after a moment of reflection, "I find it impossible to imagine being in a world where you can't just quickly go to scale." And when you come from that, you know, you invent Facebook or Twitter or whatever it is, a new app, and of course, the path to scale is clearly there. One person uses it today, 10 tomorrow. There's no reason it can't be a million next week and a billion the week after. He can't imagine a world where it's hard to go to scale. That's the world we're in. And the genius of this report is it's helping us think through what it is that we need to do and to understand to take initiatives to scale.

And I think another great thing from this report, it's doing what Brookings does best, not only pushing out the frontiers of knowledge, but shaking up some old assumptions. And amongst the old assumptions shaken up by this report, a lot of people would have intuitively said innovation, new ideas happen in the nongovernment sector. Governments aren't innovators, whereas the case studies in this

report show government, too, can be in the innovation and change business. And I think people would have said, "Look, taking to scale is really a question about a nongovernment organization of some description getting bigger, whereas, this report is charting out for us the journey to scale, the journey to having a very measuring and large impact by something that can happen on the quite chaotic margins but then become systematized and adopted by government at very large scale. And so there are some very different pathways to scale in Millions Learning than perhaps we might have automatically envisaged on the day that everybody started talking about this work and this report on scaling.

So a lot to talk about and I'm going to open the conversation up with our panelists. One of the things that my eyes were drawn to during Jenny's presentation and every time I've looked at the Millions Learning report is in delivery what she has identified as the need for learning champions and leaders; that we can't do this, that it doesn't happen without leadership. And joined as I am by educational leaders, I wanted to start there and to try to unpack this question of leadership and what it means for there to be leadership that enables going to scale.

And so Wendy, I wanted to start with you given what Teach for America has done and then Teach for All is absolutely in this realm of leadership, of elevating teachers. What are your observations on local leadership, how we can support it, and how we, too, can take it to scale if our aim is to see more innovations actually upscale and impact whole systems in many children's lives?

MS. KOPP: Yes. Well, this is our kind of obsession across the Teach for All network. And I guess it's come from our belief that -- and I think the reason that we can't just change things overnight for kids is that the problem is so complex that we're addressing and, you know, we believe this problem, if we're going to say the educational inequity, and really even more broadly than that, just the opportunity gap, the fact that whole segments of kids in countries all over the world just simply, like the circumstances of their birth predict their educational outcomes, and in turn, life outcomes, is a product of the fact that, you know, it's not just one thing that's leading to that. It's not just that we don't have highly qualified teachers in every classroom. It's the fact that whole segments of kids are facing a whole lot of extra challenges before they even show up at school. Just the product of poverty, discrimination, et cetera. And then if we're lucky enough for them to show up at schools, they're showing up at schools that were never set up to meet their extra needs. And we've got this set of mindsets and policies and

practices that fuel the whole thing. So all to say this is very complex, and fixing any one piece of that doesn't solve the problem.

So the question that keeps us all up at night is just the question of who is going to do all of this in a world where we routinely channel our most educated, most promising future leaders' energy everywhere but into that arena. So we're working to change that. To say let's take a very intentional approach to aggressively recruiting not just a few but many of any given country's most promising future leaders. Let's invest in their development. Let's get them into classrooms where they have the potential to be one more source of teachers who will go above and beyond traditional expectations to meet the extra needs their kids have, make up for the weaknesses of the system, and at the same time, knowing that that experience of teaching the highest-need kids will be totally transformational for them. It will change their priorities, their career trajectories, et cetera.

And in turn, their mission is to unleash the leadership around them. To be one more contributing force to foster their students' leadership, the leadership of others in their school buildings and communities, all in pursuit of much stronger local leadership capacity. I just think if we fast-forward to 15 years from now and ask ourselves, in which communities have we made the most progress? And then ask ourselves, what was at work in those communities? That inevitably we will find that there was a constellation of real leaders in those communities that made the most progress. And so our hope, I just think ultimately we will realize leadership is at the core of the solution. So the question we would ask now is what more can we do now to take a very intentional approach to building that local leadership capacity? What investments do we need to make? What policy changes do we need to make, et cetera?

MS. GILLARD: Thank you.

Esvah, I'll draw you in, and you might want to respond to some of those comments on leadership, but I also want you to respond on the question of the enabling environment. Jenny has said to us we need an enabling environment, a culture of research and development, a supportive policy environment. From your perspective as a person working within government, can you share with us not only on this leadership question but on R&D and a supportive policy environment what you think government can best do and what you have strived to do to make the change possible that we read about in the Millions Learning report which has happened in your nation?

MS. CHIZAMBE: Thank you very much.

Maybe to begin with, in the implementation of the lesson study in my country, we normally assess, for example, in terms of what she was talking about, the aspect of leadership, asking ourselves questions, really, what are the learners learning that will promote those skills of leadership. How do we begin to ensure that they are -- the skill of leadership is promoted in them? And so to do that, in the basic literacy lessons, for example, in numeracy, you begin by ensuring that learners at each and every stage are given leadership positions so that you see the developmental phases of whether they can really take up this leadership. But ultimately, it's what the teacher is able to do with the learners. What is the teacher doing with the learners? That will promote leadership. And the teachers themselves, do they have the skill to lead these learners so that their skills are actually seen in the learners? So what are they learning? Perhaps that would be the question that would promote the leadership.

And in creating an enabling environment, as a government, we have been able to work around --

MS. GILLARD: We know you've had some trauma in the recent period. Would you like to go on or would you like me to come back?

MS. CHIZAMBE: No, I think I can manage.

MS. GILLARD: Good, good, good. I'm so pleased.

MS. CHIZAMBE: Thank you very much.

Yeah, in creating an enabling environment, it's basically ensuring that our classrooms are safe for our learners. What is it that we are doing as a government to ensure that all the learners have equal opportunities -- the teachers are able to operate in a free and fair environment? And in the implementation of the lessons that day, what we have done as a government, is to ensure that the teachers themselves are taking up that leadership role to ensure that they are designing their own curriculum and activities to ensure that their skills are being developed and they are learning from each other. So it is taking up that leadership role and being able to ensure that with the leadership skills that they have, they are able to create that environment and be able to learn from each other.

MS. GILLARD: Thank you very much.

Madhav, coming to you, you know from your personal experience and journey what it is

to scale, and a number of those insights are drawn out in the report. When you look from now into the

future, what do you think how the sort of big lessons from Millions Learning and from your own

experience, that you would want to share with someone who has got a new way of working, an

intervention, something that is making a difference and they are looking at the journey you went on and

thinking I aspire to try and take this to that kind of scale?

MR. CHAVAN: I'm tempted to tell you a quick story that just happened.

MS. GILLARD: Sure.

MR. CHAVAN: So before we marched in here, we were sitting in the room out there.

Esvah was sitting there and I joined her and I said, "Would you like a cup of coffee?" And she sort of

looked and she said, "No." I went up to the coffee flask and no coffee came out. Pressed one button,

another level, pressed everything I could. No coffee came out. I gave up. Esvah was laughing at me.

MS. GILLARD: It's unlike Brookings not to have coffee at scale. (Laughter.)

MR. CHAVAN: No, no. That's the point. The scale was there. The tap wasn't working.

So we sat down. And so there's Africa and Asia trying something, and then in walks

North America. And Wendy came in and said, "I want coffee." And she tried pushing all the levers. It

didn't work, and she gave up. And then walks in Latin America. The staff was looking after the

arrangements and she took it and she sort of shook it and said, "It's not working." And she brought a

fresh cup of coffee out of the whole flask of coffee.

I think the point there is everybody knows there's no coffee coming out, but we thought

we were done. There's something wrong with it. Or we didn't have the real stakes in getting that cup of

coffee. We could have bought it somewhere else. But somebody had to come and say it's broken and

got it fixed. I think yesterday, you said it, and I think Rebecca said initially she started and you sort of

amplifier it, you've got to say, you know, forget about the little squabbles. Focus on -- and you know what

qualifies, what learning is. And the real decision-makers have to make up their mind that that's what they

want to do and that is what has to be done, and everything just cleans up. And that is the thing that is

missing. And as Jenny and you all have pointed out in the report, it's not how one particular thing is done.

I think it starts by saying we have to get it done. And when you say that, it's won for the whole country

and then others are, the not-for-profits and the smaller social entrepreneurs, whatever they call it, they

are relatively small players. They can contribute. This interesting tension between scale and spread, that also come through in the report.

What's more important to me, and has always been, is the spread of the thought and the idea that this is not working and the coffee flash has to either be replaced or repaired. One of the two things has to be done. You can't keep staring at the flask. And that, I think, is the biggest challenge. Everybody knows this. This is the case of the emperor without clothes. And everybody knows the emperor is completely nude and we keep saying what wonderful clothes. Unless somebody screams that the fellow is naked, it's not going to work out. I think this and this report, I think various studies have been saying that. It's been accepted in the Global Monitoring Report. SDG has also stopped short of saying it. You know, the thing about quality education has been going on for a long time. You're going to be very, very clear and specific and hit there, and the time -- we have not lots of time. As we said, we have one year to figure out the plans and so on. Get down to the basics and get it done. I think that message has to go out very clearly. And once that is done you can get a fresh cup of coffee.

MS. GILLARD: Okay. You heard it first here at Brookings.

I'm going to ask another question for each of our panelists, and I'm going to draw Jenny in at this point and then we're going to go out for audience questions. Jenny talks about the need for us to be in an inclusive and adaptive education ecosystem. I'm tempted to ask our panelists whether they're happy to be in an ecosystem, whether that's how they've envisaged themselves as an element of an ecosystem. But I'm actually going to ask you another question, which is looking at the educational way sin which we work today, which part of Jenny's description are you most focused on? The inclusive bit, the adaptive bit, or the sense of an ecosystem and how we relate to each other? We've obviously got to build all of those elements -- the inclusion, the adaptive capacity, and this sense of an ecosystem where we can all thrive by working together and all make a difference for children by working together. But I'd like to get a sense of what you think the most important step forward and which area (inaudible) is for the global learning community. So we might actually start with you, Jenny, and come along the panel.

MS. ROBINSON: Sure. You know, it's hard to ask me what's important because we came up with 14 core ingredients, so I obviously don't like narrowing things down. We could have had a much longer list.

Yeah, I would say what's most important, you know, I would think this notion of partnerships really came out strongly, that if we're really talking about improving learning and all the various skills that we're talking about, and if we're talking about reaching those that are the most difficult to reach, that we know it's not going to take just one actor or one player to finance, to provide, to deliver, to evaluate, to scale; that it's going to take leveraging all the assets in the community. And so I think this idea, you know, something that was mentioned on yesterday's panel of I think it was referred to as a team sport, this notion of partnership, and I'd say their inclusivity really came out strongly.

MS. GILLARD: Wendy?

MS. KOPP: I guess I would say all of the above. And you would think one of my most central learnings thus far in our own kind of scaling journey, and in just observing what is at work in the communities that are making the fastest progress is just this notion that, like, we need to be both locally rooted and globally informed if we're going to have any shot at maximizing progress. And the combination of those two things can be so powerful. So, you know, it's just when you get into really trying to understand what is going on in the communities where there is real progress for kids, it's, again, there's leadership at every level of the system and outside of the education system itself who are really on a mission to change things for kids and are very rooted in an understanding of that, of course, local context and are working towards ends that matter to the local actors there and feel full ownership for making that progress. Like, I just -- there's no chance from everything I've seen of we're going to ship in solutions and try to adapt them. It's got to come from our local communities and be -- and really be owned by the leaders and a deep set of partnerships in those local communities. And yet we've also seen that there's just such similarities in the nature of the issues that we're addressing from place to place. And the silver lining in that is that it means really that the solutions are shareable. So if we can figure out how to invest in cultivating the local capacity to own and get on a mission to make real progress and enable those local leaders to have access to the insights coming from the progress in other communities, I think we can hugely accelerate the pace of change. But I think if we sacrifice either of those, we won't make the progress we're envisioning.

MS. GILLARD: Esvah?

MS. CHIZAMBE: Thank you. Don't give up on me yet.

Yeah, for me, really, like Wendy has said, I think it's everything, and the whole package matters. But coming from a government background, I want to believe that the ecosystem, the systems that are established actually, I think mean a lot. Within the systems, defining exactly what the roles and responsibilities of those stakeholders are and collaboratively working to a common goal, I think it does it. And in my country, for instance, we have established what we call the SPRINT system. And SPRINT is an acronym which stands for School Program of In-service for the Term, where every school in each given term, my country runs on three terms. So each term, the school plans for in-service education, which means that they are working within an established system and they plan to fulfill what they have set out to do. Now, what is interesting is that when they plan for these activities, it is not only what concerns them as a school but there are other cooperating partners who are implementing programs that affect the children in the schools. So all these are taken care of within this particular system of governance.

So from a national level -- and for us, really, I think it has worked very well because at the national level, we have a committee which is chaired by a permanent secretary, and that particular committee sits once a year to plan for the implementation of inset programs in the country. So if the system is established with clearly defined roles, I think everybody can operate freely. And I think across the ministry with cooperating partners and other lay ministries, what I've seen is that, you know, we actually collaborate very effectively and are able to, and I think perhaps that explains why we are where we are because all the stakeholders within this given system actually coordinate, collaborate, discuss the progress of the initiatives and then we move forward.

So to me really, as much as everything else matters, because within the system you will design, you will do everything else that matters, the ecosystem actually I think is very, very important because it spells out who are the players, who is involved, and everybody else working as one.

MS. GILLARD: Thank you.

Madhav?

MR. CHAVAN: So, yes, all of the above, but let me focus on the information gap part. There are, I think, different ways of looking at the information gap. One is absence of information. I was looking at the presentation before Jenny -- Jenny's presentation before Jenny's presentation, which actually gave there are a percentage of kids who are not learning in different countries, and that

information is becoming available. When we did the annual Status of Education report in 2005, the first time we put that number of 50 percent kids can't read and they are in fifth grade, and now it seems like more and more such information, which is shocking to a lot of people. It should not be. We should have known it all along. It's our kids, and we never really actually looked at it. Now, that information is becoming available more and more. What is the key issue? What are not the key issues? What are the issues that are going away? What are the new ones coming up? This information gap is huge.

So, for example, in a country like India, which is saying economic growth and all that, there are other problems emerging in the urban centers. We are taking them from the developed countries. Other developed countries have seen those problems, which are coming to our slums now, and we have to be very careful that while we are trying to solve the older problems, the newer problems don't overtake and destroy everything. There is an information gap.

The other piece of the information gap, as my colleague Rupani Banagy talks about it, she says there is one thing, and only one thing, that defies laws of gravitation, and that's data. It all goes up, never comes down. (Laughter.) You do surveys and people say, so you're going to do all this? They don't take it seriously. Write it down. It's okay. Because we don't get to see it anyway. It just goes up and up and up, and God knows, it ultimately lands at the World Bank perhaps. (Laughter.) But it's all top secret and it doesn't go down.

So I think people, what Wendy was talking about, this ownership business, is unless people understand that this is a problem, and very often people don't, and we've seen this again and again and again, that parents think my kid is going to school so he or she must be learning. But when they find out that that is not so, and there is a certain, you know, I have a healthy disrespect for metrics as well. But you have to have respect as well for it, so a transparent set of metrics saying this is what learning is supposed to be at least at this -- your child should be able to read this text by the time he or she is in the third grade. What's the harm in doing that? Having a simple, transparent indicator that the parents can say that I want this to be delivered. It's public money, after all. Even private money for that matter. I think this is something that needs to be changed.

And if I go back to the coffee flash, it is this thing that needs to be even -- put it up on a school board saying if your kid is in the third grade, this, he or she should be able to read very easy or

fluently. That information gap also exists because parents think, and I've seen this from the early days of Pratham, we asked in a big survey, parents, what do you think of the public school? Your child goes to public school. They say it's good. Nobody said it was a bad school. Then we said, okay, if you had a little more money, what would you do for the child? They said, put them in the private school. And why do you do that? Well, if we have no money, public school is good. But if I have a little more money, I would rather put my child in the private. And that's the logic.

So the poor schools for poor children, or children of the poor, even accept the logic. You're to break that and say, no that is not acceptable. And that information gap, unless it is filled and people know that this is what you should expect and this is what should be delivered, that sense of ownership then starts coming in. And also, they need to know that the parents can't keep on pointing fingers. That they have to do something about it. This distance between the school and home is huge. And parents think, I'll send the child to school and it's the teacher's job, and that's not so. I think it is everyone's job. We talk about the African problem. It takes a village to teach a child and actually say it takes only one teacher who may come to the school every now and then to teach the child. And that's not going to work.

MS. GILLARD: No. No. Thank you.

I'm going to turn it over to your questions now. So if people want to raise their hand and I'll pick two or three and a microphone will come to you. If you could just say quickly who you are where you're from, and a question mark does have to have a question at the end. Sorry, question does have to have a question mark at the end. I'm going to go to Lucy in the back over here. We've got a microphone person over in the back corner. And then I'll come to you next. Thank you.

MS. LAKE: Well, I want to start by saying thanks to CUE for launching this report, and it really does feel like the starting point, Jenny, for opening up the space of this discussion, which is fantastic. And I wanted -- and I think that it's going to be very interesting, this next phase, where you're talking about scaling in motion. And I think to pick up on Wendy's point around looking at scaling local ownership and leadership is going to be a very interesting component to explore that.

But I wanted to actually pick up on a point that you raised, Jenny, at the outset, around that tension, that possible tension between effectiveness and cost efficiency, recognizing that it is more

costly to reach those who are most marginalized and therefore, in terms of scaling, what are the implications for that? How do we align the incentives to ensure that the most marginalized are not left behind, and how do we ensure that there is a culture of accountability around that? And I think that circles back to Madhav's point around data and ensuring that we have the right desegregation of that data to be able to see what's happening for different groups. And I think that it's then when that data is put back in the hands of the local leadership and ownership, that's when we can get scale. But it was that question around how do we align the incentives to ensure that the most marginalized continue to be reached at scale? Thank you.

