

THE BROOKINGS INSTITUTION

SAUL/ZILKHA ROOM

MORE SKILLS FOR WORK AND LIFE
IN LATIN AMERICA

Washington, D.C.

Friday, March 24, 2017

PARTICIPANTS:

Introductory remarks:

DANY BAHAR
Fellow, Brookings Global-CERES Economic and Social Policy in Latin America Initiative
The Brookings Institution

Featured speaker:

MARÍA LUCILA BERNIELL
Lead Economist
CAF-Development Bank of Latin America

Moderator:

EMILIANA VEGAS
Division Chief, Education, Social Sector Department, Inter-American Development Bank
Nonresident Senior Fellow, Brookings Global-CERES Economic and Social Policy in Latin
America Initiative, The Brookings Institution

Panelists:

MARÍA LUCILA BERNIELL
Lead Economist
CAF-Development Bank of Latin America

JULIÁN CRISTIÁ
Lead Economist, Research Department
Inter-American Development Bank

* * * * *

P R O C E E D I N G S

MR. BAHAR: Good morning. Welcome to Brookings. I will make some space here. So we are very pleased to host today this event in which we're going to present the latest report by CAF -- I'm having some blank -- (Foreign language). I was trying to find the English, but it's not going to work (Laughter) -- which is one of the most important regional banks in the world, development banks.

And they are present -- we are presenting today the latest report on their latest economics and development report, this time on the development of physical and cognitive skills and their role in the development process. The report is this one. It's outside somewhere. You can have a hard copy or you can download it online, too.

Well, I mean, this report comes in the context of Latin America, that it, with some exceptions, has experienced very important improvements in its economic indicators. But there are still some important challenges ahead. So for instance, which of course, the book talks about.

And so, productivity growth is still very strong, dragging down over all economic growth. The region is still highly unequal and extreme poverty is still very present in many countries. Crime and violence is still very high and it's of course, a very important impediment for normal lives in the region.

And infrastructure is often lagging behind. And what these reports put forward is some evidence, some very strong evidence showing that the development of cognitive skills, which go beyond what we learned in school, can reach (Inaudible) of these CAFs. And I think that it's a very promising line of research; that we're going to have a great discussion today listening to the arguments that are put forward in this report.

We have a great and excellent panel. Today, we have Lucila Berniell, who is one of the authors of the report, and she's a principal economist in the social economic research department at CAF, Julian Cristia, who is a former colleague of mine in the Inter-American Development Bank. He's a lead economist in the research department there; and Emiliana Vegas who is going to moderate the event.

She's one of our nonresident fellows here in Brookings at global (Inaudible). She's my (Inaudible) and she's the chief of the education division of the Inter-American Development Bank.

So what we are going to do is that Lucila is going to come onto the stage and present the

LATINAMERICA-2017/03/24

highlights of the report, and then Emiliana is going to lead the discussions. So thank you so much for coming. Welcome to Brookings. (Applause)

MS. BERNIELL: So thank you again for the introduction, and all of you for being here, and for the interest in our report. I'll be very brief about the motivation, because Dany already talked a little bit about this.

But despite all the progress that the region has made in the last two decades, there are many development problems that remain there, and most of them are related to human capital problems. But not human capital is ER certification or education and attainment, but human capital as a set of skills.

By skills, we can think of many different things. We have math skills, computational skills and interpersonal skills, technical skills. But what we did in this report is to start by dividing skills into three big domains of development; the cognitive domain, the social emotional domain and the physical domain.

And even though this separation is a bit (Inaudible), and it will be more clear in a moment why, it allows us to think more systematically on what are the cognitive or the intellectual aspects, the emotional aspects and the health related aspects that need to be further developed in our population in order to allow for learning. Because if it's learning as a process that takes place along the (Inaudible) cycle, we -- it will eventually lead to the production of the skills that are more specific and that will help in producing good outcomes in life and work.

So this is just one short statement summarizing the first part of the diagnostic that I will show you next, and it says that Latin America needs more skills, and these skills also need to be more evenly distributed in the population. And why more skills? Well basically, we start doing this diagnosis by trying to compare like in America to other regions, more developed regions in the world.

And this was more or less easy on the domains of cognitive skills and also in physical skills, but it wasn't that easy in the case of social emotional skills. But I will show you some exercises next that try to do this comparison between Latin America and more developed regions.

Let me just give you a word about PISA on the cognitive language. And we all know that our countries are not doing very well in these international standardized achievement tests. For

instance, we know that only one in three students reach the minimum levels required in the field of mathematics, but this fluctuates much larger for richer economies. It's four out of five students that reach these minimum levels.

And we also use PISA as a source of data that includes not only Latin American countries, but also more developed countries in order to say something about the social emotional side. And I will show you here an exercise that what it does or what it assumes is that you can interpret the decline in the performance along the test from the beginning of the test to the end of the test as a signal of the lack of perseverance, the lack of motivation or the lack of attention that the students have in order to succeed in the test.

And what you see here is the probability of the correct answer in the first question of PISA. And you see there that letting Latin American countries that are in this side doing not as well. In fact, the rate of correct answers is 25 percent lower in Latin American countries compared to high performers in PISA.

But this share or this fraction of probability and this fraction of correct answers drops a lot at the end of the test. So we can interpret this evidence in many ways. We think that this information is conveying something about the social emotional problems that our young population is having in Latin America. So here, for instance, you see that high performing countries only lose 6 percent of these potential achievements or potential performance, where the drop in Latin America is much higher.

And regarding the last I mention of development, the physical, I mentioned that we know that the region has made a lot of progress in health outcomes, but there are still many problems there, inequalities, mainly our health issues problem among which for instance, standing is very serious and of course, it represents us very terribly -- starting point in the process of skills accumulation, especially among the vulnerable children.

But given this broad diagnosis, we went one step farther, and we conducted our own survey to try to understand better what are the relationships between the three dimensions of skill development, and also, how these dimensions relate to outcomes -- to individual outcomes. So we did this survey in 10 cities and 10 countries in Latin America -- Buenos Aires, (Inaudible portion), Quito, Mexico City, Panama City, (Inaudible) and Caracas, and we covered -- there are 10,000 individuals

aged between 15 and 55 years old. And of course, we included their many measures of these three domains of development.

And I will show you some results from this survey, the CAF Survey 2015. Here, we have some measures that we get from these surveys in the domains of development, and what I'm going to show you here is just a simple result that shows a strong and positive correlation between all these measures of development. And you can interpret this simple evidence as in favor of the hypothesis that says that the three domains of development go hand in hand.

