# **EDUCATION IN THE AMERICAS: WHAT THE SUMMIT MISSED**

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### **Executive Summary**

- The Sixth Summit of the Americas gave little attention to the urgent need to improve education quality and equity, although both are vital to the region's development and competitiveness.
- Student learning in Latin America is lacking, despite increased spending and improved enrollments.
- Lack of effective teaching and management systems contributes to low levels of learning, as do political obstacles and weak demand for change.
- By making learning the center of education policy, focusing on systemic changes-including all aspects of teacher policy-and strengthening the demand for quality education, countries would help ensure students acquire the skills they need to succeed in today's world.
- Clear, measurable, region-wide commitments to learning (such as ensuring all children leaving the third grade can read) would be a good first step.

#### **The Context**

Few dispute the central role of education in improving economic growth and competitiveness, reinforcing democracy, and helping the poor. Highly skilled individuals earn more, are more likely to engage in civic activities, live healthier lives, and compete more successfully in a global economy that trades in knowledge and services. Moreover, in a region plagued by one of the world's highest rates of inequality, education can help reduce wage differentials and promote equality. Research also suggests that education can reduce incidence of crime. One study, for example, found that a one-year increase in average years of schooling reduced both property and violent crime by 11 to 12 percent.1 Education is also intimately linked to efforts to reduce child labor. In short, education is a fundamental human right that contributes to many areas of development.

So we were disappointed that the Sixth Summit of the Americas in Cartagena, Colombia, in April 2012 paid so little attention to the urgent need to improve education. To be sure, a busy agenda covering contentious issues such as drug policy and Cuba's participation in the inter-American process made it difficult to discuss everything, and getting those issues on the table was important. However, education's intersection with so many summit topics, as well as a shared conviction that schools are not doing enough, should have made it relatively easy to agree on two or three concrete action items that might move the region forward. The summit could have and should have (and in the past has) produced more than President Santos's statement that countries "agreed to promote education, share educational materials, and empower each student in their education and in overcoming social and economic barriers."2

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#### The State of the Debate on Education

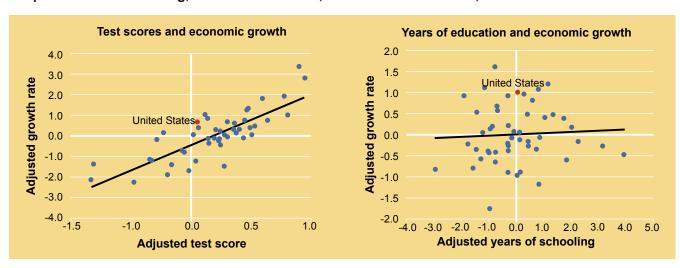
Education has been a key agenda item since the first Summit of the Americas in Miami in 1994, and many of the priority issues have remained the same across succeeding summit declarations and action plans. Access, quality, equity, workforce skills, better teachers and stronger tertiary programs have all figured prominently, as has the commitment to more accurately measure educational progress and share knowledge about what works across borders.

At the same time, experts, governments and the international community have begun to shift their focus from getting children into school (where progress has been significant), to making sure children learn (where progress has been meager). Consensus is growing around the idea that access to school is not enough, and that what students learn in school is the critical factor behind personal success and economic growth. By way of example, studies have shown that an increase of one standard deviation in reading and math scores on international student achievement tests is associated with a two percentage-point increase in the annual growth of GDP per capita.3 But the same studies show only a minimal relationship between years of schooling and growth (Graph 1a and 1b). Increasingly, institutions like the World Bank, USAID, and the Organization of Ibero-American States refer to student learning explicitly in their goals, often targeting specific skills like literacy, numeracy and science.

There is also a growing body of evidence that soft skills—character and personality traits that help people succeed in life—are as important to learn as reading, math and science. Traits such as openness to ideas, conscientiousness, extroversion, agreeableness, emotional stability, creative thinking, critical analysis and working with others are important in achieving children's education goals. Moreover, focusing on both hard and soft skills early on, from birth to age five, helps "reduce the achievement gap, reduce the need for special education, increase the likelihood of healthier lifestyles, lower the crime rate, and reduce overall costs." Since soft skills can be and have been measured, there is no reason why schools cannot add them to their learning goals.