MR. CHAVAN: Was that a question mark there?

MS. GILLARD: Yeah, I think so.

MR. CHAVAN: Okay, Lucy, you're qualified.

MS. GILLARD: Lucy is qualified. I'm sure there's a question there.

We'll go to the lady here, and then I'll take the gentleman who is sort of two or three rows back, and then we'll come back to the panel. Yes.

SPEAKER: (Inaudible) from Pearson. One of the main criticisms of some of the cases that you have in some of the models that you studied is that the engagement of the private sector somehow undermines public schooling. So how will you address that criticism? And second, there's also the tendency to say that many of these models take very young teachers or unprepared people to teach. Again, how do you address this criticism? Thank you.

MR. CARLSON: Hi, Rob Carlson with SIL International.

My question is, what kind of provisions are being made when you talk about scalability for language development and curriculum in the minority languages?

MS. GILLARD: All right. Well, I'm going to open those up for the panel. So don't feel the need to answer every one. I think we can probably do some specialization here.

Jenny, I might go to you on Lucy's effectiveness efficiency point, and as you scale, given we know it is more resource intensive to get good quality for the poorest children, how that is built into models so that they don't get left behind.

MS. ROBINSON: Well, you make it easy for me to answer, Lucy, because I would very

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much point to your experience with Camfed as an example. As you said, we're ensuring that there's absolute accountability at the end of the day to the student, to the learner, and then ensuring that there is that clear focus on that. And then I think to Madhav's point, that you have clear data that's shared back with those learners, with the communities, that people are aware. I would say, you know, on the costing front, you know, again, the cases demonstrated different ways that economies of scale -- first of all, there are cases where there were economies of scale as it grew bigger. I think as we're scaling access in reaching the most marginalized, that will be more expensive. I think when we're reaching the most marginalized in learning, we're not sure yet if that's going to be more expensive, in fact. But certainly, the more you're trying to reach, the more resources it's going to take, and that the costing data, again, it's getting back to the data, is essential. And it's not just cost projections in terms of what is it going to take to scale, but it's also the comparison to the alternative. Because something might appear actually quite expensive to ensure that you're reaching the most marginalized, but when you're comparing to what the current alternative is, both in terms of that cost, but certainly the opportunity cost of not being successful, that has to be taken into account as well.

MS. GILLARD: And I'll throw to anybody on the panel who wants to respond, there was a question in the ecosystem, the private sector role, how teachers, many of the models are using not well prepared teachers. What we can do about teacher preparation? And anybody who has got an insight on language development? So anybody who would like to take any part of that? Go ahead.

MS. KOPP: I'll dive in on the teacher question. You know, I think one of the challenges we're all going to have to figure out if we're going to scale quality learning to the point of the report is, you know, what are we going to do to recruit and select and train and support a rising generation of teachers and educational leaders who are extremely effective? And, I mean, you could look at what the evidence would show for an approach like Teach for -- the one that the Teach for All partners are using, which really, you know, rigorous studies showing that these teachers are, in fact, even in their initial years, having a positive impact on student achievement, which, of course, is terrible important, like the results are there, and I guess that's the thing I would point to. But there's such a bigger question, and it's really not the question that the Teach for All organizations are themselves answering, which is what are we going to do at a system level to take our systems for recruiting and selecting and training and supporting

teachers to an entirely different level? And I think, I mean, one thing I'm really excited to see is many of

the alumni of the organizations, the Teach for All organizations going out and saying, how do we change

that more broadly? Working alongside many others, but we need a revolution in this; right? Like, we

have not built the same kind of capacity in our school systems that we have built in other high performing

organizations to do all of those things. And I think it's really exciting to see many programs emerging that

are, you know, retraining existing government teachers, you know, recruiting fresh VIED grads and

providing them with the kind of induction and ongoing coaching and support that we'll need to actually

improve outcomes. So I think it's a much bigger question, and I would just say there's a lot of ideology in

the debate around teacher preparation, and if we can try to be super research-based and move beyond

the ideological debates that often aren't rooted in that, it will benefit us all.

MR. CHAVAN: Do you want to say it?

MS. CHIZAMBE: Because she's spoken what I wanted to talk about in terms of reaching

out to the teachers. For example, in my country, we have community school teachers that really are

marginalized, so to say. The teaching in these institutions without pay, they get a kind of -- they do

voluntary work for just a token of our appreciation for the work that they do. And you know, in terms of

involving everybody in the ecosystem, we have organizations that deal with community schools and

community school teachers, and in terms of in-servicing them and reaching out to them, we also plan for

them in that when the provincial resource center called NATAS are planning activities and the schools,

the regular schools that are government schools, are planning activities, we engage these disadvantaged

teachers and they also benefit from the ongoing professional development so that once they are engaged

without skills, they need to be capacitated somehow. And through these programs we get these teachers

engaged. And so it's really inclusive. It's not exclusive to government schools. Even such teachers also

actually benefit from such initiatives.

MR. CHAVAN: I want to respond to this question about the unprepared teachers or the

private schools undermining the public schools. So on the private schools, I think in the poorer

communities, actually, it's leading to segregation because of the affordable private schools, and that is

very clear. I'm not sure what the solution at this point is because in an ideal world you would want all

children to be in the same school from the same community, but parents do make a choice because there

are various factors involved in why they want the children to go to school.

But on the so-called preparation of teachers, I can tell you from the Indian point of view -- I don't know about the rest of the world -- that we make a lot of assumptions. That when a teacher goes to a teacher training college and comes out, then the teacher is trained. And that's probably -- not probably, it's not true. Somehow, like all degrees in India, you get through one side and come out the other with a diploma and you say, "I'm a teacher. I'm an engineer." And they can't do their jobs. This is a very well-known fact now. In fact, in India now, to become a teacher, it's not enough to have a teacher training diploma, but you're to pass a government exam to join the teaching (inaudible). And I think two years ago there was a test held, something like 100,000 people appeared, and I think 6,000 even passed. That's about six percent passed the test to qualify as teachers.

So now the question is, there may have been people who have not gone to the teacher training colleges but they may be actually more empathetic to the children, more loving and caring and probably amenable to a reasonable amount of training as to how to behave with kids. That's the simplest thing possible. It's the question of, again, what is education? What is a teacher? What is a good teacher? Why can't there be a community person who says, "Look, I will keep the flock together and encourage them," and that's the first step of being a good teacher, rather than discouraging people and humiliating and saying, "I know it all and you know nothing." I think it's not -- it's a question loaded with a lot of assumption, and when you go on the ground you find those assumptions fall apart. So if Jenny has not touched that, it's probably we're trying to be politically correct or whatever. But I think it's not a question that can be answered very easily based on given assumptions.

MS. ROBINSON: I'm just thinking of an example that kind of brings all this together in my mind, which I think about Pune, India, where Teach for India has been placing teachers for just about six years now. And to see what some of their alumni have gone on to do. You know, one of them has developed a fellowship for government teachers where they're selecting teachers into this fellowship who honestly haven't even been observed in 20 years, right, like no one has gone into their classroom to give them feedback. They're selecting them based on will and commitment, investing in their development, providing coaches. They're working to scale this up all across Pune, while another group of Teach for India alumni are working to recruit the fresh VIED grads from the five Pune universities who come out, to

your point, not knowing what a lesson plan is, and they're providing them intensive preservice and ongoing coaching and development.

And there's another group that's developing an online set of teacher development materials that these other folks are leveraging. So all to say, we need massive change. And I guess the question to me, again, is just, where is the innovation capacity? Where is the leadership to innovate around teacher development to scale these programs up? And I think we need, you know, we need all of the above. We need to invest in the development of organizations like Teach for India and others that will build that capacity, and then in turn those leaders they spin out need to take this on in a very serious way if we're going to have any chance of moving learning outcomes in any given community.

MS. GILLARD: We've got a lot of hands indicating, and we don't have much time, so I'm going to take the two I saw first and then we're going to have to get very quick responses. So rapid fire questions. One from you, please, very quickly.

MS. CHRISTIANSON: Thank you. Good afternoon. Very much appreciate the panel. Jill Christianson from the National Education Association, part of Education International.

I appreciate so much the statement about the importance of including stakeholders, particularly then at the local level. And what I would like to know, Jenny, is within the 14 case studies, are education unions a partner? Because clearly as the voice of educators, it's really important to include them.

MS. GILLARD: Okay. And I had one lady here. If we can get a mic over this side. She's, look, moving like the wind.

SPEAKER: Thank you very much, Jenny. It was very good to see 14 ingredients. We'll make sure that they come up like quality education.

But I'd like to bring my experience as a U.N. person who dedicated 25 years on education. I think, you know, most of the time we talk about big agendas, you know, but the money and the resources do not go to the classrooms. My worry is, again, we might get lost, you know. We have to make sure the money is getting into the classroom, into the hands of the children, and they have more resources to read and write.

Can I add one little question? Another worry is about EMIS. EMIS is a system which is

sample studies, which do not tell us more than tell a percentage. Every child has to be monitored. So therefore, I think we have to ask each school to analyze their own data. Give that capacity to teachers so that they can analyze and report back to the parents why the child is not working. I appreciate your every child -- every parent wants the child to be able to read and write so that their life is more transformed. Therefore, I think you need to really make sure the money and the resources are going into the classroom rather than building the walls, building the toilets and water. They are important. I believe it. They are very, very important, but not as important as quality education, and with more resources, it will get better. Thank you very much.

MS. GILLARD: Thank you.

Very conveniently, they are both questions to Jenny, and I was going to give Jenny the last word anyway.

MS. ROBINSON: All right.

MS. GILLARD: So Jenny, over to you. Thank you.

MS. ROBINSON: Sure. I will just try to very briefly -- so, Jill, on the unions, they absolutely played a role and, you know, I should have mentioned when I listed the various actors, that they absolutely played a role. And in particular, I can give the example of Media Center in Brazil. I think that was a great example where the way it works is that in Manaus, in the capital of Amazonas, you have an expert lecturing teacher that is broadcast out to more than 1,000 classrooms across the region, and within those regions you have generalist teachers that are there to help support them. And, you know, from what we learned from being in Brazil and speaking with people, and from what we read as well, it was a case where it might have started a little under the radar, frankly, I mean, as sort of the project on the side, but in fact, the expert teachers and the generalist teachers and the outcomes that they were getting, were so impressive that, in fact, the unions and the teachers more broadly got on board. And for us it was also an example of elevating the prestige of teaching. That that was fundamental in these cases. That the expert teachers almost became these celebrity teachers. You know, they're sort of the celebrity MOOC teachers that we might have here. And that that was, you know, essential, and they really saw the sort of unions galvanizing, you know, supporting behind it.

Very quickly, on the question about the U.N., yeah, if I gave the impression at all that

resources should be channeled, you know, solely to bricks and mortars, that was absolutely not the intention. And in fact, I couldn't agree more with you that as important as we need those resources, as I said, it's how they are allocated. And allocating them at a local level, getting them into the classroom, and similarly with data, I mean, you know, the technology that we saw, frankly, was not technology in terms of, you know, a shiny new gadget that was replacing a teacher, but it was actually technology in the hands of teacher to allow them to do exactly what you were speaking to. You know, mine and analyze an enormous amount of data and be able to analyze that in real time and then be able to make to make changes immediately. So I couldn't agree more.

And if I really have the final comment, Julia?

MS. GILLARD: You do.

MS. ROBINSON: I do. This is good. No, I would actually build on Madhav's analogy of his coffee maker.

MS. GILLARD: Oh.

MS. ROBINSON: I think that is, you know, such a wonderful analogy. There is, you know, a broken coffee carafe. We need to accept that it's broken, but if I may just add to it, I would also say that we also kind of know what a good coffee carafe looks like. You know, we don't just have to throw it out and sit around together and debate and argue and, you know, just sit there without being caffeinated. But in fact, you know, we might not all agree if it's automatic drop or metal cone or whatever it might be, and we should have those healthy debates and we should do the research and have the evidence, what is the most effective way to drip a coffee, but we should also know that we know what a good coffee maker looks like and we can do it. And this sort of sense of, you know, of the possibility that I think is demonstrated by these cases and many others I think is important.

MS. GILLARD: Okay. Well, thank you very much. I'm going to resist the temptation of saying that from Australia's coffee culture, we don't think anybody in the U.S. knows about how to make a coffee. (Laughter.) I'm going to resist saying that.

Thank you. Thank you to everybody for coming along today to participate in the launch of Millions Learning. Thank you again to Jenny, in particular, to Rebecca, to Eileen, to the CUE team. Will you join me in thanking them and thanking our panelists? We've had a great morning.

(Applause.)

MS. GILLARD: And Brookings, it is unusual, as I said before, for Brookings to foul on coffee or food, so you will find some outside to get the energy levels up and to have some of your own discussions before the next panel starts a little bit later on. Thank you.

(Recess)

MS. WINTHROP: I hope everyone had a good lunch. Good afternoon, everybody. Welcome back. I hope the talk, eat, talk, eat strategy is working well. People are catching up with all their colleagues. I know there are people comfortable ensconced in the overflow room next door and there is a big video screen in there so I am talking to all those folks. There are a few extra seats. If people want to come on over, they should feel welcome to do so, although I did talk to someone who said they were incredibly comfortable and all set up so they really don't want to go anywhere so that's fine too as well.

Thanks everybody for, again, for joining us. If you are just joining us and didn't come this morning, we are happy to have you. This panel is called "Getting Millions to Learn: What Will it take to Accelerate Progress on Meeting the Sustainable Development Goals." I am Rebecca Winthrop, the director of the Center for Universal Education, welcoming you all back and I am very very pleased to introduce our moderator and our distinguished panel, Gene Sperling on the end. Yes, he was the former economic advisor in two administrations. For President Obama recently and President Clinton but most importantly here, he is the founder of the Center for Universal Education and the man who recruited me from my job so I am always heavily in debt to Gene so I think we should give him a round just for that. (Applause)

And we have asked Gene to make some opening remarks and he will moderate a discussion with our wonderful panelists. We have, next to Gene, Johannes Linn who is a non-resident senior fellow here at Brookings and also has several other hats, including with a sister organization, R for D, down the street.

Next to Johannes is Alix Zwane, the chief executive officer of the Global Innovation Fund and then let's see who we have. Jacob Harold, who is who is the president and CEO of Guidestar and last but not least at the end here, we have Vineet, who is the director of investments at Omidyar Network

and again, welcome all of you and over to you, Gene.

MR. SPERLING: Well thank you very much. I am truly a scarce resource that should be scaled up because I am a man who founded something and was smart enough -- and I ran the center, I didn't just found out, I ran it for seven years but I am that man who is smart enough, who is a founder, who is smart enough to hire a woman to succeed him who is five times better than I ever was so you need to scale me up in that way. (applause)

I am going to make one other little note, just because I want to and I have the floor, which is that Rebecca and I recently wrote a book called "What Works in Girls' Education: Evidence for the World's Best Investment." There are so many people that are cited in that book but there is one person who is cited as much as anyone and somehow, even though I have cited this person more than almost anybody other than -- I never met her, which is Elizabeth King and I am just honored that I got a chance to meet her today for the first time.

So, I am going to -- I have Rebecca include an introduction. I was supposed to make remarks because I said: "You've got to say that because if not, it looks like you're a bad moderator who is talking first." I am going to make a few comments. So first of all, I mean this is another excellent production booked by the center for universal education and as we are in the donor side in this conversation, we are also in the part of the conversation where we are talking about funding and financing and of course the report talks about the importance of long term and predictable financing, it talks about the importance of flexible financing, it talks about the importance of the middle financing, the scaling up financing and that not being the valley of death and then there is also a lot of different recommendations given so let me make a few opening remarks. First of all, our goal -- everything we do, our goal is to do what we have to do to give more children, particularly born into often difficult or poor circumstances the chance to have education allow them to rise to whatever their potential in life is.

That's our goal. That is a noble goal. Now when we are thinking about financing, we should always be thinking about what is the best way to achieve that noble goal. That does not mean, assuming that everybody that is involved in it is a perfect person with completely pure altruistic ideals, has no human flaws at all, because people are people and it doesn't mean they have flaws but it means that people, donors and governments have incentives and self-interest and we need to, instead of pretending

that those don't exist, we need to have strategies that work that way.

I think one of the things I learned in the workplace very quickly was that people want credit for things they do. That doesn't make them a bad person; it's pretty normal; that's pretty normal human behavior and yet in financing situations, we often have funders should just put money in anonymous pots and all this stuff.

Okay, that might be ideal human nature but I am really not concerned with that. I want to know what is actually going to work for people that have incentives and do want to get credit or do want to feel good about their individual contribution. How do we motivate them to fulfill this ultimate goal?

So a couple of thoughts then: one, I am going to add one thing to the book. I thought that it did talk about the importance of long term financing but I don't think -- I think when you are talking about an education, you have to break out teacher salaries in your discussion because I don't know that it's right to blur those two together because you can have a program that is about teacher training or all sorts of other things and you can still need long term sustainable financing for that intervention or that policy to work.

We are all doing education and across the world, teacher salaries make up 60 to 80 percent. So it's not like a little thing; it's the dominant cost and it is a recurrent cost each and every year. So here's one thing I learned when I was in the U.S. government and when I was involved in the fast track initiative and working here, which is that not only -- that governments will not commit to hiring more salaries -- teachers, unless they know it's stable.