To develop only the skills, you need social emotional skills. To develop social emotional skills, you need physical environment and so on and so forth. So, but this stronger relation (Inaudible portion) it is that we find across individuals, I also found in the labor market. What I'm going to show you here is a graph that will try to understand how close are demand is across occupations, and we will summarize that these requirements of skills in this two dimensional space.

In the X-axis, you will see an index that summarizes the requirements in the social emotional side. In the Y-axis, you will see an index that summarizes requirements of cognitive skills -- high level of complex cognitive skills. And we will accommodate all the occupations that we will get from the CAF survey in this two dimensional space in these four quadrants, that of course, separate the space in occupation that they -- high and high, low and low and the other two combinations.

So what you see there are occupations. Each bubble is an occupation and the center of these bubbles is characterizing how much social, emotional and cognitive skills that each occupation requires and the size of the bubble represents the share of employment in each of these occupations according to our survey. So occupations demand these two dimensions of skill together. This is the complementarity that I was talking about, and this is shown by this positive relationship between these two dimensions of skills.

And here, there are some examples of what are the occupations that we have in each of these quadrants. In the first one, we have managerial occupations, and in the second one, we have many IT related occupations, and then we have support occupations, like administrative or cleaning. And here, we have for instance, drivers. And in the fourth quadrant we have services; basically, sales, customer service and care services.

Of course, all of these occupations are not equally good, in particular because of two reasons. Some of these occupations were or are at a higher risk of automation. Some occupations pay higher salaries than others. And this is something that I'm going to show you now.

In this yellow orange area, you see those occupations that are least at risk of automation because of basically two reasons. These are occupations that are -- that imply less routine work, and also, these are occupations that require more social emotional skills, which we know are very difficult to be produced in machines or in robots.

But in this orange area, we have two very different types of occupations. We have those occupations that require high levels of both types of skills, which also pay the highest salaries, and we have those occupations that pay the lowest salaries that require low levels of skills, of cognitive skills and high level of social emotional skills, even though these are occupations are also at low risk of automation.

But this picture is already informing us something about the future of (Inaudible) in Latin America. What we do to say something more about this is try to look at the data and say whether these automations and polarizations are already taking place in the region. By polarization, we understand this process that is very related to automation that says that with technological change, there is a change in the structure of occupations, in which simultaneously there is an increase in the importance of low paid occupations and low skilled occupations, and in high paid and high skilled occupations, while the occupations in the middle tend to lose importance in our overall employment.

And this is what has been observed in many developed economies during the last two decades, and we replicated this work using data from household surveys for Latin America. And what we see there is that still, these polarizations seem not to be taking place, but this, of course, doesn't imply that it won't occur in the near future. So we could expect polarization to occur very soon, and we should be prepared for this.

Regarding the inequality side of skills, I will show you here some -- just one graph that is comparing the measures that we get from the CAF survey in all these metrics across four groups of individual populations that refer (Inaudible portion) in the level of socio economic status measured by the educational attainment of their mother of the individual that was surveyed.

As we compare individuals of the highest level of socio economic status with those from lower levels, we obtain these differences. And I only want to highlight here that the highest differences are found not in the non-cognitive side, but in the cognitive side for measures of cognitive skills.

So why should we care? We have said we have low skills that are not very evenly distributed in the population, especially in the case of cognitive skills. And of course, we should care because countries that have more skilled populations tend to grow faster, to be more productive, to be more innovative, to also be less unequal. But we also care because of the effects or the associations between skills and individual outcomes.

And here, I will show you some of these connections between skills and labor market outcomes, and also, between skills and other life outcomes. Regarding the first dimension, the work outcomes or labor outcomes, we have these four types of outcomes correlated to the metrics of skills that I've shown you before.

We have labor for participation employment, labor earnings and the quality of jobs measured by formal jobs. So what you see here is that in the first two columns, the association between these outcomes and skills is very strong for the case of non-cognitive skills. And what you see in the shaded cell is that measure of skill that seems to be more strongly associated to the outcome. And these two first columns are great.

And in the second two columns that are -- you can think of those two columns or outcomes as mentions of the quality of jobs -- labor, earnings and formality. The association with non-cognitive skill is still there, but cognitive skills start to appear as very important, as well. So what you see here comes also from that exercise that I have showed you and the coefficients of the (Inaudible) in which the outcome is the labor earnings.

And you see that all these skills in green are statistically (Inaudible portion) in the labor market. And we have this funny thing here about that being nice in Latin America is not a good thing in the labor market, so you should be aware of that (Laughter). But this is a fact that is also present in many other related studies.

So I'm going to the life outcomes. We have here many other sides of well-being or outcomes of well-being. The first two are related to educational outcomes. Then we have health,

physical and mental, negative outcomes of health. And then we have civic engagement and life satisfaction.

As you see for educational outcomes as well as for civic engagement, social emotional skills are important, but the most important seems to be cognitive skills. Like for the case of health, it's the opposite. We have -- the social emotional dimensions seem to be very important. And for life satisfaction, what seems to matter the most is the physical dimension.

So all of those skills are important for labor outcomes, either for the probability of having a -- of going to look for a job, for finding a job, getting a good one, and also, in other dimensions of life; education, health, civic participation and life satisfaction.

So given this importance that skills have, we need to understand how to foster these -- how to promote information of these skills in our population, and we've organized the book using a very simple framework that comes from the work of many disciplines that have been working on skill development; basically, many of them related to neurosciences, and also from the work of economists like Professor Heckman and Grassos that they proposed this idea that skills are developed during the whole life, and those three domains of development, are they related to each other, and that the formation of skills operate as a building block process in which basic skills are the foundation for more complex skills.

We can construct many examples of how these skills are formed and how these different domains of development relate to each other. But of course, this development does not occur in a vacuum. There is an important biological process behind -- and this process is more insulated in the first part of life -- that is, it should be there like an arrow that is thicker at the beginning. But it's not appearing there.

But the important thing to say is that there is not only a biological aspect there, but there are also some institutional aspects that are very important in the process of this information. And this is the view that we take in our book, and this is the way in which we organize the discussion around policies.

And regarding this institution of our context of skill formation, key one is the family, and then the school and then of course, the workplace. But there is also the social context that condition the

way skills may be formed along the whole life cycle.

So I will be very brief about the messages that we get from each one of these contexts, starting by the family, of course. Families are in charge of many things. They do a lot of things for their children, but we will hear as -- be very schematic and say that families only do three things: They invest in time in their children, in money, and they also put some -- a lot of effort to construct all the assigned rules and structure inside the household that will condition the way that all interactions at home take place. And of course, this will impact or help or limit the formation of the skills.