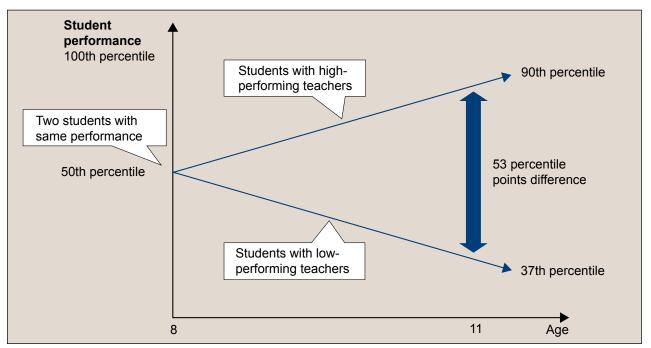
It is equally clear that teacher quality can make or break an education system. Teachers aren't the only influence on student learning, of course, but we know that a high-quality teacher can make a tremendous difference in a child's learning, and the effects appear to be cumulative (Graph 2). Students assigned to highly effective teachers are more likely to go to college and, earn higher incomes, and are less likely to be teenage mothers. On average, having such a teacher for one year raises a child's cumulative lifetime income by \$50,000.6 Consequently, education administrators and researchers have increasingly focused on promoting effective teaching, primarily through more and better teacher training.

Graph 1a and 1b. Learning, Years of Education, and Economic Growth, 1960-2000



Source: Hanushek et al., Education and Economic Growth: It's Not Just Going to School, but Learning Something While There That Matters, 2008

**Graph 2. Student Performance and Teacher Quality** 



Source: Barber and Mourshed, Good Education Systems can Become Great in the Decade Ahead, 20097

Governments, international organizations and other education stakeholders are also beginning to ask a broader question: "Education for what?" Which skills, beyond traditional subject-area knowledge, are relevant to the challenges children will face as they join the adult world, and what role do/should schools play in providing them? The answer is a growing emphasis on 21st-century skills (reading, math and science, plus "soft" skills), the ability to use technology (both as a tool for expanding knowledge and as series of skills students need to master), and a renewed focus on improving tertiary opportunities and workforce development.

Clearly intentions are in the right place. But just as clearly, not enough progress has been made.

## **Challenges to Improving Education**

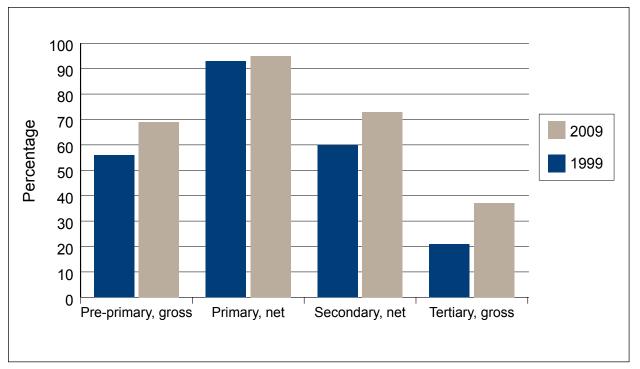
## Enrollments and Spending Are Up

Over the past decade, countries in the region have increased enrollment and spending. Almost every child enrolls in primary school and more than 60 percent attend pre-primary and secondary school (Graph 3). However, enrollment rates are still well below those in developed countries, at all levels besides primary.8 High repetition and

dropout rates in several countries mean that too many children, particularly from poor and indigenous families, do not complete secondary education, much less attend university.

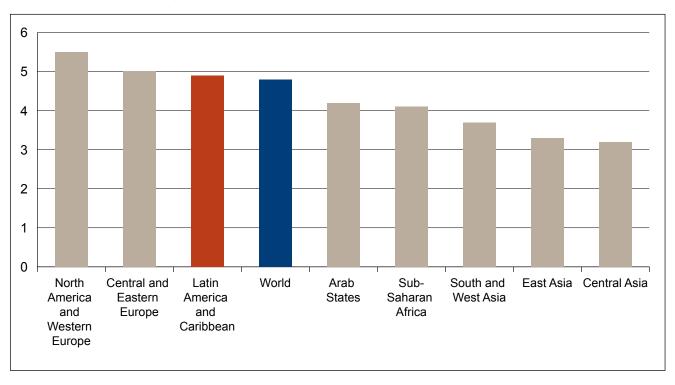
Spending on education has also increased over the past decade. On average, the region invests 4.8 percent of its Gross National Product (GNP) in education, more than the global average and close to the 5.2 percent invested by developed countries (Graph 4). Spending per pupil has also risen, with many countries investing substantially more per student at the tertiary level than at the primary level. 9 Within Latin America, however, countries vary widely in their level of investment-Jamaica spends about 6.2 percent of its national income on education while the Dominican Republic spends around 2 percent. 10 Although there is no magic figure for the ideal level of investment, and more money does not always lead to more learning, countries that spend consistently below 4 percent of GNP on educating their children are almost certainly getting lower-quality services than those who invest consistently more. Indeed, chronic underfunding of education in the Dominican Republic has led civil society actors to demand that government invest the 4 percent of GDP in education required by law.