I sat there with ministers of education of countries and said: "But, jeez, the World Bank and U.S. government, we are willing to give you three, four, five years of funding that you could use to hire more teachers." And the response I would hear, it's amazing, in different countries, different languages but the same thing is: "Yeah, but when that money runs out, they are going to be outside my door burning me an effigy, not the donor who cut off the funding." So that's a very important issue and we have to think about this and I think my conclusion, but I am open to this, is that generally, we have to figure out a way to get to -- to rally more support for funding teacher salaries. That it is very hard for outside donors to fill that role. Both because of the magnitude of the cost and the fact that if it has any endpoint, it means lay- offs, it means protests, and the person who is doing that, whether it's the school

superintendent, the deputy minister of education, whoever it is, they are going to get the blame and that is going to affect their behavior so I think that is an important point that we should build in as we are thinking about different financing.

Now, the next point is -- I looked at the Millions learning report, there are like 14 different, you guys used 14 twice, which is very clever, 14 case studies, 14 things you should learn but at the National Economic Council, we don't do 14. You have to have five. You can't go over five. Presidents do not read 14 point plans. It has to be five so I am going to try to narrow it down. I think when you are talking about government funding; there are really three things that matter most.

One, -- and these are from the report so I am picking three of the 14. One, do you have real champions inside and outside who matter? Let me tell you one thing about the United States government or policy in general. You don't get things done because everybody supports you, that's not how it works.

You get things done because there are a couple of people that matter who will die for you. You know, when we are fighting for something and people 80 percent are for it and they are wondering how it didn't make it into the appropriation bill, everybody was for it, you know, but when you are talking to Harry Reed and it's an appropriations bill and he's got two senators and this is their number one priority, it gets through so you need champions, real champions on -- we can't all have Bono on the outside but you have unique champions who matter on the outside and you need champions on the inside so that's a good recommendation that is drawn.

Second, does it align with the government's interest? Recurrent spending on teachers is a major budget cost. It's a huge budget cost. Do you think that's going to happen if it's not central to whoever that government's goals are? If they have decided that their top goals in the administration are something other than education, they're not going to go with you. You've got to figure out how to align that with their fundamental strategy for credit for doing good for their administration, otherwise you're going to make all the good arguments and they have decided that building bridges is their only priority, probably a good priority but should not be their only.

And then the third, I think, is evidence. I do believe that marshaling the evidence to show that things work and give a high return so I think that winning that recurrent battle, you need champions,

you need evidence and you need to figure out how to align it with the government interest and this is when I said don't look for ideal human behavior, take human behavior as it is. Brazil, that was smart, there was Bolsa Escola but then a new president came in.

I have been part of new administrations, no new president wants to focus on helping the previous president's top thing but they changed it to Bolsa Familia, they added nutrition. But think about that, that's smart, they came up with something new that could make it an exciting new initiative for the next president. That is what I mean by taking human behavior as it is, not how you would like it to be and be smart about it and give them a way so that you're not going -- while the greatest thing you could ever do is just continue the policy of the person you just defeated in the election.

The -- I think -- and I think on the individual donor level, I think it's interesting to think about that too. There is a little bit of degree where donors want to do stuff that's creative, innovative and there's a little bit of us not wanting a lot of duplication. That's a tough one for me because I have seen a lot of times when people seem to be duplicating but they bring imagination, they bring extraordinary entrepreneurial energy to it and they do great things, even though they might be duplicating some but again, too, I don't think just telling them it's all been done, there is nothing for you to do, here are just two good organizations, give them money anonymously and go home so I think it's worth us thinking as well, you may have a great program but maybe you can say this is a phenomenal program but it hasn't been done in this part of this country. If you did this in this part of this country, your organization would be using a proven model but you could go to this part of the country and you could see that there are 200 schools that are amazing because of your philanthropy or because of what you have done so I think that's another way of taking -- of thinking about this and the last thing I would just say is that obviously right now, this is an issue that Rebecca and I have been working on for a long time, which is funding education and conflict and one of the things I noticed from being in the government and I, with Rebecca's help, wrote about this when she was still at the IRC, which is that I noticed everybody would talk about why you want governments to do it but I would always think it's a disconnect because this is not the discussion that goes on in the government. The discussion that goes on in the donor government is that we don't trust that government, we don't know what their baseline is, we don't know if the money we are giving is going to go to the incremental positive that it is supposed to and if it turns out to go to something sordid,

that's the end of that person's career.

That is probably the end of money going to that country so I said there is a trust gap. Now, if you want to get money to people in conflict, you have to understand a donor government has real reasonable risks that they are going to screw it up, that that money is going to be misused so you don't give up. You address those trust conflicts. You figure out architecture, transparency, separate funds, establishing baseline and do those things so those are my kind of initial thoughts in reading this excellent report and from a perspective of someone who has had to be an advocate but also be on the government's side.

So with that, I am going to start going down the list here and hearing from our excellent panel and we will give them a chance to talk and then maybe I'll have a chance to quiz them a little bit but if we run out of time, I will save it for everybody here.

So you've been warned in advance, you're going first.

MR. LINN: Right, so thank you, Gene and congratulations for the team for a great report so truth in packaging, I am supposed to talk about do funders hinder or help scaling up. I spent 30 years at the World Bank and I've spent the last 12 years working mostly with funders, trying to get them to help a bit more in terms of thinking about scaling up and how to do it more or less right, taking into consideration human frailty and what have you so bear that in mind as you listen to what I try to answer the question do funders help or hinder scaling up.

The answer is actually both in my experience. They can and do help but they also get in the way unfortunately. So what is the kind of role they should be playing? They should be playing the role of helping startups fund and support but also, they can be very good transmission belts meaning taking ideas from one place to another, taking early startups and supporting them through the scaling process so there are terrific opportunities for funders if that's what they want to do as I think they should and indeed we have some really wonderful examples where funders have been helpful at both stages on both ways.

Let me just mention the international fund for agricultural development, you probably didn't know but was early in supporting the Grameen Bank so that's a perfect example of startups supporting startups that scaled up. Another one is DFID supported the British Ad Agency, M-Pesa, the

Kenyan cell phone payment system. DFID was up there in the beginning.

In terms of more transition belts during the scaling up process, there are lots of good examples. The World Bank the (inaudible) program in Western Africa, the green revolution was very much donor supported. MDB support, multilateral bank development support for the cash transfer -- conditional cash transfer programs like the Bolsa in Brazil but also then taking that example and helping implement scale up in many different countries.

You can go on. The Global Fund for AIDS, TB and Malaria is a terrific example. In the education field, we at Brookings published a book a couple of years ago about scaling up and JICA put forward a great example of scaling up. Institutional reform for education, better education in Niger, great example of scaling up supported by an aid organization. So there are lots of great examples of effective scaling up supported by donor organization, however, and this is sort of the truth now, inside the packaging perhaps, donors also have hindered and I talk, to some extent, from personal experience as you will see in a minute but why?

Well, it's because they are fragmented, there is duplication, duplication is okay if we use it effectively. If we learn from each other what we are doing and then scale up the things that work but very often duplication is just that. Its duplication and importantly it's combined with discontinuity.

In other words, we go in for two or three years, sometimes five years and we step out, we exit, we leave behind exactly as you say, the unpaid teachers in some case and in other cases, just whatever we built, in a sense, collapses over a not so long time because we have not figured out a way to effectively hand off to others, mostly within the country.

The average line length of projects, aid supported projects is only two or three years. The median size of OACDAC projects, when we last looked at this is less than 100,000 dollars median. That means half the projects listed in the OACDAC as officially supported projects funded by donors are less than 100,000 so just imagine how many projects are out there and that's the reality. How many projects are out there that are one off, that are relatively small that are on their own not linking up with partners and so on and basically what I call pilots to nowhere.

We all love to pilot but we don't love to then follow up so that has been, I think, a major problem. I myself remember very well when I was vice president for World Bank for Europe and Central

Asia, Jim Wolfenson who is indeed for me sort of the godfather of the scaling up idea, in my case anyway, he was out in Georgia with us and we had a great projects to help about 15,000 farms with the Rural Credit Project and he said: "That's a great project, Johannes, but what are you going to do when this project is over? What about the other 100,000 farms?" "Jim, sorry, we're already moving on to another project. That's not part of our program."

Well he was right; he should have asked this question. He was wrong because he didn't actually make us go back and redo our program but in a way, that's it, so what happens when the project is finished and what do we do from here?

The duplication example, so I was just in Tajikistan a few weeks ago and the global fund and the UNDP had worked for about ten years on HIV/AIDS programs and had done actually a very good job. Well guess what, just as I was there, I was told that USAID and I have to mention it, it showed up and does basically a parallel program, without cooperating or coordinating with the Global Fund and I thought this was just outrageous. How can we do that today so just an example that duplication can be helpful but in this case, instead of figuring out exactly what part of the country should we go to to complement and scale up, they were actually, as far as I know, duplicating, based in the capital city again so just sort of examples of where we still unfortunately get things wrong.

The bottom line is that donors still too often actually are -- rather than supporting or let me put it this way, rather than countervailing the fragmentation discontinuities that local institutions and probably local politics tend to, as part of local politics, just like in this country. Instead of being countervailing forces, they actually very often reinforce the fragmentation and discontinuity so the good news, after all this bad news is that things are changing.

So I have worked with something like ten bilateral, multilateral donors and also civil society organizations over the last 10 to 12 years on the scaling up agenda and I have noticed a huge shift, almost organization now talks about scaling up where they never used to and that is terrific news. The big challenge now is to actually make it work and figure out how, in this black box of the organizations, how do we change incentives? How do we change the policies, the processes? The instruments in some cases, how do we change within the organizations, this black box of organizations to actually get to where Jane wants us to be?

Namely aligning with governments focused on the exit question, what happens when we walk out on because the project has come to an end and these kinds of essential questions of scaling up so this is the question but I think actually and I now come very briefly to the report here that the report is very helpful on because it provides, in the area of education, it provides terrific experience that is being collected. It provides a good analytical framework, which we need to understand.

Now, Gene said 14 is too much. I actually think 14, for the -- not for you convincing the president, but 14 is a checklist. Have we actually thought about the range of issues that might crop up? That is actually a very good checklist so I like the 14 and I hope and I am really -- I am very proud that the team is now really talking about where do we go from here and so I wish you very well with the next step because the last thing you want to happen is this terrific piece of work now sitting on a shelf and not being part of a scaling up process of scaling up education for all. This really is now where your big challenge is how do you become part of the scaling up process in the education field? Thank you.

MR. SPERLING: Yes, and I should make clear, when I was doing the 14 and five, I was making fun of us in the government for not being able to do that, not the report. We are actually usually only allowed to have five words per message but Vineet, I am going to go to you right now. I have areas that I would like to push you in but I am just going to let you go free for now.

MR. BEWTRA: Okay, thank you. So thank you very much for asking us to join this. When -- reading and then just listening, we actually recognized a lot of what we are trying to summarize and that is just based on our on practices so I am really here just to share. I think what Rebecca and Jenny said: "Look, just come and share" so we don't come from the perspective of well this is the right way to do it. There is no right way to do it. That's one of the learnings that we have sort of done but there were many aspects of what Jenny described and summarized in that report which we have learned and recognized so, and this is not in any particular order, and I suspect some of them will come back in some of the questions so I am going to pick two to start with.

So one is this idea of core so we really do recognize that. The point that you were making, can funders help or hinder? Yes, the answer is both and it comes down to what is the approach that they are taking. Now at Omidyar, we typically are working at a very early stage in the life cycle of an organization so we are not your classic scale up programmatic funders. We don't use log frames. I mean

I personally wouldn't know a log frame if it hit me over the head.

Now the reason for that is if you are working early in the life cycle of an organization, it's kind of, I think a Prussian general said 100 years ago: "No battle plan survives first contact with the enemy." Mike Tyson said it much more succinctly: "Everyone's got a plan until they get a punch in the face" (sic). When you are working early in the life cycle of an organization, nothing works the way you think it's going to work. So if you go in with a "this is what we are buying" and I have heard other funders sort of say: "this is what we are buying."

If you go in with that approach and say: "This is what must be done. These are the outcomes; this is what must be tracked." You are really just setting up a rod for your own back and for the organization that you are working with.

The approach we tend to take is -- we think of it as we are really injecting core support into an organization and that's not just financial so for us, it's -- a lot of time and effort is spent around the human capital side so some of the points around activating the talent. When you are an early organization working with an unproven innovative idea which is when we typically get involved, you will be having to deal with a lot of different things. There is the execution, there is the growth, there is the scale up, there are organizations in the room who have done this tremendously well.

We have learned from that. That that is kind of a non-financial support. That is really important so that's one area that we try and sort of provide and help. The second angle is the innovation side so again, because we are not programmatic funders, we actually have a very high risk appetite. Our board has deliberately positioned us to say "where can we be most additive?" and we can be most additive by taking risks that other funders, maybe quite legitimately, because they are looking after taxpayers' money and they say it's too risky for us. That's when we try and position ourselves and going to the point that's being made around government incentives so what we try and do is to say -- look, most people recognize that there is a problem. A vast number of problems and there are some reforms who really want to try and change things and so in those circumstances, where there are those champions, those key people, we will say: "fine, we will take the risk appetite."

If it doesn't work, it's our risk capital that didn't work. If it does work, you're going to look like heroes and again, that's something that we are doing, for example in South Africa, in early childhood

education where -- and I'll pause there because I suspect there may be lots of questions. I don't know if that's given you enough initial hooks?

MR. SPERLING: No, no, that's very good. I'll come back, thank you. Alix, do you want to go next?

MS. ZWANE: Sure.

MR. SPERLING: Maybe explain --

MS. ZWANE: Maybe a few sentences of what Global Innovation is --

MR. SPERLING: Yeah, do that.

MS. ZWANE: Yeah --

MR. SPERLING: Because that's not obvious to most people.

MS. ZWANE: So the Global Innovation Fund is a non-profit social investment fund set up about two years ago. Now, by USAID, DFID, Omidyar, and the governments of Sweden and Australia and our mission is to really accelerate the path to scale for entrepreneurs, whether they be in the social sector or non-profit or private sector and their path to scaling up their evidence based innovations.

We are a non-profit but we really seek to take a venture capital like approach to the investments that we do and because we are outside of government, we are able to mirror somewhat the appetite for risk that Vineet was describing as something that Omidyar aspires to. Then I could talk a little bit about what we have done in education and maybe that will come up in some of the questions.

I wanted to draw on my comments here a little bit about my experience as a funder at a strategy based organization that does do some of the "what are we buying" kind of work where I was previously at the Gates Foundation and talk a little bit about how that can help or not help and I have also sat on the other side of the table and ran a non-profit trying to raise money and articulate a healthy relationship between myself as the grantee and the people on the others side with the checkbook, who are the funders.

One thing I think that this book really gets right and that I really applaud is this vision of investing in the middle phase. Pilots never fail and never scale and we are littered with pilot programs in whatever education sector and health and other poverty reduction things. The great ideas that academics and early sage visionaries come up with that contain a seed of something fantastic really need

to have a business model that is significantly de-risked before large institutions, whether that's an education system in a country or a big donor can deal with them. It's very hard to innovate in a large organization. It's very hard to take risks; it's hard to ask any individual civil servant to take the risk of trying out an unproven program.

And that's where philanthropic capital and donor capital can play a very interesting role is being willing to de-risk a business model so that by the time you are pitching to the primary health -- primary education department that they take something on, they understand: "I know how to do this. I've seen how it works. My people can handle this. This is in our ability. I have the MIS system. Or, you'll help me build the MIS we need to do this so that's de-risked."

I think far too often, donors want things to be ready for prime time too fast and we need to really give ourselves permission to fund through that middle phase of de-risking so that risk adverse agencies and entities can take things on. The other thing that donors can do to help their non-profit partners, I don't know if this is emphasized so much in the book but it's implicit, is to think about exit. What is your exit strategy as a non-profit working in this space and scale -- now this can sound a little bit contradictory with the point about scale because we -- I just said fund the business model, de-risk it, which does mean grow, be tolerant of letting a program grow beyond pilot but that plan for exit needs to be baked into the DNA of thinking about what the program is doing. It's the rare non-profit where the long term strategy is "I will provide these services at a very large and scale for a very long time" and so the donor can really do a favor of pushing that thinking on exit from the beginning.

My next thing I might note that we might want to talk about, and I think this goes to some of what -- the comments that you were making before and that you were making about supporting experimentation and supporting reformers and being willing to iterate. When I was at the Gates foundation, we gave a large grant to -- I don't think he'll care if I say it -- who were running a complicated randomized controlled trail of this school wash program in Western Kenya and they got really excited about, and we at the Gates foundation got really excited about great new school wash model and frankly we are out in an international community talking about -- low and behold, the Care and foundation had been so disconnected from what was going on within the Kenyan government that we were kind of blindsided by the announcement by the Kenyan Ministry of Education that they were rolling out of the new

national school wash program, completely uninformed by this RCT that we had been funding.

Matters were complicated still further by the fact that the result of this RCT were messy at best and a solid no at worse but what Care was able to do was pivot really nicely, get engaged and saw that in fact this school wash program was going to require schools themselves to do a really good job of predicting their needs in terms of supplies, soap and toilet paper et cetera and budgeting for that staff and rolling that budget request up through zonal officers, district officers et cetera that would go finally up to the -- I think this was before devolution so to the province level.

And Care realized that's going to be really hard to do. Lots of these school principals don't know how to do that exercise and the zonal education officers do not, have never had to do the monitoring that will be needed for this program to work well and so Care pivoted and said: "You know what we want to do? We want to help these schools learn how to write good budgets for this stuff and we want to help those zonal officers do this monitoring" and change their program and were able to pivot and make themselves a useful partner to the Kenyan government school was program.

Was that the most evidence based wash strategy ever that the Kenyan government wanted to do? I don't know, probably not but it came out of their political process and the donor and the international NGO were able to pivot and figure out a way to help that thing do well. I think that's a great story. I wish the story started with that idea, instead of with the RCT that no one reads and no one cares about and probably costs more money than anyone would like to admit but that's a good example of being willing to stick with and encourage that experimentation.