They do this -- they make these big decisions in two crucial moments -- before birth and after birth. But they decide facing some constraints regarding time, financial resources, information, knowledge and also the mental health of caregivers can condition a lot the size and also the productivity of investments that families make in their children.

And we document that these constraints are not equally important for families. They are maybe important for specially -- most of them are very important for poorer families and some others -- and for some other constraints, it's not that obvious who is more constrained. So I will give you here just five messages.

The first one, and very related to previous literature, says that there are very large socio economic gaps in skills that appear very early in life. And we document that these gaps are very related to differences in the way that families invest in their children. And even when all these investments are important, there is an investment that is key that has to do with time and quality time, in particular.

We also document how family investments can be much more productive when they are in environments that are well endowed with other complements. For instance, with -- for families that live in areas with good infrastructure, for instance, with good provision of clean water and sanitation. And I'll describe very briefly five groups of policies that can help families to invest in their children in a better way.

These five groups of policies -- the first three have to do with alleviating the weight of these constraints that I described before regarding financial resources -- time and information. And the last two groups of policies are trying to see how families can complement better their efforts with the efforts or the contributions coming from other contexts; for instance, from the social -- context or the

environment, what we call there, and also, the contributions of schools. So these last two groups of policies are talking about the need for the policies that complement better the contributions of the different contexts of skill formation.

And going to schools, we, of course, can be talking about schools for years. I only will give you some brief comments here. We now, as economists, know a bit more about the production function of skills, in particular, of cognitive skills. Now we have recognized the importance of several school inputs; infrastructure, but more importantly, teacher's qualities, skills and practices, peers, principals, leadership, IT, the length of the school day, and school organization material infrastructure, and so on.

And we also have recognized the importance of other inputs, especially those coming from families, other students' characteristics, and of course, the skills accumulated beforehand. So this process is a cumulative process. So, but of course, to try to disentangle what that emotional contribution of each one of these inputs, and which is the contribution of the whole bundle of inputs that the school puts to produce these cognitive skills is a very difficult thing to do.

What I'm showing here is just an exercise that tries to separate how much of the variation of in-school inputs can explain the variation of scores that we get from TELSAY for the case of primary education, and from PISA for the case of high school education. And we see here that the contribution of the school's input is larger for the case of primary schools, and also, we see that among the -- inside this green area, the inputs that seem to contribute the most are those related to, or measures of quality of teachers and teaching. Regarding the other inputs, you see there the importance -- the big importance of family and of previously accumulated skills.

But as we know something of cognitive skills, and we have learned about these very recently, we will don't know much about what is the role of the schools to produce social emotional skills and physical development. Neither do we know a lot about what type of inputs that the school should put into its production functions or ways to get more social emotional skills or more physical development.

We know something and we refer to that literature in the book on what are the country -- what is the contribution of teachers, of peers and of the length of the school day in some dimensions

related to social emotional development, but still, there is a lot to do here at CAF, and of course, at IDB and many other development institutions as well as in academia. There are a lot of initiatives to try to contribute to this part of skill formation that we still are very ignorant about.

I give you just five messages here. There is also -- the first one says that Latin America has made a lot of progress in basically expanding their access to basic education. However, quality is very low, still. And the second message is saying that the low level of skills at the entry age of children in schools is imposing a lot of serious challenges, not only to teachers, but also to school systems as a whole.

And also, we document how the contribution of the school inputs is very related not only to the quality of these inputs, but also to the quantity. And we show how many countries in Latin America still need to invest more in education. Fourth, we document how social interactions inside and outside the schools are very important for skill formation, especially in -- for adolescents.

And we discuss many policies. Here, I will highlight only five groups that have to do with teachers with students groupings. For instance, the discussion about tracking or teaching at the right level; also, the group of policies that have to do with IT at the schools, with extra hours, and of course, with early childhood education.

Regarding the role of jobs -- so here, we know that jobs or the workplace or the labor market enter the life of the people when this biological process is more or less done. But still, the labor market is very important to form skills, because of many reasons. For instance, we spend very long years in the workplace or in the labor markets.

The typical Latin American that works, works for 40 years in -- or is in the labor market for 40 years when he or she is in education only -- during only nine years or less. So we have plenty of time to be there and try to learn something. And there is also this idea and evidence that supports this idea that says that the -- that jobs are a key way to maintain people active -- socially active, physically active and intellectually active.

And this activity is continued in -- maybe not to increase some skills, but for sure to avoid the depreciation of most of the skills that have been accumulated before. And also, the labor market or jobs or the workplace is an important thing for skills, because labor markets send signals back to other

contexts, informing them -- informing families, informing schools what are the best investments that can be done to take advantage of the returns that the labor market offers for skills.

So I give you here just two messages. The first one says that the workplace is still an important context of skill formation, and I will talk here about the on-the-job skill accumulation that takes place basically through three different types of channels. The first one is the typical -- is training. The second one has to do with learning from peers, and the last one has to do with learning by doing.

And we try to decompose what is the contribution of these three channels to skill formation during jobs or on-the-job skill accumulation. And we get to these (Inaudible) regarding technical skills and also, interpersonal skills. This is self-reported -- it's coming from self-reported data from our CAF survey, and it's an exercise that is trying to decompose the contribution of each of these channels similar to the one I showed you before for schools. And it says that basically, all the learning or the skill accumulation in the workplace takes place through informal channels, through learning by doing and learning from peers.

But not all workers benefit equally. Those that benefit the most are those that get to the labor market with the highest set or highest stock of skills, and that again, speaks about the importance of previously accumulated skills. But there are also two reasons or two loops of people that benefit a lot from skill formation coming from these three channels, and these individuals are those that work in formal environments, in formal firms, and those that are well matched according -- or for whom the skills are well-aligned to the tasks they perform at work.

So regarding these two last groups, what is the situation in Latin America? And we unfortunately, are not very well prepared to activities channels, because of the pervasive presence of labor informality in the labor market, and also because of this mismatching of skills to tasks, and that we get from our survey. About 43 percent of individuals report to be mismatched to the tasks -- to the type of job they have.

And another message related to this one is that labor trajectories affect the way or the working of these channels. And basically, it's very simple. Skills that are not used will be depreciated. We have evidence coming both from the informality hypothesis and the idea that unemployment spells depreciate skills.

For the last one, we have evidence showing that in the case of Peru, the depreciation of skills in long spells of unemployment is very accelerated. And for the case of comparing the formal and the informal sector, what we are -- what I'm going to show you here is just the same bubble graph that I showed you before that shows that many of the jobs in the formal sector use or demand cognitive skills, while this demand for cognitive skills is much lower in the informal sector.

So those individuals that work in the informal sector will be more likely to use their cognitive skills -- sorry -- in the formal sector, will be more likely to use their cognitive skills, and we can expect maybe less accelerated depreciation of those skills. I'm sorry.

That's the only thing -- the last thing I will show you. The evidence -- this is an RCT, an experimental evidence that shows that the starting point is very important for labor trajectories, and therefore, for the path of skills accumulation, and we see here two compatible groups. One of them received the possibility of working in a formal firm and the other did not. And we see that the probability of formal employment afterwards is much larger for those that have the possibility to work for a firm for a short period of time.

So just some bullets that try to summarize the conclusions for each one of the four environments that I just discussed before. But let me just give you the when, the what and the who of public policies. To foster skills in Latin America, we see that even though the first part of life is key to skill formation, and we should put a lot of effort there, there is also -- there are also other moments in life that are important, especially those that have to do with the transition between context regarding the work.

We know or we can read this evidence from -- in a very broad way and say that the policies during the first two decades need to promote equal opportunities, while in the later -- in the last part of life or later, policies need to look for a better allocation of human resources across education and occupations, especially fighting informality.

And the who, you know this -- that this process of skill formation is very complex. There are many institutions or context interaction. Therefore, many public agencies that need to coordinate actions, in particular not only education or other means through education, but also social development, health, labor and even the infrastructure or planning publications. So that's it. Thank you very much.

You can download the report from this link here. Thank you.

(Applause)

(Break in recording)

MS. VEGAS: -- to report, which will also focus on skills for our region, and the World Bank has announced that their world development report next year will be on education. So I think there is an increasing conscience among people who work in developing countries, that unless you can raise the levels of learning and the skills of our populations, and also, as Lucila said, ensure that they're better distributed, we won't achieve the levels of development and poverty reduction that we are working so hard from these banks.

I was puzzled, and also, given my role as head of an education division by the graph where Lucila shows the very low impact that schools and institutions have in fostering these skills. And of course, there's a lot of literature focusing on trying to disentangle the effects of kind of the individual and the family, vis-à-vis what the school does.

And the literature, like your paper, often relies on the data that is readily available, and is often about these kinds of inputs that you can observe. But there is more recent literature that I want to highlight, which is perhaps more difficult to generate, because it involves actually going into classrooms, observing what's happening, going into schools and seeing the processes in place and how, actually, teachers and students and principals interact, that quite strongly indicates that it's the quality of these interactions that really make a difference.

So it's not the quantity of inputs, but it's really the quality of how teachers and school leaders actually do their work and how they interact with students that does generate differences in skills. And one of the characteristics of high performing systems is that they train differently and they focus on these interactions, rather than just content knowledge and cognitive skills, let's say.

So I wanted to say that to start, because we shouldn't be in despair by looking at you know how -- you know, all of us who are parents have kids in schools. Some of us pay a lot of money to have them in certain schools. So you know, as a parent who has right now two kids in private schools, it was like oh my gosh (Laughter). And one of them is a boarding school so even more oh my gosh (Laughter).

So no, I am convinced that one of the reasons I choose to cover my kids in certain schools is that I serve a different environment and a different quality of interactions, and I can see what - the effect that that's having in their human capital accumulation.

I wanted to also say that this evidence is based on correlations and kind of analysis of multiple variables and how they correlate with the outcome of interest, whether it's labor force participation or earnings. And another way or another strand of research is trying to look through different kind of methodologies for randomized control trials or quasi experiments to try and see whether changes in these inputs can really make a difference.

And that also, I think has provided some different light into whether schools matter and whether teachers matter. There is a lot of research in this country that uses panel data that can really match students with teachers over time and looks into what are the practices of teachers in classroom and can distinguish effective teachers from non-effective, and their impact on students is important in terms of the skills they accumulate. And the impact of having effective teachers over time seems to be quite strong.

We also at the IDB have a large scale study in Ecuador where we've been following a cohort of students since they were in kindergarten, and now they're in third grade, and have observed teachers through video recordings and really have documents that effective teachers do achieve much higher levels of learning in students, and that effective teachers can work and achieve these levels with students of various backgrounds.

So the key, then, for policy, and I think it's a finding that you highlight, too, is to improve the quality of the adults in the system who are interacting with students, and particularly with students from disadvantaged backgrounds who are the ones who are kind of getting cheated the most. I mean, none of our students are really learning a ton, as PISA shows. Even the wealthiest students are performing below the levels of the poorest children in some of the high performing countries like Singapore and Korea, which is very depressing. But also, our poorest kids are really at a huge disadvantage.

And just to, I guess, kind of lead and then pass on the (Inaudible) to Rhiannon and to all of you to ask questions, you know, a key thing is how rapidly the world is changing and how our systems

are still quite traditional in the way they're organized. And I think a big challenge for our region in particular, but really for all the world is to recognize that we are forming individuals for jobs that today don't exist.

And so the big challenge is how do we build skills that we don't know really what they are, but I guess the key one is the ability to reinvent yourself and learn new skills throughout your lifetime. And that's, I think, the biggest challenge, one that I know you're tackling in that other report, so I'll pass it to you to make some comments and then we'll open it up for questions. Thank you.

MR. CRISTIA: Great. Okay. So first, I want to thank Lucila for the invitation to be here. It's really an honor for me to be in Brookings and an honor all the way. I want to thank Brookings for organizing this event.

So the second thing I want to say is I really -- I want to congratulate Lucila for a very nice report. I haven't read the whole report. I have read you know, several parts, but it (Inaudible) as a really comprehensive report. This is a very wide topic, and even though it is so wide that we're really trying to cover many important aspects, so it's really comprehensive.

And also, in some way, it provides a nice conception framework about how to think about these topics. And so I think it's a great starting point if you want to know about these issues. It gives you, you know, the most important part that you need to think about.

I also like the fact that it's creative; the way how they use PISA looking at the performance in the first question versus the last question, the application to (Inaudible portion). I think it was really nice, and the results are quite surprising. Although there are different explanations for those five, but it's something that you know, it gets you thinking. So it's something that's not only what you learn, but also that it gives you some questions that you want to know more. So I really like that.

So I think there is one message that for me is important, but it's missing. And I think that for Latin America, we're making a big investment in skills; really major investments. One is spending pre-primary, primary, secondary and tertiary about 5 percent of GDP. This is a huge investment.

Imagine infrastructure with roads, ports, all that we are spending 1.5 percent of GDP. Our investment is 5 percent on this just part of the investment. Just in primary, we spent 2 percent of GDP, and our students are not doing very good, even if we compare not with OECB. We capture similar

levels of economic (Inaudible). We're not doing good.