I will argue back a little bit against paying for outcomes. I think sometimes that's good donor behavior because you don't second guess and get in the weeds with the partner around how they should achieve their goals. If the goals that they want are goals that you want, yes, to buy and the price is a good one, let them iterate and figure out how to get to that place so I do think there is a role for paying for outcomes when you are thinking about how to have the donor play the right role in a situation where inevitably there is a power imbalance but we can continue that conversation in plenary.

MR. SPERLING: Thank you. Jacob, the floor is yours.

MR. HAROLD: Thank you. You know, I was thinking I think there is a chance that I know less about education policy and innovation than anyone else in this room but I have spent the last 10

years thinking about philanthropic decision making, the flow of information and how we might build a social change apparatus that is actually capable of tackling the great challenges of our time, including education so I'll offer a few thoughts from that experience, which may be relevant or useful in this conversation about education. So the first one is just a reminder that the social contract is in flux right now. We, as humanity I think are struggling with what are the roles and rights and responsibilities and different elements of our society. That shows up often in language.

So for example, we have been talking about donors and funders but what do we mean by that word? And actually, over the last day, I have heard that mean individuals, foundations, companies, bilateral donors, multilateral donors. These are profoundly different kinds of institutions and on the recipient side it is similar. We might mean a government department, a non-profit organization, a social enterprise. And so there is a lot of messiness in that so let's step back for a bit and think about what I would argue are sort of the three pillars of society, government, business and the non-profit sector, setting aside some of cultural pillars like religions, and let's think about what are those?

So government is public action with a goal of public good. Business is private action with a goal of private good and civil society is private action with a goal of public good. We don't want to have any public action with the goal of private good, right? And so within that, I think we need to step back a big and be a little clearer about some of our terms and then, this gets onto my second point, to really start to be thoughtful in a new way about the fundamental economics of social change because I think we are stuck in some old paradigms and I think the middle phase argument is exactly the right sort of thinking that we need to have. To begin to recognize that the economics of a given entity, whether it is a non-profit or an arm of government or a business, those economics are going to evolve over time, they require different kinds of financing at different points and our challenge is to map the diversity of different sources of financing to those different stages over time and to be very thoughtful about some fundamental dynamics that we sometimes ignore, around, for example, the need for general operating support and the fact that in many cases, we are operating in the context of a market failure and too often I think we will hear the argument of: "Well why haven't you reached sustainability yet and even the word sustainability has many many different definitions. Are we talking about sustainability of your core operating costs? Or operating costs plus R and D and growth?

And are we talking about sustainability based solely on earned income or on all sources of income. And I would argue that we should be defining sustainability as the ability to operate, to do R and D and grow but based on earned income, as well as other sources, as long as they are predictable.

So again, I think there is an opportunity for us to be much more thoughtful about the underlying arithmetic that makes up the economics of social change and it can just be arithmetic, we don't have to get into multivariable calculus here. It's pretty basic addition and multiplication that actually drives whether these different entities, whether they are non-profit or business or a government agency actually is able to make the numbers add up.

Thirdly, I'll just talk a little bit about data and then let's move on to the discussion. We talk a lot about data and social changes and I think we are quite precise enough in some of our definitions so let me suggest that there are four units of analysis or kinds of data that are relevant for these sorts of discussions. I have heard all of them brought up over the last few hours so the first is data about the issue itself so literacy rate in a given country, for example, would be issue level data. The second kind of data is data about interventions, what actually works to address a given issue.

The third category is the data that Guidestar has, where the unit of analysis is the organization. Now ours is information about non-profits but you can apply that same sort of metaphor with information about businesses or government entities and I'll just pause there and say, just in the U.S., there are 2 million non-profits, 30 million businesses and 76,000 government entities.

We are really talking about organizations here, not government as just one big blob or business as one big blob but as individual entities and fourthly, information about resources. Whether that's philanthropic capital flows or other kinds and we have historically kept those four types of information in silos when in fact, the real value comes when we cross reference them and that's when we begin to see "oh look, funding in this given country is all going to early childhood or its all on research or there is this other kind of imbalance" but the thing that I am highlighting here, I think a lot of confusion in some of our language and some of our conceptual frameworks but I also think these are solvable problems, that we can get to the level of precision we need about language, about intellectual frameworks, about analytical frameworks, about categorizations and also that the technology necessary to organize this information in a way that will be useful that absolutely exists.

It is simply a question of political will, willingness that we are not all unique snowflakes, that we can actually share our stories within common templates, that we can adopt data standards that allow for the easy transfer of data from one database to another so I believe that 10 years from now, technology is going to enable us to be having a very different kind of conversation and one that will allow us to address some, although not all of the challenges that we face in funding the scaling of effective interventions and education.

MR. SPERLING: Let me -- I am probably going to have the chance to do one or two follow ups before but I'll start with you which is -- one of the things I know you've been thinking about more is the overhead issue.

I have always thought about this in various different contexts and it occurred to me that overhead is probably more like cholesterol, there's good cholesterol and bad cholesterol and you know, there is good overhead so you know, a lot of times we are, you know, we say to people: "You need to have the lowest" -- you see the universities and "you need the lowest overhead possible. By the way, you need to have different types of training to make sure it's a friendly workplace, there is no sexual harassment, you need quality measures, monitoring, there needs to be special guidance for people who are with disabilities or have difficulties but can you please keep the -- we're going to judge you by how low your overhead costs are."

Now on the other hand, we all know that governments and organizations often do have more staff than they need. More bureaucracy than they need so help us. How should somebody be looking at this, particularly when you are given something and it gives just a number and you're supposed to kind of assume that it's a great thing, the lower that number is.

How should people be thinking about it because in education, I think the examples I just gave are very real to a lot of organizations, not just doing development work but your local school board would probably feel that way.

MR. HAROLD: Don't get me started but you got me started. You know, my predecessor, Bob Odenhoff would like to say: "You wouldn't tell an airline that they should be minimizing the amount of money they are spending on maintenance." And in a sense, that is what we are telling the social change apparatus to do and it is deeply, deeply problematic.

That doesn't mean that an airline might not be inefficient in its maintenance and that's something that you shouldn't address. To me, a lot of this has been the drunk looking for his keys under the light post. When asked, he says: "Well I am looking for it here, not because I think I lost it here but because that's where the light is." And in the non-profit sector, the light has been around finances and not around programmatic metrics and so we have fallen into, out of a good place, out of a desire on the part of donors to try and make good decisions with their money.

We have fallen into a deeply problematic and counterproductive cycle of starvation where we are preventing non-profits from making the investments they need to make to be able to train their staff, measure their results, et cetera so my organization and a few others have launched a campaign called the Overhead Myth to try to restructure this conversation and it's going to take a long time, partly because non-profits, probably some representative in this room keep training donors that overhead is what matters.

So if you have those cursed pie charts in your fundraising materials, step one is to take them off but you've got to replace them with something meaningful and that gets to the broader conversation about data that we have to be willing to share an alternative. It's not fair to donors to say "well I'm not going to give you this data point but you don't get anything else."

We at Guidestar are about to launch, next month, the first ever U.S. wide, it's not yet global, mechanism for collecting structured, quantitative programmatic data about non-profits. That is metrics about results. Again, the technology exists, it's just a question of designing it, building it and then getting the political will so I think we can get there and there are responsibilities for all of us in this room as non-profits, to be willing to share information. As donors, to pay attention again to the actual economics of the organizations.

If there are any journalists in the room, to stop writing dumb articles that are just about overhead and actually ask the much harder question of is this organization actually creating any good in the world because that's the question that matters and that's the question that we need to be having as a field.

MR. SPERLING: In the United States, if you are U.S. government employee, you're given a chance to pick out a number of charities that you like and you check them and usually wherever

you are in the government, that group tries to meet its goal, et cetera, so you look through this list, there is one metric, just one, and that's your overhead cost. That is, and you look down and that is the one metric and so not just big donors but millions of smaller donors are encouraged to look at that exclusively.

Vineet, I mean one of the -- there's -- sometimes you get an idea that there is a lot of excitement about but it's not always as well defined or people use a phrase and then if you ask, you'll find five other people who think it will mean something different so social impact bonds, are we just -- is this paying for results? Is this -- you know, there is no doubt, huge positives here and lots of support but on the other hand, a lot of times, people use the phrase, people don't know what it actually means and it refers to and I think there is always the issue of feels good on the upside, how does it actually work in the downside, what does failing look like, how does a non-profit fail?

Are there really investors who would really seek returns from these? So I guess just asking, in whichever village you'd like to address to go just a little deeper at how we should be looking at the kind of social impact bond paying for results, both in success and when it doesn't work.

MR. BEWTRA: Great question. It's -- I think like many phrases, it's used in so many different ways so I'll try to narrow it to what I think is probably the most interesting way to think about it and this is another point that Ronnie Cohen was making at another event that Brookings had gathered together which is really, it's about if you reframe it and say okay, we'll pay for outcomes, and there is this question of how do you value those outcomes and that's a separate process but if it's done in that way and if it's used to encourage, to incentivize, to create a space for people to experiment with things that they don't know may or may not work, that's actually really interesting so --

MR. SPERLING: Right.

MR. BEWTRA: As a dry economist, if you sort of step back and say: "If you know something works, why would you outsource it" right? Normally, the cheapest cost of capital is the government's cost of capital. It's kind of like vaccination. If you know vaccination works, why would you bake in a profit margin for someone to vaccinate; you know it works.

What if it's something that is much more complicated where you don't know whether something would work or not, who should take that risk and historically, people said where you can build market based models, great. But if you're trying to deal with the poorest quintiles, whose ability to pay

isn't great, that's when philanthropy would come in.

Okay, when philanthropy comes in, people will say well okay, tell me what you're going to do, tell me exactly what you're going to do so that I know what it is that my grant is being used for and then what we found is that ends up creating almost binding constraints for the underlying organizations that I have to report to the donors about what I am doing. Every year, I am going on some fund raising cycle, whereas, and this goes to the point that Alix was also saying, now talking to some of the organizations that have pioneered it, they said the minute we were able to raise this capital, it's effectively medium term risk capital because someone said as long as you deliver these results, this is the cash -- you have to go and find the investors who will take that risk and I know that was one of the questions and we can come to that but from the organizations, from the innovators, from the entrepreneurs' perspective, they said as long as I can get that upfront risk capital, someone who buys into my ability as an organization to execute what a normal investor will do, this kind of analysis when you choose which company to buy stock in or to buy a bond in, you're kind of making that judgment call and then there is three years, four years, five years with free space so as the executing organization is saying: "Actually, we are finding a different challenge here. We need to change what we do." It makes them much more (inaudible) so you're talking to someone, one of the entrepreneurs who is involved in India in this.

The minute that they did this, they found themselves changing how they worked as an organization, what they focused on, data becomes super important. That's what any decent start up would do. You have to know if your product is working, if your customer likes what you are doing and that's what -- it makes those organizations much more necessarily sensitive to data. Is it working, are people coming through the door? Are outcomes going up or not? It also changes the mix in who are they accountable to? Are they trying to please the donor or are they saying: "Actually to please the donor, to please our investors, we have to deliver these outcomes so they start to really focus much more on data capture, data analysis. Course correcting early when it needs to and again, at all times, they have the ability to do that. They don't have to suddenly say: "Well, we said to our grant givers this is what we would do and now we are going to be doing something different. Now do we need to go and get their permission?" they don't need to do that.

The big question is what is the path to scale in this and how are these things used and I

think there, people are figuring things out. One way of looking at it is if you find something, an innovation

that works and said: "Yes, we now know it works." Maybe the best way to industrialize it is within the

existing system or maybe it's with lower cost capital that has become de-risked.

Those would be very very different things and I think that's -- it will be case specific. To

your question of what constitutes failure --

MR. SPERLING: Let me ask you something too because this is what can be a little

confusing sometimes which is who bears the failure so if I do -- if you have a social impact bond and you

aim for results and local bank here says: "Come invest in us. We are going to build low income housing

better than anybody else and if we do, you, the government, are going to pay us" and if you don't you

think well that's okay, it's a for profit, they took some risk and if they don't get paid, that's okay.

You don't think of telling a head start organization that they will do something innovative

on preschool and if it doesn't work out, they just go out of business et cetera so explain in your model

who is the -- because what you are describing here often sounds like, you know, to use old language,

what you would have called giving somebody a waiver to not live by certain rules as long as they produce

certain results. They get flexibility if they can guarantee a certain amount of results and you also kind of

understand that you give people an innovation grant and if it doesn't work well, they may not get the next

round but it's often hard to understand who -- when you are dealing with non-profits and others, how is it

structured so that the person taking the loss in that case is someone who you would be willing to let take

a loss?

MR. BEWTRA: So transactions -- I am not going to claim to be the definitive expert

because a lot of people are using different structuring techniques but the question -- the financial risk

ought to be taken by upfront investors, the person who -- the organization who bought the bond or the

capital instrument, they are the ones taking the financial risks so if it doesn't work and the outcome payer,

the government says: "I am not paying, you didn't deliver the results." That financial risk is taken by an

investor who says: "Fine, that's the calculated risk that I took." The reputational risk is probably for the

underlying organization but the financial risk should sit with the investors.

MS. ZWANE: The execution risk is with the implementing organization. They need to

have confidence in their business model that they know how to do the activities that they are committing

to do at a certain cost.

MR. SPERLING: Yes, exactly.

MR. BEWTRA: And that parallels, when you make -- when you buy shares in a company, you're not going to go and tell the management "I am going to tell you what to do." You're sort of saying: "I am buying shares in a company and I am taking your execution risk." Essentially, it's the same thing. People will do a lot due diligence and say: "Is this a good organization?" right? Whether it's for profit or non-profit, it doesn't really matter. Can this organization do what they say they can do and if I think that the execution risk is good enough, am I willing to put my risk capital up to do that?

And now the UK has sort of been ahead of other parts of the world and it seems to be working. In the UK, there are transactions, a lot of transactions where payouts have been triggered. Now what that means is that outcomes have been independently and objectively measured where they say: "Yup, this social value has been created." It has outperformed the benchmark, money has been paid for something that was sensible for the payer and the investors are taking a return and that's been bundled up into a fund and actually now, pension funds are coming into that. I mean there is a lot of risk to the first people who took the risk of buying those instruments are taking huge risk because you are pricing a lot of unknown things and that's where it goes to this -- some of them are philanthropically motivated. They are the ones to take the de-risk so we were part of the first impact one fund in the UK where they said it's an experiment because we want to see if you can create a wholesale vehicle. Validation there is the pension fund saying actually this thing is working.

MR. LINN: The only point that I would add is that there is another risk and this is the risk to -- let's call it social service beneficiaries. So you know, your experiment fails but kids aren't being educated at the end of this so it's the same problem that the official donors face or maybe haven't faced up to enough is yeah, we talk about learning and so on by making mistakes and so on and we move on to the next project but somehow or other, there is, in the political context, there is perhaps accountability because the government, the local government officials that supported the CIB, doesn't get reelected because the CIB failed but in the end, it is the children that in a sense bear the risk of not being well educated so I still think we have to think when we do this outcome based financing approach is what happens if it fails?

Just as we need to think what happens if it works and your point about exit is absolutely critical. We need to think much harder about what happens at the end of the project, the end of the intervention. It may be exit or it may be the next stage but we need to stay engaged in one form or another.

MR. SPERLING: Okay, well I had one more question but I am going to cede to this robust audience. All right, we'll start over there. Yes, you in the corner. So identify who you are and if you are with an organization, identify that organization too.

QUESTIONER: I am Lucy from Camfed and I just wanted to thank you for picking up on this issue of results space financing because I think that results based financing and education, when it's attached to learning outcomes is a very underdeveloped science at this point and I think we all need to recognize the risks associated with that and the potential for perverse incentives to be built into this and one risk that we have seen is the potential for hot housing cohorts of kids to get the learning outcomes but at the expense of the system so how do you triangulate these incentives.

MR. SPERLING: What was the expression you used?

QUESTIONER: Hot house.

MR. SPERLING: What is that?

QUESTIONER: Intense intervention on particular groups of kids to produce the learning outcomes that will result in the payment whereas that might be at risk -- at the risk of the system so how do we align the incentives appropriately to ensure that this does result in long term sustainable change and I think that this is an important area, particularly as we look at the issue of scale that we need to recognize that there is a lot more ground to be covered in developing this.

MR. SPERLING: And truly that exists, to a degree, the incentive issue or it can exist even as we see with -- where it's just scores or et cetera but you know, Rebecca, this is probably a whole day topic sometime. I know you don't have enough on your plate -- okay, I have to call Coleen or I'll get in trouble.

QUESTIONER: You are not in trouble. Colleen Bush from Their World and the Global Business Coalition for Education. I am interested to know how Gene, you have been around for a long time and the panelists think about the direction that we are heading in so we are in a position right now

where education financing is declining. It's nowhere worse than in the poorest countries. We are trying to start new initiatives to address things we should have addressed decades ago.

We are in a really bad position globally for funding global education. Are we heading in the right direction? What are the things we are doing that are working?

MR. SPERLING: You know, I do think that when you look at the examples -- I do think one of the tensions we still all face is that a lot of our success stories are still kind of NGO success stories that kind of expanded. Now sometimes it's (inaudible) where it becomes connected, et cetera, but I do think that one would like to see perhaps more examples where you can point to, maybe not an entire national government but what would be equivalent in the United States of "here's five states" where the government itself has eventually taken and scaled up.

I mentioned the recurring cost thing a lot obviously because the lesson of the last decade, obviously was without the -- this is where different contexts are. If you are in a place where you're perhaps spending an appropriate amount of money, you have the kids going to school and you just have to improve quality, then you can maybe talk innovation just efficiency.