So there is really a need to improve efficiency. We need to spend better. And in that regard, I think one of the big concerns is really lack of evidence. So today, Lucila presented a lot of very interesting -- although many of them are associations. But to think about policy, you need to know what is the effect of changing certain things on (Inaudible) outcome. You need a rigorous impact evaluation. (Inaudible portion) examples.

So right now in Latin America, there is a big push for an extended school day. In many of the countries, students attend school for four hours a day. And certain (Inaudible portion) and other (Inaudible) of extending the lessons in school from four hours to six or seven hours. This is going to invoke a major increase in spending. Right?

A conservative estimate would say that that would increase spending maybe 40 to 60 percent in the first year of the spending. So here, what we're talking about is as a country that we're spending 2 percent of GDP in primary schools, but we spent 3 percent, officially 1 percent of GDP. That's a massive investment.

Okay. What is the basis for their decision? How many experimental evaluations are (Inaudible)? Zero. There's none. Now we are allowed to spend, you know, for the reason I think about \$90 million, and we don't have (Inaudible) from that. We have like three nice (Inaudible portion) experimental (Inaudible) that helped you know, progress.

How much does it cost to have a nice evaluation of that policy? We need one, two million dollars. So we are going to spend 90 million, and we don't know what we are doing. And let me give you a couple of more examples of really this -- there is here a critical constraint for policy making and for really improving outcomes.

There was (Inaudible portion) that started -- it was implemented by MIT and was implemented in 50 countries around the world, and they submitted more than \$2.5 million dollars. Basically, they wanted to improve education in the poorer regions of the world by providing personal loans to students.

(Break in recording)

MR. CRISTIA: -- we collaborating with enrollment through a think tank (Inaudible) and

we ran a rigorous evaluation experiment and evaluation of (Inaudible). It was very important, because the enrollment was spending \$2 million on this program, but there were, I think really brave, and really, I think, committed to run an experimental evaluation of the program.

What they found was there were no effects on learning (Inaudible) language. That was the main objective of the education ministry. So basically, they're spending \$2 million. And this is even a little bit worse, because we did a review in 2014, and we found that countries in Latin America received already \$10 million first time (Inaudible) students. So this, making a conservative estimate, is basically they spent \$2 million. They threw in laptops.

(Break in recording)

MR. CRISTIA: -- (Inaudible) a lot to be done. Okay? So big investments, little results. We need more evidence. But let me give you like a positive example. Right? I don't want to be the negative here (Laughter). So let me give you a positive one, and there are positive ones.

There is a -- for a long time, psychologists have been thinking that moderation is key for learning. And if you think about Abraham Lincoln. You know, he -- if you read his speeches, they are unbelievable. They are amazing. He's one of the best presidents in the (Inaudible) here. The following years of a vision he had. He got three years of attention. Okay?

But he was a person that was really motivated with learning. He lend a book (sic). He rip it up. At some point, there was a wealthy person giving books. He lost one of those. He had to work one week to pay back the book. Okay? But he did it. And (Inaudible portion) he read that math was important. He's telling (Inaudible portion). So motivation is key. Okay?

So what they say -- psychologists think that many times, the problems are people think that they're not smart, and so the -- they shouldn't spend time reading, because they cannot do it, basically. So there is a very similar direction that was (Inaudible portion) in Peru, and they were reading with (Inaudible portion) where basically they show kids. They do one session for two hours, and they show that the brain is as any other muscle, and if you train it, you can improve. That was it. One day.

They show it. They do it in a very active way. They explain to them that they have to write a letter to a friend telling this, and they put all the letters on one wall. So later on, they came back and they measured the effects of this. It was positive significant effects on them of that interaction.

They effects are a lot similar in terms of math and language of extending the school day. Okay? And this is (Inaudible) -- these are emerging areas. Okay? We have to be carefully. But when we have -- what is the cost? The cost is (Inaudible) point two dollars per student, per year. So minimal, minimal cost.

So there will be many other things like that, but we don't know basically. So I think I want very -- I think that in the report, they talk about it. But I think that really, we have to communicate that we need to spend in evidence to make better organizations and to improve outcomes.

MS. VEGAS: Thank you, Julian. Lucila, would you like to comment on our comments --

MS. BERNIELL: No, just --

MS. VEGAS: -- or are you ready for questions? (Laughter)

MS. BERNIELL: No, just to thank you, both of you, and also, try to also call for more evidence and for more consult evidence on these issues of what is the impact of schools or what are they -- the impact of different inputs into the production of cognitive, but especially non-cognitive skills, since we know that these types of non-cognitive are also an input to produce human capital, as we understood human capital before.

So just again to thank both of you, not only for these comments, but for all the work that we have here from your papers and from (Inaudible) trying to be (Inaudible) on these topics. We are also working on many RCTs, trying to -- we have to contribute to the evidence of the (Inaudible portion) from which government should (Inaudible) -- yes?

(Break in recording)

(Question inaudible - not mic-ed)

MS. BERNIELL: So, sorry. Thank you very much for that. (Laughter) So no, again, just to thank you and to say that we are in the same agenda, trying to provide more evidence for the government of the region on these aspects.

MS. VEGAS: Thank you. Well, now I think is the time for all of you to ask questions to our presenter. Go ahead.

SPEAKER: Hi. I want to thank you for the presentation. I think it's very important for Latin America in general, to have more research, especially in education and different skills. My first

question to the principal researcher, Lucila Berniell about the 10 cities that were selected for the research are main -- like principal cities in Latin America.

They are -- compared to other places in Latin America are very industrialized and are big populations. Comparing Latin America, do you think it will be a change in the result of the research based on the location? For example, instead of selecting Buenos Aires, to select Cordova, or instead of selecting Sao Paolo, to select one of the northern areas of Brazil?

And also, for you, Mr. Julian, about the process of evaluating and the process of implementation, you bring a brilliant example of how they all were a program in Peru which actually came from research in MIT. But also, that research brought to Uruguay the Plan Ceibal, which is a different plan to implement more about computer literacy.

How do you think that the change in implementation between Peru and Uruguay can change the process of utilizing in an efficient way, the resources for education? And thanks for all of this.

MS. VEGAS: All right. Before you sit down in front of the others who may want to ask questions, can you just state your name and your organization.

MR. MARTINEZ: Christian Martinez. I'm --

(Break in recording)

MS. VEGAS: Should we take a couple more questions, and then I'll give you -- okay.
Back there.