If you have 30 percent of your kids out of school, you're going to have to increase teacher salaries close to 30 percent and if you don't, you're going to have what none of us want, which is the quality access trade off so I still think -- I think what's important and I like in the report is that it is talking about not just -- that has examples not just of organizations that have scaled up but I still think that -- I would like to see a report five years from now where you had 14 examples and every single one was essentially a -- perhaps a government example not from scratch but having learned from the different lessons of innovation and actually implemented and I would say that even when you are inside the government pushing for more development aid, the lack of that evidence is a hindrance. I don't know if anybody else wanted to comment on that?

MS. ZWANE: Just one quick comment. You talked in your opening remarks about champions and aligning with priorities.

MR. SPERLING: Yeah.

MS. ZWANE: I think there is actually some really great case studies coming out of the interesting space where the (inaudible) needs this or the people that want to experiment genuinely do

bring their talents to bear on questions that governments want to answer so one great example that is relevant to this crowd is a partnership with the ministry of health in Zambia where they were really interested in how should we market joining up to become a nurse in the community health worker with us?

Should we emphasize career constraints and career goals or public service? We really want to get a better crop of people and with the amount of super simple experiment of just different marketing messages but it really spoke to a problem that they had that they identified and have changed a lot now, some of their strategies around recruitment for community health workers and they are doing this other stuff throughout the public service in Zambia. Simple, cheap, not a big infrastructure to ask an academically interesting question.

If we can do things that help governments answer questions that might be part of how we get to the vision you have.

MR. LINN: On the finance question, there is the microfinance issue, how do you increase local taxes and the fact that today, tax is a bad word in certain countries anyway doesn't help but if you wish at the micro level, specific programs in particular countries, what I have seem really effected is when you design programs, you implement them, you pilot them with a vision for scale and so you set up sort of this question of if this works, what then, and you know that part of this, making it work at a larger scale and sustaining is more government finance.

Well he better bring the ministry of finance into the process up front, not at the end. You then go with cap and hand and you say give us money and you bring them and some of the programs that I have worked this actually do this and I think that's one way. I mean the ministers of finance are rarely going to be champions for a particular line item in the budget but if they understand, because of the evidence in part that you have generated, does this thing actually work at whatever scale, then they -- you bring them into the process and it's more part of their own decision making that they realize that this is a program that works, it's a program that has champions, important champions out there and yeah, we really ought to put it on the sustainable budget trajectory.

MR. SPERLING: I would still rather have it be part of the head of state's basic promise.

MR. LINN: That too.

QUESTIONER: Thank you, good afternoon, Courtney Bennett, International Affairs American Federation of Teachers. I am happy that you guys are here and that we are having this conversation, a critical conversation in terms of scaling quality education. My question is the panel mentioned something about the role of shareholders in terms of public companies; my question is: what is the role of the shareholder in terms of companies that are investing in the arena of education?

So does the shareholder have a say in the company and how they are funding certain organizations within global education.

MR. SPERLING: Anybody want to take a shot?

MR. BEWTRA: I am happy to -- just a general observation. I think it's -- what I would say is it depends upon the shareholder. I mean to reduce it to almost one extreme, every time someone buys a share in a company, the buyer (sic) is saying: "I think this price is going to go down. I think this company is not going anywhere." The seller is thinking: "I think this company is going to go up" so what I am saying there is that different shareholders may have different incentives, may have different motivations so it's very difficult to give a universal answer to that. It goes to what Gene was saying at the start which is: "Humans are humans." Different humans have different incentives so yes, out there, are there shareholders who would be the caricature of only interested in profit? Probably, but does that mean that all shareholders are like that? I would say no that would be an unfair generalization the other way. If we sort of step back, I think the question is more around the rule of for profit capital in education and I think that that is -- the same question can be applied to the rule of fore profit capital in health or in any kind of socially important service.

It really comes down to the regulatory framework. The -- if you have complete -- I think only market fundamentalists would say that you can't have any regulation. It really comes down to what the regulatory framework is. What are the minimum standards, you know, what is the role of the state in acting as the regulator and saying: "Okay, this school is not working" or "that school is working"?

I think it's much more complex and it's also much more context specific. To some extent, these questions also touch upon the social contract which will vary from country to country, you know? So I don't think there is any generalizable answer.

MR. SPERLING: I think you've hit another topic that could probably be the whole thing

and I think this is something where people probably have very strong views. I am of the view that in education, the shareholder is the democracy -- the government and that has to set all of the incentives, then you can have creativity in allowing people to help serve it but I think the fundamental incentives have to be the will of the -- a government elected by the people to make those and not -- and I think that is a little different from other things but that's why the issue of private capital and private education is controversial on an emotional one but it certainly has some intersection when you start looking at the kind of pay of success and it's worth again thinking about how the incentives work and whether you can coordinate them with a -- with what would be the goals of the people generally but again, you know, another full day that Rebecca should be doing sometime in the next three months. I mean if --

QUESTIONER: Chris McCray. I would like to go back to the proposition made in the morning that maybe the whole system is broken. What if the microeconomics, governance of the sort of industrial ages is undervaluing youth and learning by tenfold. I mean half the world is under 30. The sustainability goals maybe they should be something that you should be in the middle of. Maybe we should map education backwards so the sustainability goals actually happen so that you can do them.

If you (inaudible) all of that, maybe learning is a ten times larger (inaudible) that microeconomics is making a case for?

MR. SPERLING: I mean again -- I don't know if anybody wants to take a shot at it. I do think that thinking through how one looks at their education systems, particularly with the pace of change that we have right now. The expression I have done a bit is that it's a little bit like trying to figure out -- if somebody had to train for the Olympics but they didn't know what sport they would be in. When I first came to government in 1992, very very smart people in our government predicted that one of the five fastest growing jobs would be travel agents.

Now it was very intelligent because they were looking at travel behavior, they were looking at a larger retirement, middle class retirement set, it was reasonable. They just missed that little thing, what was it? Oh yeah, the internet but that was as smart people as you could have so you are in a world where education systems are going to have to figure out -- they aren't going to have this precise map and the expression that I use in the training for the Olympics if you didn't know what sport it was, you would have a certain amount of strength, a certain amount of quickness, a certain amount of flexibility for

a sport that you didn't know that was going to take and I think that's a larger issue that is as relevant today in the developed countries as the developing ones.

Okay, we are doing a lot of discrimination towards the front rows here but okay, sorry, I had to. In the interest of fairness and back row diversity, I had to --

QUESTIONER: Thank you very much. My name is Divya Kapur and I was curious if you could speak to a little more about public private partnerships if at all in the space? I know we are talking about NGOs; it's been very interesting hearing all the interesting ideas that have come up but I am curious if there is anything that you have identified a potential public partners and blended finance if you could speak to anything that you think is scalable? Thank you.

MR. BEWTRA: If you mean from a financing perspective, a very interesting thing that we are noticing -- my focus is mostly based in London so I focus more on the Africa time zones so in South Africa, there are some interesting things happening where the government for the renewable energy, where what it sort of said to companies, that if you want to be able to generate renewable energy and sell it into the grid, you have to reinvest x percent of your -- no, no, no, that's where I am going. I know it sounds great, renewable energy but when they said you had to reinvest x percent of your revenues into the local community and into specifically for example, into education so what is now happening is that these energy producers in South Africa are saying: "Okay, we've got cash which we have to reinvest in education. What do we invest it in, right?"

So this goes into one of the points that I think was mentioned yesterday as well so you have private sector organizations saying: "well actually I am quite happy to do this, right?" and so what they are doing in that particular example is they are saying actually they have identified early childhood education so they are saying we will essentially pay for the cost. We will create digital vouchers that will be going to the parents so that they can use it in their early childhood centers and that's what those companies are doing.

Again, it's the role of the state there as well. The government said if you want the license to generate this electricity, this is what you have to do and the South African government has gone a little bit further still and recently said that depending upon the size of the company, if you are a very big company and six percent of payroll cost, three percent of payroll cost has to be spent in skills

development. Now if you step back in your local neighborhoods and most companies -- enlightened self-interest, I want to do this, right?

Because if I can improve the supply of potential labor, if I can actually invest in my communities and if they will earn more, they will spend more. All right, so these are some of the things that we are seeing. We are seeing banks so now, if the private company is the buyer of this, they are approaching things in different ways. In some cases, they are saying: "Well we just give the money through vouchers to the parents, parents decide what they want." Other private companies are saying actually we want to look for non-profit operatives because these are companies that have to give it as grants. We want to see the high performing non-profits so come show us your efficacy, come show us your cost effectiveness because I have to spend x -- it's a purchase decision by a company. It's not a pet project for a CEO. It's six percent of their payroll costs and so the question will be how does that get scaled up?

What is the corporate response to this? If they come at it and say let's just spend this money intelligently, rather than as a PR exercise, you should be getting more capital, so a public/private sourcing of capital going into local organizations where people are saying you better be delivering results, you better be cost effective, all those things.

MR. SPERLING: I'll give you one or two examples in the United States that I think are quite interesting right now. They are a little bit the opposite of what I was saying. It's very difficult to imagine being in there teaching a five year old what the economy is going to be, not so much with a 17 year old and right now you are seeing things like the IBMP tech program where some people want an advanced education but are motivated by something more tangible.

A company or a group of companies working with the school district to do something where you maybe have a six year degree or that degree leads to a very clear credential that is recognized and let me say, this is something that you can't do without the private sector. If you have a number -- and I'll tell you one place that this kind of happens is kind of in computer science. There are certain private sector credentials and they mean something and if you have an assortment of them, you can -- it applies everywhere so I do think the kind of partnership and credentialing of things that people can learn in their last years of high school that will have a tangible job connection is not something the private sector can

do -- the smartest public sector person in the world can't do that. You can only do that if you have a coordinated partnership and I don't think that's an example that is just exclusive to a very advanced economy. I could even imagine that having lots of applications in countries that were still emerging or developing. Okay, it's your time, it's your turn.

QUESTIONER: My name is Dima Bibi. I manage a non-profit organization called NJAS, in Jordan. So one of the -- for an NGO to scale up is to build its institution on financial sustainability and one method of doing that is to build an endowment fund, grow an investor in it and my question is why do donors avoid that?

We find it very hard for us to get donor funding going directly to an endowment fund. They always prefer to spend it on operations and programs although it's much easier for us NGOs to find multiple donors, smaller donors who can and would support programs so that's --

MR. SPERLING: So I have lots of thoughts on this. I personally find endowments to be very economically inefficient and the reason is that I think that many of the issues that we are facing in the world, have a high social discount rate and what I mean by that is that spending money sooner is much better than spending it later and I think -- that's not true for all issues. The ballet for example, has a very low social discount rate. A ballet now or a ballet in 50 years are both equally viable. Investments are on climate change, education, infectious diseases. I think there's a strong argument to spend money sooner so personally I am not a big fan of endowments, however, -- especially those endowments that lock the money into place with a rare exception like if you are trying to protect a particular place in perpetuity, the endowment starts to make sense to me but I generally think we should spend more money sooner, that's why I think -- the fact that the in the United States, the five percent payout rate minimum has become a maximum. That is a profound tragedy for social change.

The foundation should be spending money according to the problems they are trying to solve, which might be much faster than five percent, however, I would also say that it is very important for donors to think about how do we make sure that non-profits have sufficient liquidity and a balance sheet that actually allows them to make investments which may not pay off for a long time.

So I guess my suggestion would be to not sure the language of endowment because I think that just sounds too delayed, you know?

But instead to really talk about a balance sheet that provides the liquidity and the capital structure that allows you to make the investments that you need to make to make an impact now and later.

MR. HAROLD: You read a bit about kind of like hybrid models now where -- or just the decisions by certain people that have a significant amount of wealth to essentially die broke or spend it down but yet for an organization, are there models in between where we're not going to build an endowment in five percent but there is a certain kind of capital camp, not necessarily for capital but the kind of campaign where at least somebody, the people who run organizations aren't spending 75 percent of their time fundraising?

MR. SPERLING: Yes, absolutely and what that requires is one of the great challenges of all of strategy, which is articulating what you are going to do on different time horizons and to say:

"Look, for the next year we are going to run a capital campaign that allows us to stop focusing on fundraising for five years, recognizing that five years from now, we are going to have to pause and reassess and really think about a next phase" and so yes, absolutely but it's hard to do and it takes some time.

MR. LINN: My experience, I have been on both sides also like you and different ways of both funding and fundraising and you have some sort of conflict, potentially between the organization and the management who clearly wants to have core funding, preferably an endowment with which, you know, you can have predictable funding for a long time to come and on the other hand, the donor who actually wants to have control over how her or his money is being spent and so you see that actually on a large scale in the World Bank.

I mean the World Bank has in a sense and endowment which the capital that the governments contribute and to some extent, the governments feel -- the big donor governments particularly lose control by having put that money in there and then the bank management still has the executive directors and the U.S. happens to have a veto right over any big decisions so there is a sense of control but they actually, as donors, like what's called IDA, the International Development Association much better because that has -- money has to be put in every three years and every three years, the donor can come back and say: "Oh, by the way, I don't like what you have been doing, I would like you to

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do something different," and lo and behold, the organization has to react so the question of control is very critical.

Now some wise donors may think no, I don't want control because actually I'd rather have a governance system and set up an institution that will survive me and where the governance system in itself is the control and where the constitution of the organization is what gives me assurance that I will do what I want to do so for you as an NGO, you somehow have to find a way to convince your donor, number one, to put as much money as possible into sort of at least something a bit like an endowment, secondly to core fund you and so it isn't all earmarked to specific little projects and then yes, top it up with a specific project and somehow that's the trick and I was on the receiving end of this and it's tough. I mean it's really tough to do it right and so good luck.

MS. ZWANE: Quickly, Global Innovation Fund is an interesting example of -- you know, DFID, USAID, they could and do actually have innovation units within those institutions but there was still a felt need and a value add of having an independent entity that they funded, essentially as you said, with core funding and predictable amount of money outside of government but they exercised control through their board membership and then it's good for them because the tradeoff is less control but an entity that can take more risks, do risk capital investments, things that are very difficult to do within an agency like USAID.

MR. SPERLING: So the Sperling Center for Universal Education might have gone on for another five or ten minutes but the Rebecca Winthrop -- it says the panel ends at 3:00. It ends exactly at 3:00 so I know the next three questions were going to be amazing but I have to live under this new regime.

My congratulations to Jenny for this and as well as Rebecca and Eileen and thank you so much, panel, it's been -- I think we hit all the issues we were supposed to.

We didn't resolve everyone but we hit them all so thank you. (applause).

MS. WINTHROP: Welcome to a coffee break. We are taking a quick 15 minute break and we'll be back in here for the technology discussion.

(Recess)

MR. SCHMIDT: So, we are going to go ahead and start. Welcome back to the panel on

Technology and How It Relates to Scaling. The hardest problems, the most important topics are always at the end of the day, that's my experience.

My name is Philipp Schmidt, I'm at the MIT Media Lab, and I'm moderating a really fantastic panel with lots of different perspectives. My three panelists are Sashwati Banerjee, who is the founder and managing director of the Sesame Workshop in India; Michael Staton is a partner at Learn Capital; and Carol Williams, who is the country manager for Worldreader Ghana.

We'll come to introductions in a second, but we are going to do this in a slightly different format.

MS. BANERJEE: I think you need to raise your voice. Can you hear?

MR. SCHMIDT: Can you hear me? No.

SPEAKER: We can hear you now.

MR. SCHMIDT: You can hear me. All right. Is this better?

SPEAKER: Yes.

MR. SCHMIDT: Okay. Thank you. I was wondering at all the confused faces in the back. So, you know, when I think about scale and quality, and there are two things we care about, I can't really imagine a conversation that doesn't involve technology, because the sheer scope of the challenges we are looking at will require new formats and new models. The report mentions 250 million children are not completing four years of school, or even if they are completing four years of school, they are not learning the basics; 250 million kids.

Another topic not in the report that I've been thinking about a lot is refugees, there are 4 million Syrian refugees, but there are really 60 million displaced people on the planet today, and that number is expected to increase to 600 million. So, it's clear that to address the challenges in education that we are talking about, we will need fundamentally new ways of scaling, and digital technology can play a really important role in that.

Now, I'm the director of Learning Innovation at the MIT Media Lab, so on the whole I'd say I'm pretty excited about technology and digital technologies, and I think there's a lot of opportunity. But technology alone is not going to be the solution, I think the solution can't not include technology, but certainly just looking at technology and ignoring the factors around it, is not going to get us to the place

where we want to go.

And so today I want to take the opportunity with this great panel, but really with all of you, to explore the complexities of balancing glasses of water under conference chairs. No, the complexities of how we can make sure that digital technology can be a fundamental part of efforts to get, not just millions learning but maybe tens of millions, or hundreds of millions learning.

So, I'll just say, kind of, a few things that build on the report, but also push us maybe in slightly new directions, because in a way digital is the newest topic, and so understandably the report focuses on things that we know a lot more about, and there a lot of open questions around technology, and I think it's interesting to explore some of those future directions together.

So the first one is, you know, when we think about technology we often talk about both the shiny new innovate solutions or we look at ways that technology can help us scale things that we found works in some context. What we don't often do is talk about kind of the questions that technology raises in rethinking what are the skills and competencies that children should be learning today.

So, what do we mean by quality education today and in the future? And in a way, if you look at the education system it's still largely designed to prepare us for the world where we end up on top of the mountain, by ourselves, with a number two pencil in our hand. And we have to be ready to solve all the problems with all this information in our heads, and that's clearly not the world we live in anymore, and so thinking about digital literacy and the skills that kids need to develop, I think is one area of further work.

And in a way, Seymour Papert, who was the founding faculty member at the Media Lab, gives us a really good way of thinking and talking about a world in which technology and learning and children intersect. And he was a psychologist and a mathematician, actually he was not a typical engineer, but he ended up at MIT and ended up being one of the group of people that founded the Media Lab, because he had a revolutionary idea that computers could be tools that kid program, rather than machines that program kids.

And when he said this 30 years ago, I think it's kind of mind blowing for many people. What I'm a little discouraged by, is that it's still as mind-blowing today as it was then. We are still thinking a lot about computers, as ways to program kids, rather than kids programming computers to do things

they want to do. So, I think that's an interesting area, kind of why is there such a lack of imagination in technology innovation?

And it's not just that its computers programming kids, but for a large number of kids, its computers that were programmed by people who are very far away programming their kids. And so questions around, where is the origin of technology innovation, where should innovation come from, and I have a bias, but we can explore this together, and I think it should come from the place where technology is used.

So, the closer you are to the issues the better you understand them, the more innovative and relevant I think your solutions will be. So, moving innovation more to the edges rather than concentrating it among other places like MIT and a few other universities in the U.S. So, better mechanisms for doing this, I think would be an interesting topic.

And finally, and I'll just tee this off, and I don't expect us to go into this topic very much, but we are really just, at the cusp of what is about to happen to the way we learn. And it's a little bit scary and unimaginable. When we open the newspapers, we read about computers being better at playing chess, well like, okay. Jeopardy, oh, you know, we don't really care. Go, now we are starting to get a little nervous, they are going to be driving -- they are going to be better drivers than we are very, very soon, and in some cases they are already better at diagnosing certain medical conditions than doctors are.

And I was talking to Spinoff yesterday, I don't know if he's still here but -- He is there, yes; about when will computers develop something that looks like intuition, and I think it will be much sooner than we expect. So there are kind of big changes to the way we think about learning, that are happening in the next few decades and I want to make sure that the benefits of these developments reach further than just the most privileged people in a few develop countries, and at the same time, that the risks of these developments, because I think there are significant risks, are also well understood all over the world, and we can be as thoughtful about deploying these technologies in developing countries as we would be in developed countries.

So, with those remarks, I want to kind of get into the panel, and the way that we thought we'd structure this, is I'm going to ask a fairly broad question to each of the panelists, one after the other,

and I'm going to ask them to use the answer also introduce themselves and the organizations that they work for, and kind of in the context of the question. Then we are going to explore a few of the themes, maybe have a little bit of back and forth on some of the issues that are coming out. And please feel free to get involved fairly early on.

So, I want to through the first three statements, and give them the space they need to kind of talk about their work. But then afterwards feel free to jump fairly early and really let's have an open discussion about some of these things. So I'll start with Carol.

MS. WILLIAMS: Yes.

MR. SCHMIDT: Carol, I already mentioned, kind of, the role of people, right, and even though when we talk about technology we often think of it almost as a way to get around people, right. Like people are inefficient and they are expensive, and with technology we can now, you know, solve all those problems, but really it's about people, it's not about technology, its people learning things. And so I'd love to hear from you a little about the different ways that Ghana uses technology, uses different technologies, and what you've learned in designing and deploying them, and in particular with the role of involving people.

MS. WILLIAMS: Great. Can everyone hear me?

SPEAKER: Yes.

MS. WILLIAMS: Okay. Wonderful. So, just to provide a little bit of background, at Worldreader we are literally trying to help create a world in which every person can become a reader. And so this is really important, right, because we've got 770 million people across the world who cannot read. In Africa we have 50 percent of schools, that have few books or no books, and so at the very core of learning how to read is having access to books, right?

What we do is to curate and deliver a library, a digital library of 31,000 books in 44 different languages to over 80 million people in 85 different countries, and the work that we are doing is really changing lives in a very profound way. In schools, in particular, we work with e-readers, and establish e-reading projects, so that schools are getting e-readers, the teachers are learning how to teach only e-readers, and the students are also getting the e-readers.

And these devices are being loaded with both local and international content. On the

mobile side, we are working with pretty much any user that has a mobile phone and giving them access to a free mobile library of books that they can access right on their mobile phone. And we do this whether you are using a feature phone or what we call in Ghana a yam phone, which is the most basic of phones.

It's just increasingly becoming a very profound way to get access to information to a lot of people in the developed world. To you question about human interaction, I'll just start by telling a little story about a parent of one of our earliest programs. Her name is Stella, and she has a daughter name Mabel, who has been in an e-reading project for, I guess, going on six years now. And Stella talk to us about how her child just literally had no interest in school, she would rather stay at home, watch TV, play outside with her friends, and then Worldreader brought this e-reading project to her school, and it literally just transformed her life.

And now, if you fast-forward to today, six years later, and you look at Mabel, she is excited about learning. Instead of going home to play outside, she wants to take her e-reader home and read books that we've loaded on the e-readers, right. And with the connection to human interaction, what we are seeing is that one of the main reasons why she enjoys being in the classroom is because of a level of interaction and engagement that she's having with her teacher, and the device, and the content loaded on to the device.

So, in no way are we suggesting that we should get rid of teachers, and that they should stop interacting with students in a classroom, or that parents should stop reading to their children, definitely humanity, and individuals are at the very core, of our work, and we'll always need them to do what we are doing.

But what technology is doing, is making the work that teachers have to do in the classroom more effective, more productive, more engaging, more interesting and this is having profound results at the end of the day, right, because you've got students that are reading more, they are reading better, and they are developing what we want to see happen across the entire world, really, and that is a strong culture of reading. And so that's part of what we are trying to do.

MR. SCHMIDT: Great. Thank you. Michael, shifting over to you, yesterday there was a term that I heard, supply chain of funding, at the end of one of the sessions, and I wasn't quite sure what that meant actually, and I've been talking to you a little bit about this, and really the issue is that in private

capital markets we have very well-defined systems for providing funding at different stages of the innovative process.

Different types of funders, different types of funding, different appetites for risk, and we heard a little bit about -- well we heard a lot about financing in the session before, but we didn't hear so much about this kind of funding, and so I'd love to hear a little more about, in your work, specifically focused on funding education technology innovation through the investments that you've done. What are some of the lessons you've learned that are maybe difficult or different in education sector from other sectors? But also how does the private capital example compare to government funding or philanthropic funding, and where kind of, where the gaps in the different systems, and what are some other things we could be working on?

MR. STATON: Hi. My name is Michael Staton; I am an investing partner at Learn Capital. We are a small firm of about eight people, we've been operational for about seven -- a little over seven years, and our portfolio of over 70 companies is now reaching over 300 million learners around the planet, and so one of our major takeaways and the firm was founded with this belief, and we think it's no longer a belief, we've actually demonstrated it, that small amounts of capital invested in the right digital technology, education technology companies, can scale learning opportunities to millions around the world at an unprecedented rate, now that everyone is blessed with this -- or cursed with this connection of being on the Internet or mobile devices.

In yesterday's session, and in the report that was demonstrated today, one of the messages was that there seems to be a gap in funding, for scaling things at work in the nonprofit and government sectors, and I actually, based on that, did a little write up which was distributed, about how the capital supply chain works in technology innovation, in Silicon Valley. Where, there are stage appropriate amounts of funding, with staged appropriate expectations for what we would call business milestones, where that organization should be at that time, and in the amount of capital that's appropriate if they are meeting those expectations to then, go ahead and fund that company for the next stage of their growth.

And it looks very clean in that paper, it's actually very messy in real life, but it does exist and companies do get funded. I also have a little bit on the funding environment, which now, over $2

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billion a year is going to education technology. And that sounds like a lot of money, but in context there is $12 billion a year that goes into health care, so that's 6-X amount of money going into health care versus education, and they are similar in their social importance and in their overall, the kind of size of the amount of money that goes into those socially-important sectors.

So, our role is, we focus on Seed and Series A companies, they generally come to us when they look a little bit more a rock band, than an actually company. Somewhere around like 5, maybe 10 people, and there's some proof that their idea is working, whether that's because they have a lot of users, or whether it's because they are making a little bit of money. And then we fund them, and we help them sort through some of the issues that they need to sort out, and set them on the road, to go to the next stage of funders.

And so the analogy that I use in the handout is it's kind of like going through a canal, where at each stage, there's like an infusion of water, or capital that helps raise the boat to the next level, and then the next gate is open. And I actually started my career in the classroom, I was a teacher, high school teacher, public high school, Union Penn, high school teacher in Houston, Texas; and the thing that I've gone on to help start four companies now, but the thing that has -- in terms of life experience that I still have in common with teachers, is that our goal is to raise expectations for entrepreneurs and companies, in terms of what they can do as a company, in terms of the value they can deliver to learners, and families and schools.

And basically, just consistently raised expectations, and then clarify the path to getting there. And that's kind of what we do, it's a lot like being a teacher with, I just wire a lot more money I guess, right. And I have some interesting case studies that I'll walk through when we talk about costs later.

MR. SCHMIDT: Thank you.

MR. STATON: Yes.

MR. SCHMIDT: Sash, over to you. I was wondering if you could talk a little bit about technology platforms, and you work for Sesame Workshop, and I told you before, that I actually learned to count by watching Sesame Street in Germany, and so my mind immediately goes to, oh, TV, right. But really what you've been doing over the last, actually, probably a decade, is look at other platforms, and

how can you take the core values and principles of what makes Sesame Workshop so special, and then move them onto other technology platforms, mobile phones, computers, the Web.

So, I was wondering if you could talk a little about what is that process, how are you thinking about different technologies, and also where are you are headed in the future?

MS. BANERJEE: Okay. Sure. So, first, thank you, and congratulations on the report, and we feel very honored to be one the case studies. So Sesame Workshop in India, we are celebrating our 10th year, and its way beyond television, because it started 45 years ago as a TV show, but we've moved a lot since then. And I think at the core of it is we want to be where the children are, and want to be on platforms that children are learning from.

So in India we do a plethora of stuff beyond television, which remains, you know, one of our core areas, we produce, you know, radio, we do digital games and applications, work in classrooms and communities, et cetera. I think living in a country with 1.2 billion population, with 900 million cell phone users, what drives us, really is scale.

So it's very hard for us to conceive of anything in India without keeping scale at the back of our heads, and it's kind of built into or DNA every time we think about it, and the way education is moving, and where children are, and knowing that we need to access the poorest of the poor and the most marginalized, we are always constantly experimenting with what ate those platforms, what are those technologies.

And I kind of was talking to you earlier, and I think the framework really that we look at is threefold, we use technology to expand access to engage with children and parents, and to really evaluate, and we use technology to make projects and programs more effective.

So one of the projects we did was called Radiophone, and it was really to address children of migrant populations because children of that population don't have sustained schooling experiences, because their parents are moving from place to place. And we partnered with community radio stations, and we made the content available through am IVR, like a voice response system, at the backend.

So we would broadcast on our community radio station, we would flash the number of people anywhere in India could actually their own little community radio station, by calling that number. In

India you have a very -- I don't know if it's prevalent in America, but you have something called the

Missed-Call System. Nobody wants to spend money, so they kind of call you, the server cuts them off,

and calls them back in 30 seconds with a menu, that allows them to listen to the project -- listen to the

program, the episodes, the songs, the games, whatever they want to do, but also leave their feedback

and their comments, and data being a very important aspect of our projects, we used to collate that, and

broadcast it back to the community.

And as Carol was saying, because we work in early childhood education, technology, the

way we see it, as an enabler, not a replacer, and really how to enable technology to improve learning and

to engage with parents. And more recently we started using technology, really to also monitor and

evaluate, it's helped us scale up our programs on the ground, particularly our community engagement

programs, where we don't have to put 100 people on the ground, but we really can do that effectively

through use of, you know, mobile phones and GPS locators, and all sorts of apps that are available.

MR. SCHMIDT: Cool. Thank you. And actually, maybe we can build right on what you

said towards the end, because I want to talk a little bit about impediments for technology innovation to go

to scale. So what are some of the reasons things are, maybe, not moving forward, even though they look

like good ideas. And the report contains a whole string of, both analysis, but also recommendations. But

one particular one is where I think technology can play a very important role, which is data and gathering

evidence in ways that we couldn't do before.

And maybe I'll switch to you, I'll let you tee this off, and then it sounds like you also have

some thoughts. But how is technology playing a role in helping you make the case for the kinds of

innovations that you are trying to scale?

MS. WILLIAMS: Absolutely! So, for us, data is huge. Data helps us to understand our

users, it helps us to make sure that we are building a library that is adaptive and is making it possible for

people to read books that are actually interesting and exciting. Through our mobile application, we are

able to learn a lot about our users, we can tell, for example, what country you are when you are reading.

We can tell which books are the most popular for you to read.

We can also look at, are you just going through -- flipping through pages, or are you

actually finishing the book, are you actually reading the information that's being supplied to you. And this

is important because in developing our relationships with local publishers, we need to be able to help

them understand what our users want to read, so that they can then turn around and then work on

creating that content for us.

So that's the data analysis from the mobile perspective. Oh, and let me just add one

additional thing. It's not just important for us to know, for example, that Abena in Ghana likes to read

crime novels, we actually want to go a step further, and have that algorithm tell us whether Abena, for

example, wants to read books that are not just crime novels but that also deal with female crime

detectives, and that have a happy ending.

So, to that end, it's almost like we are reclassifying how we look at books, and the Greek

system is just no longer applicable to what we are doing on mobile. We also have to consider data

around the efficacy of our programs, and this is important to us because, clearly, if want to make the case

for going digital, we've got to demonstrate that what you are doing is really making a significant impact at

the level of the user. And for us that is the student.

And so, really across all of our programs we do what's called an EGRA, I think many of

you in this room, are probably familiar with that. It's an early grade reading assessment, and whether it is

a program that Worldreader is directly implementing with the school, or if we are working with a partner

like Pencils of Promise, or Edify, or Grades International. They all use metrics to determine the efficacy of

the program.

So what we've been able to see across the board, is that (A) when you put books on a

device, whether it's a mobile phone or an e-reader, children are reading; (B) we are seeing dramatic

increases in the reading speed that the students who are participating in these programs are delivering.

And then, thirdly, we are seeing an increase in oral reading fluency and comprehension, that when you

look at where they were at the start of the program, and where they are a-year-and-a-half later, it's just

incredible.

And so that evidence-based information is helping us to make the case for why digital is

such an important platform for improving literacy and building a culture of reading.

MR. SCHMIDT: Yes. I mean, you are all technology innovators, but he same approach

could apply to a less-technology strong project, and you could still track metrics, and you could still gather

data to show evidence. Does this ring any bells in your context?

MS. BANERJEE: I think it does. I think it's -- I mean I always think it's a little bit of a double-edged sword and I'll just build off what Carol was saying. I think just having -- Technology is a platform so, you know, just having that platform is useful and it makes it more efficient, but I do want to touch upon, you know, one are which is, to me, very critical which is the question of equity. And the reason I say it's a double-edged sword, now seriously --

MR. SCHMIDT: You are taking over my moderator role on (crosstalk).

MS. BANERJEE: I'm so sorry. Should I stop?

MR. SCHMIDT: No, no, no.

MS. BANERJEE: No. And I think I look at equity in many different ways, and one is obviously whose hand is the technology really in. In India it's typically the males, so the women and the children who are supposed to be the direct beneficiaries very often do not get access to it. And therefore even in terms of the way we are thinking about our programming and content, it's important for us to then start thinking about engaging the male parent, so that it becomes accessible.

And I'll give you a great story that I love. So in this community radio project, for example, we achieved a two-fold impact, I would say. One was that, you know, many communities were sending their girls to school, because the girls were herding cows, so they were tasked with the job of herding cows. We starting broadcasting our program and people heard it, and communities were getting involved, and they found a solution and I call it cow pooling, so they actually -- (Laughter) No, serious, it was a fantastic story.

We actually found somebody to pool all the cows to herd so that the girls could go to school. Now that is an incredible and profoundly life-changing story that we heard from the community, and technology enabled us to achieve that outcome by just kind of moving that. Similarly, community radio stations were not getting any listenership from women and children, so just having our program on air, enabled them to gain a listenership base that they weren't listening to.

And I think those are in some small ways, also looking at scale and sustainability in a much broader perspective, because there's ownership, and there's building, these are the building blocks, and I think that's one of it. I think the second thing to me is the equity of access. Sorry. Am I running out

of time?

MR. SCHMIDT: I know Carol has this fantastic statistic about gender, use of your --

MS. WILLIAMS: Right. So Worldreader was the study of a UNESCO report that talked about reading habits in developing countries, and some interesting findings came from that result. One finding was that, okay, so men, definitely have more access to mobile phones. In this study two-thirds of the respondents were male, a third were female, but what was exciting for us to hear was that although there were fewer women who were reading on their mobile phones, they were reading 6 times as much as the men and the boys. And then we thought to ourselves, wow, this is interesting.

And we started to ask additional questions around. Okay, so what do we have in our library that's making the women want to read, and now it's gone even further because we've been able to partner with the Melinda Gates Foundation, to look at issues around gender. So we've hired a gender equity specialist, and she is going to help us to really look at what content do women and girls want to read.

We know that, for example, when it comes to reproductive health, women feel safer reading about reproductive health and sexuality on a mobile phone rather than if they have an actual book, because, you know, people are looking around, and they can see what they are reading, so I mean, that's powerful.

Do we have enough information out there, enough books out there that are gender-sensitive? The answer is probably no, but what can we do as an organization to build up that database of books of information, of gender sensitive material so that we can continue to encourage women to read? And so it's really powerful stuff.

MR. SCHMIDT: It's good, I mean once you get this data it's just interesting what you can learn about how people learn, and what could you do to support that more. I want to get -- Pull me back if you want to come back to your point.

MS. BANERJEE: No, no, no. That's good.

MR. SCHMIDT: But I want to get Michael into the discussion about equity, and also after he has spoken, maybe then, if there are any questions please start chiming in or interrupting us. So there's, you know, equity issues around gender and various other dimensions. One that I often think

about is, you know, at the MIT Media Lab we develop a bunch of new technologies, and often the first adopters are in kids in very privileged communities.