SPEAKER: Hi, my name is (Inaudible portion). I'm from the National Geographic Society education. And I have a question, being a geographer. Have you also looked at a comparison among the cities, specifically to look at their educational resources such as textbooks and supplemental resources and technology literacy, both of students and teachers and how to improve professional development and certification of teachers, as well as the structure of schools and their funding source, looking at specifically how they're funding for the internet and bandwidth improvements?

These are all topics that have been discussed with reports such as the Bill and Melinda Gates Foundation that did a recent report on teachers and how they utilize social media to talk about their profession, and even how they're certified in technology. Thank you.

MS. VEGAS: Thank you. Up here, one more question, and then I'll -- yes. Just wait for the microphone. And do you mind stating your name?

MR. LAPUENTA: My name is Alejandro LaPuente. I'm Peruvian, but I'm a science policy fellow here at the National Science Foundation. So I'm very interested in education.

My first question is, those 10,000 people that you sampled, they're everything, or they're 10,000 from schools, 10,000 in the workforce? I don't know. Because if it's everything, I think it's a very small sample size.

Second is I think infrastructure is crucial. If you look at the plots that you showed, you showed that in the first quadrant, you know, you have cognitive skills and high social emotional skills. But I can guarantee you that those people are much pretty much from private schools in South America, not from primary institutions.

So if motivation is to be a key in the development of skill development or whatever, I think infrastructure is crucial, and I think coordination with governments is even more crucial, because the investments that you made are huge. But if there is this vacuum where the governments don't sustain that investment, then you will probably have -- nothing will happen in public institutions. That's what I'm trying to say. Just speaking for Peru, though (Laughter).

MS. VEGAS: Thank you. Okay. I'll give a chance to main presenter, and then we'll do another round. Do we have time for a second one? Lucila?

MS. BERNIELL: So thank you again for the questions. Regarding the first one, the cities, when you started asking the question, I immediately said, of course, it's the best that we can get out of skills from Latin America, since we are looking at cities that mostly are more developed than the others. But then you mentioned Cordova, and I'm from Cordova (Laughter).

Like the idea is that of course, it will go to the rural side of Latin America. We will -- especially, for instance, in the case of physical development, we will find very serious situations and a lot of inequalities. So this study that is small in a sense, but not in -- and I will answer about that afterwards. It's happening now in cities. It will be ideal to expand it to other locations in Latin America, but for that, we will still need advocate more unconvinced policymakers that measuring these types of things is important, and they should finance and support these kind of initiatives. But you are right.

About the issue -- for the geography question, I didn't (Inaudible). And I understand that you were talking about the inequalities inside the city. I haven't heard of a study that takes into account the differences in school inputs inside cities in Latin America, but we are currently in an initiative to study inequality inside cities.

We haven't done anything on schools yet, but we hope to do some work in the future about this, because we know that inside cities, inequalities are also very large, and in some cases, these inequalities are larger than when comparing results or inputs across cities.

And regarding the question of Alejandro Fuentes --

MR. LAPUENTA: LaPuenta.

MS. BERNIELL: LaPuenta. Sorry (Laughter). The sample size -- the whole survey is 10,000 individuals, and it is small for some purposes and not for others; for the purposes that I showed you before, it's not as much. Regarding your concern of who are those individuals in Manashi and (Inaudible portion), I agree with you. Many of them come from high socio economic backgrounds, and you know, we all know that in Latin America, location is very segregated, and those that attend private institutions are coming also from richer families.

I agree with you on this need that government needs to sustain investments in infrastructure and in many other domains of public action (Inaudible) in many years. So it was too short, and these instances. In the type of education that public and public -- private and public institutions can provide, and also in the results or in the outcomes that we observed from people coming from different socio economic backgrounds.

(Break in recording)

MS. VEGAS: Julian?

MR. CRISTIA: Me. So, on the first question, the relevant implementation in the case of Peru versus Uruguay, I think that clearly, implementation is crucial. You can have the best project in its design, but if you implement it in the wrong way, it's not going to work.

So I think that implementation is key and there is a need, maybe to -- you know, governments have to invest also in monetary, what they are doing, and to have -- you know, indicate or so they can follow. And especially with the Internet, with a lot of tools that we have right now, monitoring

is much easier than it was before. So we should do it and make sure that the purchaser IDs everything correctly.

In the case of Peru and the case of Uruguay, there have been some evaluations about that particular program, and they show that really, the program reviews inequalities in access to computers, for sure. But in terms of learning in Latin language, the evidence is a little bit more mixed. Even in the case of Uruguay, I think it's a case that they really did a very nice job in terms of implementation.

And that, you know, in some way I want to connect with something I said before; that is, in many cases, it's not that the whole technology is good or bad; it's how you do it. In fact, a couple of years ago, Emiliana told us we -- you know, we, to produce some report about you know, technology, does it help? Does it hinder? In which cases?

So we did a review, and we were quite surprised about the evidence. So I said about -- non-experimental evaluations about an extended school day. Okay. In terms of technology in education, at that point, there were 14 experimental evaluates only in developing countries. So with that body of knowledge, we were able to really try to see in which case is it working, in which case it did not work.

And what we found was that programs that just centered on providing on resources and do not guide the use, do not provide guidance about how to use the computers, the effects were very, very low. In contrast, programs that guided the use of technology in a particular way -- a person analyzed that term in terms of if they defined the subject, if they defined the software, if they defined the schedule, the 3S -- if they guide the use, then the effects were much larger and in general, were very positive, and in fact, especially when they provided more time. So it was like one hour after class or something like that.

We did that report. We found that, and then there have been several papers that were done after that, that basically reinforced that way of saying that technology, in a certain way, can really help a lot. So it's certainly connected with the second question about resources and Internet and social media.

I think that in many cases, because we observe that there are very big differences across

LATINAMERICA-2017/03/24

society in terms of access, we think that access is the key. But many times, you just provide access, and basically, nothing happened. It's that you have to go one step further and to assure that the access that has been provided is really well used.

And yes, in terms of the question of Alejandro about infrastructure and coordination -- so clearly, infrastructure is key. There are minimal levels of infrastructure that should be there. Right? So there should be the school, the bathrooms -- there are certain things that are crucial, and if they were not there, nothing is going to happen. So we have to ensure that every student has access to that.

But many times, I think that we are thinking that infrastructure is key because we -- maybe we see the private schools and they are so nice that we say, oh, that's the key. And so there have been you know, experiences where governments make a big investment in really nice infrastructure facilities, and basically, there are no effects, because in some ways -- like you need the basic level. You need to get there. But after that, if they have a really nice gymnasium or not, it's not going to make a big difference.

You know, I was really surprised. A couple of months ago, I went to a workshop in Peru, and after that, I had heard a lot about one school. This is a school fair area. There is a school (foreign language) in (Inaudible) located in the outskirts of the city in a very poor place, which basically is a (Inaudible) very poor kids.