They go to the best schools, and so, you know, what we are really struggling with, how do you go from that first wave to getting this innovation into the hands of more people? And I know you've invested in MOOCs, for example.

MR. STATON: Sure.

MR. SCHMIDT: And there's been quite a bit of discussion about, are they just helping people who already well educated, or are they going further?

MR. STATON: Right, right. So, it's hard to talk about equity without talking about the cost of delivery. And one of the ways that we think about innovation is that innovation actually takes time, we want to be impatient, we want to get -- we want to share photos now, we want the tweet to come out now, but the cycles of innovation that the people that study these things, say that an industry lifecycle is about 30 years, 30 years right. And when education technology first became hype, it was actually in the late 90s, and something like only 30 million people were on the Internet.

Fast forward to today, there are over a billion people that access Facebook alone, per day; 100 million people concurrently use Snapchat on any given day. And so the sheer ability to reach learners has dramatically changed. And that has allowed a transformation function in the overall cost of delivery, right. Now, in the case study of Coursera, this is another kind of case study where, when MOOCs came out, Coursera immediately became very hype.

Every day they were mentioned in like hundreds of articles; they got to a million users faster than Facebook, faster than Dropbox, and everybody was talking about it, two years later everybody is disappointed. And we are not disappointed at all, we are very strong believers. In that same time period they went from a million users to 25 million monthly unique learners. A million concurrent enrolments, right, in courses.

And they do have data that the people that complete the course, and are taking best advantage of them, already have some kind of undergraduate education, but they have dropped the cost of getting -- taking like one hour's worth of course credit, and you can't get credit, you can't get university credit for a Coursera course, except for in special circumstances, but they've dropped the price of that,

from in the U.S. an average of $600 to $79, right.

And it is free to audit, because with technology we have a concept that's called the Zero Marginal Cost Learner, and what that means is if you have a business model that maybe makes money from people that have a credit card that they can pull out, right, and swipe, or enter in the numbers, if you have a business model that works, you can actually serve everyone else for free, right. And that totally transforms the access that people have as more and more people come on line, as more and more people get smart phones, as we know that the global trend is n that direction.

And then when you think about kind of capital efficiency, kind of per dollar in, and this is just a little case study, a little thought experiment. Okay? Phil Knight, the founder of Nike, donated $400 million to Stanford University, which already has a $22 billion endowment by the way.

MR. SCHMIDT: So they needed the money?

MR. STATON: So they needed the money, they were in desperate need of money, of the $750 million campaign, that will serve 300 learners at its peak the Knight-Hennessy Scholars, right. That is a capital contribution of $2.5 million per learner that can take advantage of that. Right? NYU Global Network University, they are trying to -- this is an example of the university that's trying to scale, has raised over a billion dollars for a campus in Abu Dhabi and Shanghai. They expect to raise $3 billion, the total capacity will make it -- which is around 5,000 students, will make it so that it so that it is $681,000 capital contribution to serve a single learner.

All right, now if we look Minerva, which is a new breed of university, it's something we call a cloud powered school, where they are going to use technology to drive efficiency at scale. So, Minerva is currently serving -- they raised a little over $80 million and they are serving 300 learners now which will be the peak of the Stanford thing. Right now they are at $300,000 a learner, but if they hit their plan over the next seven years, they will be at $8,900 in capital per seat for a learner.

If you look at Coursera with their million course enrolments, it was $146, because Coursera has raised a little over 140 million, $146 in capital for the ability to enroll on student. Now I have a case study about a unique company that we just saw, it's kind of the most extreme example, it's called PhotoMath. It is math practice. It walks people through how to solve math problems, and this isn't a university enrolment, but it's a pretty extreme case.

This is a two-year-old company, that has had 25 million downloads and has 5 million unique users every month, right? Their operating budget is about $550 a day; they help learners solve 3 million math problems a day. So if you were going to fund a tutoring program, right, to help people with 250,000 hours of math, you would need a staff of probably 125,000 tutors, assuming they can do two hours a day, and you would have to pay -- if you were going to pay them 20 bucks an hour that would be an operating budget of $5 million a day.

And this is a team of eight people in Croatia; this is a 9,000 percent improvement in the cost of delivery. And they are reaching 625,000 learners per employee, and the capital in per learner reach is one-fifth of one penny; one-fifth of one penny, right. So, anyway, this is like --

MR. SCHMIDT: I want you to stop there.

MR. STATON: Yeah. So, even though not everyone is accessing PhotoMath, because you need a smart phone to use it, you cannot say that over the long run, that this is not going to make a difference about access and about equity.

MR. SCHMIDT: So, I wonder if there are any questions at this point? Go ahead.

SPEAKER: Having the honor to study with two Nobel Laureates at Wash U, and Professor Harbison, who is now -- you know, did the Mars Rover Project, you know, I think you have quality issues here, and if you are -- I don't know -- studying the a Nobel Prize winner in medicine or in economics, I think you are getting a much valuable education that if I'm asking how to solve generalized least square, you know, new information, maximum likelihood for generalized least squares for my advanced taking the metrics class.

I mean, I think you are talking about apples and turnips here. I can think for the broad spectrum, but I think you cannot deny the education one gets at Stanford.

MR. SCHMIDT: I'm not denying that at all.

SPEAKER: You are at MIT.

MR. SCHMIDT: Yeah, yeah, yeah.

SPEAKER: I mean, it's expensive, universities are expensive, research labs cost fortunes, but the student that comes out of there, is versed --

MR. STATON: You know, just as a counter, most of the people who wrecked the U.S.

economy came out of Harvard and MIT (Laughter).

SPEAKER: And the people that saved the U.S. economy came out of MIT, so you've had Central Bank governors and professors of Central Bank governors that saved us from economic catastrophe too.

MR. SCHMIDT: Maybe we can get both Sash and Carol in on this a little bit, because I think you do, I was -- You know, that was a bit of a joke, my response to you, but I think you are absolutely right, there are very different ways of learning and there are very big qualitative differences, and we can't just pretend that there's one particular thing that will just work best, and works at scale for everyone. So I don't know if you have thoughts on this.

On one hand this incredible ability to reduce cost, on the other hand, how do you get people in a room with a mentor who can provide the kind of inspiration, or spur curiosity in a way that we know people do?

MS. BANERJEE: I mean, quality always is a big issue, and we know that the privileged class that can afford high-quality education, obviously perform at a very different league. But listen, we are talking about a country where millions, 90 million children have no access, right. I mean, let's also look at it contextually, as to where are we benchmarking that quality. You know, 90 million have no access; millions of children die before they reach their fifth birthday, and many of them are malnutrition, so already you are dealing with a population that is entering learning at a disadvantage than the privilege lot.

I think quality keeps coming up again, and again, and I think this is, none of us want to compromise with quality, but I think what is more important is how do you provide the best quality you possibly can, to people who have no access, and I think that's really the issue that we grapple with day in and day out, and I think we all try in our ways to meet that as much as possible.

MR. SCHMIDT: Do you want to? Yes.

MS. WILLIAMS: I'll just add, I think from a cost-effectiveness perspective, when I think about having a physical book versus a digital book, it is expensive, it is very expensive for most schools, most communities, most governments in Africa, to pay for physical books. It is expensive to put those books on a ship and send them to the continent; it is expensive once the books are at the port, to get

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them to often very rural locations.

And if you managed to solve that problem and get the books to the various schools in the rural locations, you have the issue of storage. Many schools don't have libraries, they don't have air-conditioned buildings, they don't have the type of infrastructure that you need in order to have a thriving physical library. Do I love physical books? I have so many books at my home, you know, I read to my young son all the time. But not every parent is able to do that, and so when you think about going digital, then there is the cost of OGs, you've got like the hardware cost, you've got to pay for the books, you know, you've got to tell the teacher about this device and how they use it in the classroom.

It seems really complicated, but when you consider that on your mobile phone you can literally have a walking library of books, it's cost-effective. When you consider that on an e-reading device you can have thousands of books, including text books, including the teacher lesson plan, it becomes extremely cost-effective, and we actually had a team from Stanford to sort of look at this whole cost-effectiveness bit. You know, does it really make sense to go digital, and what we discovered is that when you include test books and story readers, supplementary materials, it becomes multiple times more cost-effective to use this medium, than it would to use physical books in the classrooms, in the environments that we are working in.

So then the next question is, all right, so you've introduced this technology, but how do they sustain it in areas where power is an issue? So, what we've done is look at different solar options, but not all solar options are equal. You have to test what you are doing with solar in all the different types of climates that you might see.

MR. SCHMIDT: Carol, sorry. I think Michael has another example where he's going to make it even cheaper that that (Laughter).

MS. WILLIAMS: Okay.

MR. STATON: Actually, I'm not. I'm going to pop some neurons here. First of all, I want to say that, so American universities have about $430 billion in endowment money that subsidizes them. They also take $90 billion a year -- 80 to $90 billion a year in tuition from families. They also get another, I don't know how, billion dollars in direct subsidies through financial aid or research grants.

And so if you went to, let's say, India, and you said, oh, you want the American university

system for all of your people? Cool. Put $430 billion into the bank, and then create another multi-

hundred billion-a-year subsidy, line item, they just couldn't do it. The mathematics doesn't work, they

can't make that work. So we have to kind of like, think outside the box a little bit because I would love to

be able to recreate Stanford, and I love Stanford, I go there all the time. I'll be there next Monday, right,

but we can't recreate that for everyone at the pace that we need to reach every one.

And so one of the things I see policymakers and readers do sometimes where we just

kind of have a thought gap, is in the role of what we call unbundling, right, which is the idea of picking

something very, very specific and doing it very well, because people that are leadership positions need to

worry about the mass population, and they also need to worry about all of their problems all at once.

And so they tend to dismiss innovations that are focused on one little sliver of the pie, like

reading on mobile phones, or like math practice, right; but then what happens is, if you get enough of that

innovation for math, for reading, for chemistry and all these other different innovations that we are

backing, on the other side of that experience, right, with access to mobile phone, and access to the

Internet, you have a movement that is being called the A La Carte Learning, where you have a buffet of

options that are available to you, and you kind of get to pick and choose, and all of these are low-cost or

free.

And you are not recreating the Stanford experience, but at least you have access to

something that will allow you to create the opportunities in your life, or meet the expectations of your

family, and so that's kind of -- we have to think about these unbundled providers, and we have to think on

the other side of it, this idea that there is a whole solution for learners, if they are able to pick a la carte,

and they have a diversity of options.

MR. SCHMIDT: Let's get a few more voices in. So we have Vashi, and then 1, 2, 3, 4.

Where did Vashi go? Please enter these yourselves.

MS. SAHNI: I'm Urvashi Sahni from India, Study Hall Education Foundation, and also co-

founder of Digital Study Hall. And for the last 10 years, we've been experimenting with using technology

to reach underserved populations. So we've used video, we've used, you know, the simplest kind of

technology which doesn't require internet, which doesn't require computers as well, and one of the main

obstacles we've found is, that at the user end, like you said, Sashwati, that even when I'm thinking of your

Worldreader, and it's all very exciting by the way, and I'm very cheered up, and all geared up to do some of the stuff; is that there just isn't power.

So we've had to move to hybrid models where we've got to produce print manuals, or teachers don't have access. Even with mobile we've tried to use that. It's expensive to download things; it takes time that costs money, right? Even when they have access they don't have the time download lessons for hours and hours and for books. So I'm kind of confused and, you know, I'm trying to imagine it, but my imagination is sort of failing.

In terms of when I think of the teachers we are reaching in remote Basti, and remote Banda in UPI, and we've given them all our materials, we've put it on a pin, we are trying to put it on a chip, and they say, yeah, but can we have the book, please? And when we do the -- when we evaluate it, we find that they use our books much more than they are able to use the chip, which is more dynamic, they get to see a class in action, it's great, but they just don't have the stuff at the backend. So it think -- Can I --

MR. SCHMIDT: Okay. We'll come back to --

MS. SAHNI: Sorry. So the question is: what is the solution to that, please?

MR. STATON: You'll take a few questions more?

MR. SCHMIDT: Yes. Take a few questions, from the back. And I took away power access, that really are access issues, but also there are preferences for physical books sometimes, and --

SPEAKER: Thank you very much. My name is Georges Mathias. I remember for UNESCO taskforce since 2000, we started with what is called Intangible Culture Heritage around the world, now it's a mainstream activity program inside UNESCO; so local culture, recent edition, music, dance and so on, cooking and others. So, we had some experiments, but not in developing countries, in Scandinavia and in Japan, in remote rural area.

So what we did we accumulated the best possible accountant about culture and nature, and knowledge, in digital high definition, as Okinawa in Japan, subtropical prefecture, was the first one to prepare such a package, we use it in Nordic country, in Scandinavia. My point is this, every time we shared access to children, parents, local community, to knowledge about what is the world all about, culture, nature, science, and so on, the feedback -- the interest was overwhelming, it was very humbling.

Afterwards we managed to launch some European Commission projects, and some results, but we don't have enough results. My challenge is to all of us, what are those technology which allows us to create some enthusiasm to discover what knowledge is all about, culture, heritage, natural heritage. We did it in probably eight areas around the world. From South Africa to Scandinavia, so motivation, inspiration, guidance, out of school, after school, in poor local communities and families; and to someone in Africa, their environment is different.

How to help them know, and they are now the resources prepared by UNESCO, and I'm involved with Japan? How to have a journey in knowledge and today digital high definition is fantastic for this. So beyond mobile and so on, this is a challenge and that's why I moved to Washington, D.C. Thank you.

MR. SCHMIDT: Got it. There was another hand, there, yes?

MS. WRIGHT-VIOLICH: Hi. This is Kim Wright-Violich, from the Kidney Giving. First of all, I'll make my comment and then my question. My comment is, A La Carte education strikes me a little bit like A La Carte News, and we see how well that's worked out.

SPEAKER: Fair, fair, fair.

MS. WRIGHT-VIOLICH: In terms of -- So the question actually is directed at you, Michael, I'm a big advocate for impact investing and believe in the potential private markets to solve social problems. But one of the things that's a real challenge in that space is when the market turns down, if you have a $160 million funding from a VC firm, and they are looking for an exit, or you are not getting the returns that you expect, and the portfolio of investments is important, then of course all the marginalized aspects that wrap around the core offering get, you know, shaved off. That's where the cuts occur first.

It's a little like, you know, micro finance historically where you push the average lender up, in affluence to make profitability pressures. So what do you have in place at Learning Capital that compensates for that, so that you stay on mission when there's economic pressure?

MR. SCHMIDT: Maybe one more question and then we'll --

SPEAKER: Within giving away my age, I had the honor of working Seymour Papert in Senegal, in Wolof for the first turtle exercise, and there were astonishing learning outcomes from that.

MR. SCHMIDT: You must be in your late 20s?

SPEAKER: Sorry? No, no, no. No, it was in '80s. My question is this, because it revolves around acceptability in a local context, but also cost. What do we know about the role of critical mass, what are the markers for a critical mass that can help investment capitalists believe that this innovation could really work, and which also seems to help societies to recognition the innovation could work. And I'm thinking specifically what happened with mobile phones, when they were only aimed at the wealthy and cost $1,000 each, and accounts had to be on credit cards that never went anywhere.

As soon as someone figured out how to do it for $25 you find them in even the poorest families. So there's a marker there, but also, in terms of, when you are talking about education, which is highly culturally specific, what indicators do we have of the critical mass being reached, where people are almost ready to say, well, how come we didn't always have this, and the kids who come along would say, well, this is the only think I ever knew?

MR. SCHMIDT: Okay. I'll let you guys pick and choose the questions, and I've had some thoughts as well, but I'll see.

MS. BANERJEE: I think maybe I'll just pick what Urvashi talked about a little bit and then -- I'm sorry I didn't get your name, but the gentleman from FHI. I think those are really important questions -- I'm sorry.

SPEAKER: (off mic).

MS. BANERJEE: (Laughter) You know, I was at the LEGO Conference recently, and Mitch Resnick from MIT talked about the power of the four Ps, project, passion, peers and play, and I think it goes back to the A La Carte menu, and how kids can pick and choose, but that was just as an aside. What we found, because we work in very remote rural areas as well, is that innovation is, it breeds more innovation, so how many of you really, I mean, people come to my house these days, and they don't even say, hi. When I open the door they say, hey, do you have a phone charger? And it's incredible. But it's true, because I think the psyche, the mindset of people, even in villages where there is no power, is how do I charge my phone, and it has bred and enormous level of indigenous solution providers.

There are people with car batteries that go from household to household to enable

people to charge phones. So I think in areas where people really depend on the phone so much, and it's such a new thing for them, to keep it charged is very critical and crucial, and they'll find ways and means to do it. We haven't found that problem, and one of the things we actually do is use it a lot to support teacher training, in the (inaudible) or the government childcare centers we work in.

We preload their phones with activities and stuff, and it's very easy for them to use it, and we call up -- we do a narrow cost, we call them once a week, remind them about the activity of the day, we call them back, ask them a few questions, monitor it. It just makes it very easy and they are very used to doing it. So I'm not saying, I've found it rare, that a childcare center worker in the government system will actually even open the book, because they are given books by the government they never open it, it goes into their cupboard and that's where it stays.

And we find providing it on tablets or mobile phone makes it much more interesting for them, and exciting for them, because there's a newness and there's a convenience. So that's one of the things that I wanted to talk about and the second thing is the critical mass, which I think is a really important question, at what pace do you kind of look at, what is that critical mass, and I think it really goes back to, in my way of thinking, to the story that I was alluding to is, what role and who are the agents of change, right?

Developing those champions, developing that R&D facility, because every time I talk to a mobile value-added service provider at Telecom in India, and I say, we have this great content, and can you, kind of, do something with us to make it available? So that people don't have to pay for this content. And they say, oh, madam, okay, we are only about ABCD which is people only download astrology, Bollywood, cricket and devotion.