In 2011, it came first in the country in terms of math in our scope. So basically, it beat all the schools in the country, including all the private schools. And I went there, and I couldn't believe my eyes, because basically, they were playing in dirt. The infrastructure was really bad. It was not bad. They had the minimal levels, but it was not like spectacular. Right?

But what you observed is, for example, they had one program that was called (foreign language), I Like to Read, where they told kids that if they read a certain amount of books, they would get some bracelet and they can continue collecting the bracelets, and that's it. I think that when they get to, you know, 500 books, they get the small radio. That's it. That's the program. (Foreign language) I Like to Read.

That program is fascinating. It was in a third grade class, and they were like, how many books have you read? Three hundred. That's more than my daughter (Laughter). You know? I should

bring my daughter here. So I think that really -- I think we really have to think about it -- much more about the human aspect, you know, about how we do things. And really, you know, we have to give them meaning to provide the infrastructure, but not get caught, maybe with the other aspect.

(Break in recording)

MS. VEGAS: Thank you.

SPEAKER: I'm Celeste (Inaudible). I'm a fellow here at global, day two. So thank you very much for -- this work, yeah, and for the thoughtful discussion.

I had a question about teachers. In a lot of the literature, it seems that the bottleneck for innovations to take hold on the issue of technology and other things tends to be teachers. And I just wanted to know whether there's any experiments, any examples that you've seen where you have been able to unlock that obstacle and scale it. Right?

Because there are examples, not in Latin America, in Asia around the rights of private schools -- these little private schools where they have better outcomes, and teachers are paid, you know, quarter of the public school system. There are others you know, that are little examples, but it seems that that's to be the binding constraint, and I'd love to hear if you have ideas of places that have unlocked it.

SPEAKER: Hi, Maria (Inaudible) from the Trust for the Americas, Organization of American States. I was wondering if the IDB or if the CAF have done any comparison of cognitive skills, social emotional skills between formal education and non-formal avocation and education for poor level communities. And what are the findings?

We really work a lot in non-formal education settings with persons with disabilities and at risk youth, and youth that have been incarcerated, and working in correctional institutions and then working outside in job readiness training and having a good skill. So I was wondering if you have made any study and comparison between those settings.

MS. VEGAS: One more. Okay, well two more, and then we'll (Inaudible).

MS. KRUNTZ: Hi. Thanks. I'm Bridget Kruntz and I'm from the International Education Commission of Financing. So I just wanted to say thank you very much for these presentations. It was really, really interesting and it chimes a lot with some of the findings that we have, particularly the need

to focus on efficiency, on the early years, the gap that we see between kind of changes in the workforce and what types of skills schools are producing.

Also, one of our key messages in the report is that if you focus on results and what you want to achieve and then kind of work backwards on what type of policies or institutional changes you need to make to achieve them, that can work better. And how can we -- so that might be something to pick up on.

MS. VEGAS: Mm-hmm.

MS. KRUNTZ: I think one thing, picking up on the last set of questions, too, was around this role of teachers. Because when you talked about budgets, we also know that inside those budgets, the lion's share of those budgets is on teachers. So if you can unlock that, you can have a very significant impact.

So I think the question is what kind of research do we need to do, or (Inaudible) generation? Do we need to do more around teachers, and particularly around this issue of socio emotional skills which are growing in importance, but where the evidence base is particularly weak.

And then a flip question to that is have we also used the existing evidence that is there? Because we can see from the examples you gave that often, governments are taking policy decisions that aren't based on evidence, like lengthening the school day or in Indonesia, recently, they increased the salaries of all the teachers, but that had no impact on learning.

So there is evidence out there, but the evidence is not often getting through. So I think there's another piece of this picture; the kind of political economy piece on use of evidence. Interested to hear your thoughts.

MS. VEGAS: Last one.

SPEAKER: Hi. My name is (Inaudible portion) from the Trust for the Americas, as well. And my question is related to adult education. Do you have any insights besides jobs like learning new jobs and peer education that (Inaudible portion) just really explains related to adult education, thinking of people who didn't finish their formal education and are willing to either acquire new skills, to access the job market, or life skills to change their mindsets?

So if you have any evidence related to that, and also, maybe if you can link that to

Maria's questions on all formal education or extracurricular education. Thank you so much.

MS. VEGAS: Thank you. Great questions (Laughter). Too bad I don't have time to (Inaudible) (Laughter). But anyway, we'll start with you (Inaudible).

MS. BERNIELL: Thank you. So regarding teachers, we can be here discussing a lot of evidence that is emerging now. Now we know that teachers are key --

(Break in recording)

MS. BERNIELL: -- economies, because in the (Inaudible) and in the education and science world, they know these --

(Break in recording)

MS. BERNIELL: (Laughter) I don't know ever. But of course, now that we can -- we go to all these measures and all these value added measures, that it makes us more sure about the attribution of what is the contribution of teachers to children's process of skill formation or children. Now we know that teachers matter a lot.

We have many -- few evidence from Latin America and basically, most of the evidence comes from the work of the IDB, and especially in many things that you have been doing, Emiliana and your team. So maybe you can be more explicit about that evidence and what are the --

MS. VEGAS: Mm-hmm.

MS. BERNIELL: -- the things that we still need to understand there. But the things that they were doing, for instance, (Inaudible) are very important for the region and to understand what is the role of teachers in the formation of most types of dimensions; cognitive and non-cognitive.

Regarding formal and non-formal education, we haven't done any review on non-formal education in this book, but we are very interested in this idea of non-formal settings for education. And (Inaudible), it is related to your question on life long education and other education. And these kind of things are especially important now that our world is changing so fast, and then we know that many -- many of us, maybe, will be out of work for -- or we will be more frequently out of work as compared to our parents, let's say.

Going in and out of work is something that we should expect in the near future, so institutions need to adapt to this new reality in the labor market and these non-formal settings for training

for education will be very important in the future. So we are committed to understand that, and trying to understand these things better.

And I liked your question about the political economy of using evidence very much (Laughter), because this is important. But it's also very important, the political economy of producing evidence. We have very few evidence of some domains, especially because there is a lot of opposition in some parts of or with some governmental officials. We are not very good at convincing them how important it is to do these kinds of things, to produce new evidence.

But also, because they have some incentives that are not very well aligned to producing good evidence on the things that they are doing. So we need to understand a lot more about the political economy of the production of evidence, but also -- and I feel more optimistic about the political economy of the use of evidence.