So, we haven't come to education yet, so when we come to education you can come back to us. So there is, you know, and Michael was talking earlier about an information gap, and I think there is a huge information gap on parent education in countries like India, we are dealing with first-generation learners. So, how do you really move that indicator, and unless you move those parents, I don't think you'll get the critical mass that you are looking at. So, my two cents.

MR. SCHMIDT: Do you want to jump in on the social impact. Do you want to jump in here?

MR. STATON: Yes, but you go ahead.

MS. WILLIAMS: Just real quickly. Just piggy-backing on what Sash said. Pretty much every school that we operate in has power issues, and for any program that we implement, solar has to be a part of the option that we offer them. And nowadays you can find solar solutions that literally work under any weather condition, and it is really inexpensive.

For example, there is one solar company that we are working with called BBOXX, and for as little as $500 you can charge up to 200 devices which is just incredible. But quite apart from, you know, dealing with issues of power, I think we also have to think about, you know, just behavioral change. When you are bringing technology to children, they are excited about it, I mean, they are -- I men whether you are in the developed world, or a developing country, children all over the world are excited about technology, they are excited about playing with gadgets, and they get up to speed really quickly on how to use it.

With teachers and with parents it's not always the case, right? I mean, they've been using physical books for many, many years, they've been doing things in a set way, and then you are coming in with this new program, and there's resistance, there's hesitancy to accept what you are doing, and what you have to make sure you do is spend enough time sensitizing the community, sensitizing the teachers, you literally in a very practical way have to show them how this new technology is meant to make life easier.

You know, we don't want you life to be more complicated by what we are bringing, we want to show you how it makes life easier. So, you know, instead of having to carry around six or seven books from class to class, it's all on one device. Instead of having to carry around six or seven books from class to class, it's all on one device. Instead of having to -- whether you have a scripted lesson plan, or a general lesson plan it's on the device. I mean, this is a way to literally integrate every aspect of what you are doing, into one device.

And in the beginning, there is -- again, there is that resistance, but over time, they start to see how much value it's really adding to their role, and they get excited about engaging the students in the classroom. I mean, you have so many examples of schools, that are seeing increased enrolment because, you know, my child needs to go to that school, that has the latest technology, and in doing this

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you also manage to -- we talked about -- Jenny talked about elevating the role of the teacher, and that is something that we are also seeing in our programmed schools because these teachers are starting to realize that there's a real positive implications for learning, getting on the bus with digital, because guess what? The world is going digital whether you like it or not. You just need to figure out how to work it in a way that makes what you are doing easier and just streamlines the whole process. Can I make one other comment?

MR. SCHMIDT: Can we switch to Michael, and you can come back.

MS. WILLIAMS: Okay. Okay.

MR. STATON: No worries. Excuse me.

MS. WILLIAMS: It's okay.

MR. STATON: That wasn't me that was him. So, I think one way to kind of address your two questions about, kind of what is actually possible now, and kind of like how to get traction and get started when you have big ideas. And I think that a lot of people like to be very idealistic and say, like, don't let your big ideas be constrained by things that are impossible. I actually tend to focus on the inverse, which is like, don't let your big ideas blind you to the things that possible today. Right?

And don't overlook what's possible right now, just because you have ambitions that are only possible 10 years from now, right; and so entrepreneurship and innovation always lives in a space that Steven Johnson calls, the adjacent possible. You can't reach too far out of what is possible today. And most young, early organizations that are operating in the margin, many of them fail because they drown in their own ambition, to be honest. And the thing that they don't focus on enough is what is their path to growth?

And one of the tried and true early phases of the path to growth, is you have to focus on what's called a beach head. So for D-day we wanted to enter Europe and we couldn't go on all fronts, we had to pick one beach to land on and take. And so sometimes you have to focus on just one learner, or just one classroom, or just one teacher, and make sure that you deliver great value to them, before you can move on to your next set of ambitions.

And so one of the things that we work with entrepreneurs on, to answer your question, is how do you sequence your priorities so that you don't drown in your own ambition, and you don't run out

of cash? Because, look, everybody knows when the tide goes out, you see who doesn't have their

bathing suit on, and the reality is, both us as a firm, but then we also have to work with companies to

make sure that they are working within their own cash constraints, that they are prioritizing what is

possible to day, and that they sequence their ambitions in a scalable path, to where they can achieve

some of our bigger goals and these are amazing, huge goals.

But they are going to take a decade to get to. And so I think being hybrid using paper,

figuring out how -- you know, what's the kind of solar backpack you can use. Working within the

constraints of today, is totally realistic, and it doesn't that we are not going to get to a place that is where

we want to be. But we have to kind of -- you know, a journey of a thousand miles, begins with single

step. So let's focus on what the next step is.

MR. SCHMIDT: I don't think you fully answered the second question.

MR. STATON: The second question?

MR. SCHMIDT: Which is about, if I understood it correctly, staying true to your social

mission, if you are funded through venture capital, and then go down, and how do you stay on track?

MR. STATON: Yes. When entrepreneurs, social entrepreneurs, NGO entrepreneurs,

and company entrepreneurs, when they choose investors they are looking for people who understand

and believe in that mission, and are going to e with them kind of like through the thick of it, to try to make

that possible. And our partners are unique in the sense that we have literally decades of experience in

education, and it's all we do, it's all we are focused on, and it's all we think about every morning when we

wake up.

And they choose to work with us, because they know that we are going to be with them,

kind of through the thick. That doesn't mean that some of them won't fail, and we have to have processes

for helping the process of failure be elegant, and be embraced. And then in terms of return on capital to

our investors, I mean, look, we've only invested a little over 100 million. We have 180 million under

management total, but does not compare to the Stanford $22 billion endowment.

And ours, is sets of investors that have believed in us today, are similar, in the sense that

they have a longer-term horizon on why they are working with us. And they understand at any given point

there's risk, and that's just the nature of early-stage innovation. It just is. And, you know, we hope that

we have our bathing suits on, so that if the tide goes out we are still armed.

MR. SCHMIDT: We also hope that you have your bathing suit on.

MR. STATON: I know. Is that bad imagery for this; is that not a D.C. thing? I'm a Washington outsider, so.

MR. SCHMIDT: And the one thing I would add is, you know, I don't think you are making the claim that venture capital is the right type of finance for all kinds of innovation and education technology, there may be innovations where you need a longer timeframe, you need --

MR. STATON: You know, I was a discussion with Graham on Twitter about this, about the for-profit, non-profit, government, state responsibility, private company scaling and, look, it's a symphony. It's going to take a symphony. Just because I play the trumpet and know how to play the trumpet, I'm not a bad person because I don't play the violin; it's just that I know how to play the trumpet, right? So, it's going to take a symphony, it's going to take a ecosystem, and so I think we have to appreciate kind of everybody 's role in that ecosystem, even if they play a different instrument.

MR. SCHMIDT: Any questions at this point, because I have another theme -- Okay, one more question, and I do want to get to this.

MR. SLADE: Just one. Sean Slade from ASCD, we are a global education association here in D.C. One commentary and one question. The commentary is what are you doing around access is commendable, but we can't confuse access with quality necessarily; so one does not equate to the other all the time. So access is one thing, but quality education is in the SDG's goals for a reason.

The question is this, at a recent education conference in Dubai, we had panel on education and technology, and I'm talking about the teaching in 2030. And the question was: will technology outsource the teaching profession? And we had use of education from around the world there, and to paraphrase the answer they said, and I want to get your reactions to it. They said basically, if you belief the role of an educator is to teach an algebraic formula, or to teach content, or to be a delivery system, then yes, your role will be outsourced, not by 2030, but outsourced by 2020.

But if you believe the role of the educator or the teacher is to nurture, is to personalize learning, is to be that guide on the side, then your role will be enhanced by technology, because technology can't do that human interaction. So I'd like to get your perspectives.

MR. STATON: Yes.

MS. BANERJEE: Yes.

MR. SCHMIDT: And we like to talk a lot.

MS. WILLIAMS: But we kind of spoke about this a while ago, but yeah, absolutely, like we said, it's an enabler, it's not a replacer.

MR. STATON: I started as a public school teacher, and the job that I had to do every day was impossible to do well, at least by my own standards. And the reason is you get pulled in so many different directions, and there's so many things you have to do as a teacher that are not core to growing my learners basically, growing a learner. And I had to deliver the content, I had to check attendance, I had to make sure that this person had a pencil, like there are so many different things.

The cognitive load on any teacher, on any given one day would, like, pop most of our brains. And I got on this path of using technology because I was so frustrated, I used Google to do research, I used technology. I was like, where are the apps for me as a teacher, where are the apps for my learners so that they can be stronger learners. And luckily -- And I had a bunch of ideas about how to do that luckily, you know, a decade later a lot of those things exist now, and have millions if not tens of millions of users, because they do help things operate a little bit more smoothly, so that teachers can focus on the way that they actually want to interact with the learner, and grow the learner rather than kind of be mired down with all the day-to-day.

MR. SCHMIDT: Do you want to comment on this?

MS. WILLIAMS: My only comment is that without a doubt in developing countries teachers will always be at the very core of the learning experience, and technology is in place to help enhance what they do. So, yes, I agree with my colleagues.

MR. SCHMIDT: I'll disagree with my panel. Only a little bit, because you said 2030, I think, and I think it will take a little bit longer, but we are developing, and it's not that this is something I am necessarily promoting here, so let me be very clear, but there are artificial intelligence systems that are being developed in the health sector right now. Where, doctors are kind of going through the diagnosis process, having conversations with the patient, but then the artificial intelligence is better able to diagnose what's wrong with the patient than the doctor, him or herself is.

And you could, kind of take the next step, we are already there today, the next step in this will be that the role of the doctor will be merely asking questions, a little bit of empathy, a little bit of intuition, but that space gets smaller and smaller, so I think we will start filling even high quality interactions between learners and technology that currently are only possible through human interaction with software systems but it will take a little bit longer, and I'm not sure if it's a good thing. I think using technology to enhance the role of people is a much better way forward for humanity. Other questions at this point? A quick one. I know you, this is not --

SPEAKER: This is just a quick one. Just to follow up on what you said, that what makes me very uneasy, often, when people talk about 2030 and 2015, as though all the countries in the world were at the same place, which they are not.

MR. SCHMIDT: Sure.

SPEAKER: So when we are talking about this is going to happen in -- I wonder who you have in mind, because I know that if you go to 20 kilometers outside my city, they are about 20 years behind. Right, just a comment.

MR. SCHMIDT: A very good comment.

MS. WILLIAMS: A good point, yes.

MR. SCHMIDT: I don't know if we have enough time to fully get into this topic, but I at least want to open the conversation, or bring it in, which is, yesterday there was a conversation about assisted sun-setting of things of experiments that don't -- and we used a different term yesterday, but of things that are not working. And how can you make sure that things that aren't working, you know, get stopped in a good way. And I saw at the beginning a really good conversation where some people argued that it's very fair to speak experimentation and innovation, but in education the people you are experimenting on, are kids, are learners, and so you can't really afford to fail catastrophically.

If your new invention of teaching kids math really doesn't work, then they didn't learn math. And so, at the same time we know that there will never any change or innovation if we don't experiment, because by definition we don't know what works until we've tried it. So I'm wondering, in the context of your organizations at your work, how do you make sure you still have that space for experimentation? You can try new things; you can kind of push the boundaries of what you are doing

right now, and yet, make sure that you are not facing catastrophic failures in some way? How do you do that balance?

MS. BANERJEE: I don't know. I think for us at Sesame it's probably relatively easier than for Worldreader because, look, at the end of the day we develop content and we know that we need to find ways and means to get that content out of the door. You know, whether it's through tablets, or mobile phones, a radio, or you know, in teachers' hands and books, and curriculum, et cetera. I think when we look at experimentation, a lot of the experimentation we are looking at is mostly related to delivery and enhancement of quality, and how do you really improve and strengthen the current quality and systems.

MR. SCHMIDT: And would you say it's also more in the out-of-school space or like complimentary to school space?

MS. BANERJEE: No. We also work in schools, in government primary schools, and predominantly with the government early childhood centers in India. We also run our own preschools, the Sesame Street preschools, and we also have a lot more informal networks community engagement in mass media, et cetera. But it's predominantly our innovations or experimentations are really with, looking at how do we strengthen and improve quality of teaching, of learning, of engaging with parents, providing language and strategy. So I think that makes life a little easier for us, but I think that's a really important question, which I think Michael --

MR. STATON: I think you are actually just doing a good job at it, I think that is the answer. You are paying attention to what's happening, you are gathering data --

MS. BANERJEE: Yes. And we are feeding it back.

MS. WILLIAMS: Well, I think at Worldreader it's important for us to not just start on implementation, do some training and then walk away. I mean, we have to make sure that we continue to stay engaged with our schools, so that we understand in a very deep way what's happening in these programs.

So, we've actually evolved a lot. I think in the beginning we were sort of more concerned with the bells and the whistle, and the technology itself, and now we are taking, I think, a laser-sharp focus on the student, and then making sure that every innovation, every new technology that we

introduce has the student at the center of everything that we do.

So, just to give you an example, in the early days, a lot of the teacher training that we did was really focused on, so this is the kindle, and this is how you use the kindle, and this is how you turn it off, this is how you flip pages. And there was a little bit of pedagogical framework in there, but not in a very strong and deep way. And so what we are doing now, is looking at, okay, this is how you use the device, but we've expanded out training to also help teachers n a very practical way understand this is how you use the device with students.

These are examples of activities that you can do in the classroom that will help children learn how to read. And that just has really sort of transformed our approach, and he'll strengthen our delivery model, because now not only are teachers getting advice from having the device, but they literally understand what they are supposed to do in the classroom, and before there was probably less of that. I think we are also looking more at how we get community buy-in.

You can have a great intervention, but if the community elders don't understand the value and the importance of reading, it's not going to work. If the chiefs, who have a very prominent role in African culture, don't understand the value of reading, it's not going to work. If parents don't understand the role that they play in helping children to learn -- helping their children to learn how to read, it's not going to work, because there's reading that happens in the classroom, when you are in school, but there's a who -- there are many hours that you are out of school, that you need to understand how to integrate the reading process at home and through after-school programs.

So, those are some of the ways in which we try to evolve as an organization, and the last piece that I'll mention is on the monitoring and evaluation piece of what we do. I think, you know, we've had a lot of low-touch ways of evaluating our programs, and we are putting a lot more rigor around what we are doing. We are inviting third parties to help us figure it out, we are beefing up internal capacity to make sure that we understand exactly what we are doing right, what we can do better, and what we just need to completely revamp and scrap, and think through in better ways.

MR. SCHMIDT: How do you test new approaches without risking negative effects?

MR. STATON: Well, I mean, we focus on whether or not, like learners, their families, schools, et cetera, adopt and keep, and keep using the technology. That's what we choose to focus on

mainly because that's our instrument, again, right. So other people might do different ways of evaluating. In the supply chain of capital that I've talked about, that helps companies scale, we operate really one gate. We focus on Series A. We do a little bit of seed investing, but we really focus on Series A, and our obligation is to set the expectations for the next gate operator.

We tell the company, this is how the next gate operator is going to evaluate you, this is the timeframe in which you need to achieve these milestones, and if we do our job well, something like 50 percent of the companies will actually go and -- make it through the next gate. Our track record is actually a little better, a little more like 60-70, and by the way, these gate operators, they look at 100 companies and they choose to fund one, that's like the ratio, that's kind of high these expectations are. And that allows me to really focus on this one gate, and then getting them to the next gate. And it allows the entrepreneur to focus on, okay, how do I get to the next gate? How do I need to get to the next gate?

They are not like, you know, standing in the Pacific Ocean and having somebody say, yeah, make it to the Gulf of Mexico, take apart your boat, walk through the jungle and don't get bitten by mosquitoes. It's like, there's a canal.

MR. SCHMIDT: And wear your bathing suit?

MR. STATON: Yes.

MR. SCHMIDT: What happens to the learners and parents of the 30 percent companies that are using the project for the 30 percent of the companies that may like using those products of the companies that don't make it to the next level?

MR. STATON: And so in our world there's acquire, and then there is like acquisitions, and one of the things I've always looked for in the non-profit world is like M&A activity. It's like, you know, how do you take like one and combine it with another, so companies will get acquired. We'll help -- We'll have a difficult conversation with the entrepreneurs, and we'll say, look, we invested in this company because we believe in you, we will believe in you we need to "find you a home," and then we help make sure that they have a soft landing, and they are not unemployed for too long, so, yeah.

MR. SCHMIDT: So if he says, find you a home, you know what that means.

MR. STATON: Yes. That's; yes that's what (inaudible).

MR. SCHMIDT: We are at the end. I just want to maybe say one thing that came

through a lot of the comments and questions, which is, there seems to be a real dichotomy between cost and quality that we didn't, I feel like we didn't bridge that gap enough in the conversation, and I personally feel very strongly that, digital technology is not just about reducing cost of lower quality solutions, but there are solutions you can design and develop, that make use of technology that are equal or superior of non-technology supported learning.

And so I think that's a space we need to do a huge amount more work, and of course the cost issues are incredibly relevant in the scaling conversation, but I wouldn't want us to take our eye off of this idea of really high quality education supported by digital technologies.

But I want to thank the three panelists, and I'm going to ask you to join me. (Applause)

SPEAKER: It's over already?

MR. SCHMIDT: And thank all of you for the questions, and staying till the very end. And I'm not sure what I'm handing over to -- or who I'm handing -- Okay.

MS. WINTHROP: Remember to come for drinks next door.

MR. SCHMIDT: Come and drink next door.

MS. WINTHROP: Okay. Huge thanks to Philipp and the panelists and to all of you, and welcome to have some food and some drinks, right out here. Thanks, everybody.

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I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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