And I think that our kind of reports help a lot on that, because we have summarized -- in each of the chapters of our report at the end, we summarize what this state of the art --

(Break in recording)

MS. BERNIELL: -- what is the reverse evidence that we could use as government officials to sign good policies, and we give their -- the state of the (Inaudible) of course, is not the complete set of information that we would like to have (Inaudible) to produce good policies -- actually sign and implement good policies. But I think that that report helps in the use of good evidence and the design and the implementation of policies. But in the production of new evidence, we are still very --

(Break in recording)

MS. VEGAS: If I could add to that, I want to take advantage of my role (Laughter). So on the -- I'll talk about topics, but on the teacher's side, I think there is you know, not just increasing evidence that they matter, but also, what are the things about teachers that matter, or better yet, don't matter?

So we know today that the years of education are what -- years of service don't really matter for making a great teacher. And instead, the type of practices that they had while being trained, the mentoring that they can receive and actually, what they do in classrooms is what makes the difference.

There is -- besides the work that we've been doing, which is you know, a very extensive study in one country, one of our colleagues and Barbara Brent from the World Bank did a very nice study looking at you know -- with the Stallings method, looking at how teachers manage their classrooms in about seven different countries of the region, and comparing it to kind of the benchmark of how high performing systems do it.

Our teachers really spend a lot less time in instruction, in getting kids actually in the learning process than in managing and disciplining and kind of organizing the day, or even in not being present. So that kind of data is very useful for governments to then use in their own training.

We're currently finalizing about four years of work on looking at a particular part of teacher policies which has to do with how do we attract and select more talent into the profession. One of the also findings and one of the things we're documenting in this publication has to do with how, over time, the teaching profession did to -- you know, labor markets changes and sort of the evolution of how we, as a region, opened up access much faster than other regions with similar income.

And -- you know, to expand access in the way we did and the time we did, we had to have a lot more teachers in a relatively short period of time, and we kind of lowered our standards. At the same time, when women were having other opportunities in the labor market, and so the more talented women could now be engineers, lawyers, where in the past, they couldn't.

So all this is forthcoming, and I think we're looking forward to kind of sharing that and pushing an agenda of you know, not putting today's teacher in the situation where we're criticizing them, because they're not responsible. It's really the way we value the profession as societies that has over time, been kind of a source of the problem.

And just the last comment on the political economy of producing and using evidence, I think that's not just an issue for education. I think that's an issue of prospectors, and I also don't think it's just an issue for lack. I mean, let's not even talk about what's happening in the White House at the moment on using data and evidence (Laughter).

But I did want to plug in two announcements, I guess. We have just launched -- I mean, just to backtrack on that. We are very committed, also, and working really hard like CAF is, to try and facilitate data and evidence for education policymaking in our region. And one of the limitations has to

do also with, not only is most of the research evidence in academic journals and not really processed for policymakers, but also mostly in English.

And so we are developing two initiatives which are complementary. One of them is CIMA, which stands for Central Information (Foreign language), and (Inaudible), our Center for the Improvement of Learning Accounts, CIMA. And it is basically a statistics portal that is user friendly and that has all data from all other sources in a user friendly way on education systems in our region. And it's in Spanish, Portuguese, as well as English.

And then the second initiative is in partnership with the (Foreign language) Chile based in Santiago to try and launch an innovation and research lab for our region called SUMMA, S-U-M-M-A. And the idea is to have a platform where policymakers can go and sort of find the latest evidence, you know, that these kind of reports produce, but up to date, in Spanish and Portuguese and English, because we also work with the English speaking Caribbean countries.

But also, to go beyond what works into kind of why does that work. What are the kind of implementation guidelines? Someone was talking about the importance of implementation. So if a program is successful, then we are -- someone is going to actually document how it was implemented and what were some of the problems in implementation as well as successes, so that others don't make the same mistake.

And lastly, it has sort of the spirit of promoting innovation that is you know, trying new things so that, as someone was saying, teachers are more free and have more data and more possibilities of accessing innovation. So, just a plug on that, and I'll maybe let you respond, finally, and then we'll close.

MR. CRISTIA: Very good. I just would like to add the little things, because I think that the questions worked out really well by Lucila and Emiliana. About the question of social emotional skills, about formal and non-formal environments, as part of the (Inaudible) that we are going to put out this year, there's going to be a review of different interventions that focus specifically on developing social emotional skills. That could be any formal or non-formal environment.

And let me tell you that the results are kind of quite positive; that they are basically weakened. They seem to have their experience in some areas, seeing that we can improve skills formal

or non-formal. It depends sometimes on the type of skill.

The only issue there is that the evidence is mainly coming from very small studies; maybe in terms of (Inaudible) but very small, where it's difficult to go from there to say to a country, launch this program and it's going to work. So I think that we have kind of a step that we need to go beyond that is like literally large scale, well done. Let's make sure that this works at scale before we really try to work on these two countries. But I think there is some basis on (Inaudible portion) work a lot on this and they have done great, great work on that.

About the issues of -- yes, succeeding -- using (Inaudible) evidence (Inaudible portion) -- that's a big issue. And there are several initiatives that are (Inaudible portion) -- I think there are two initiatives that Emiliana talked about. They are going to be great.

And also, the flagship that we are going to produce this year -- to (Inaudible) the flagship, we are going to launch a work page that basically provides the evidence on skill development along the last cycle in a systematic way. So basically, systemized areas. And the goal here is to make it easier for (Inaudible) and anybody that wants to have an informal opinion to go and look at the evidence, and then make their decision.

So the last question is a really tough one. It's about all of the education and how we can improve skills and labor outcomes of new -- especially of those we know should -- basically, that they haven't accumulated much skill up to that point in it, so what do we do? And do we always -- that our vice president that is you know, above us -- It's the question that he's going -- driving us.

He's like think about the (Inaudible). Think about the guy that is 20 years old. He (Inaudible) in secular school. He's got 40 years ahead of him in the labor market. What do we do with him or her? So unfortunately, we -- the evidence is so far we know about some things that don't work, but we don't know much about what works.

And I think that there is really a need there for experimenting and for working about what we can do. And even in the margin, maybe the effects are not going to be huge, but we need to think about these people and how we can improve. Clearly, for people that have a good basis as to acceleration, you know, they arrive to their 18 year old, and they have all the good generous skills, then acquiring specific skills is much easier. But the big issue is the people that are 18 and don't have it, so

LATINAMERICA-2017/03/24

it's a big question that we have to work on going forward.

MS. VEGAS: So our time together has come to an end. On behalf of Brookings
(Inaudible) (Laughter), I want to thank our presenter, our commentator and all of you for being here.

Thank you very much.

(Applause)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

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.

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2020