Graph 3. Enrollment Rates in Latin America and the Caribbean, 1999 and 2009



Source: UNESCO, Global Education Digest 2011

Graph 4. Public Spending on Education as a % of GNP, 2008



Source: UNESCO, Education for All Global Monitoring Report 2011

Shanghai-China Finland Students at these levels have difficulty Korea solving problems that require them to Canada make direct inferences from presented Estonia information. They also have problem New Zealand representing key data graphically or using OECD average basic algorithms, formulae, procedures or France conventions. Turkey Uruguay Mexico Chile Trinidad and Tobago Argentina Brazil Colombia Peru Tunisia Indonesia Panama 0 10 20 30 40 50 60 70 80 90 100

Graph 5. Percentage of Students at the Lowest Performance Levels on PISA Math Test, 2009

Source: A. J. Ganimian and A. Rocha Solano, Measuring Up? 201111

#### Education Quality is Low

Despite increases in spending and enrollments and growing awareness of the crisis in teaching and learning, the reality is that most Latin American schools—from early childhood to tertiary—provide low-quality education that does not meet countries' or students' needs. For example, roughly half or more of Latin American students participating in the OECD's most recent Programme for International Student Assessment (PISA) exam performed at the lowest levels, meaning that they had difficulty applying basic reading and math skills to real world problems. By contrast, only about 20 percent of students in OECD countries performed at this level, while less than 10 percent in top-performing countries did (Graph 5). Results from regional and national achievement tests are similarly low.

Nor are quality issues confined to K-12 schools. While hard data on the quality of tertiary education is scarce, the evidence that does exist suggests that Latin American universities are not globally competitive. In a 2011-2012 ranking of the world's 400 top universities by the *London Times*, no

Latin American University ranked in the top 100, and only three (two in Brazil and one in Chile) were included at all. <sup>12</sup> In a similar ranking conducted by the Shanghai Jiao Tong University, no Latin American university ranked in the top 100, and only three (Universidad de São Paulo in Brazil, Universidad de Buenos Aires in Argentina, and Universidad Nacional Autónoma in Mexico) ranked in the top 200. <sup>13</sup> In total, 25 Latin American universities made the top 500 (15 from Brazil, 4 from Mexico, 4 from Argentina, and 2 from Chile). By comparison, South Korea had 22 universities in the top 500 and China had 72.

Moreover, in most countries, less than one-quarter of all university graduates receive science or engineering degrees and few receive doctorates. Hazzil, with one of the most extensive university systems in the region, produces only one Ph.D. for every 70,000 people. Chile produces one for every 140,000. The OECD averages about one per every 5,000 people. University accreditation systems are weak, few faculty members have doctorates, accountability is nearly non-existent, and funding for public universities

Republic of Korea 2,697 United States of America 783 Finland 323 China 219 Singapore Spain Portugal Argentina 27 Chile 19 China, Hong Kong SAR 19 Brazil 14 Mexico 8 Uruguay 7 India 6 Dominican Republic 3 Colombia 3 Paraguay 3 Costa Rica 2 Peru 1 Guatemala 0 Ecuador 0 1,500 0 500 1,000 2,500 2,000 3,000

Graph 6. Worldwide Patents Granted by Country of Origin, per Million Population, 2010

Source: WIPO Statistics Database and World Bank (World Development Indicators), December 2011<sup>20</sup>

continues from year to year, regardless of how well the money is spent. 16 Sadly, most universities and governments seem content to leave things as they are.

#### Shortcomings Limit Competitiveness

In addition to low levels of learning in reading, math, and science, the region's competitiveness is hindered by a lack of researchers and innovators capable of driving scientific production and innovation.<sup>17</sup> In most Latin American countries with data, fewer than one in four people complete a tertiary degree.<sup>18</sup> A 2011 study by the Organization of Ibero-American States (OEI) showed that Latin American countries have fewer than five researchers per 1,000 economically active individuals, compared with 10–15 per 1,000 in Spain and Portugal.<sup>19</sup> Latin America's scientific output is also low compared to other regions. For example, while China received more than 200 patents per million inhabitants, Argentina—the top performer in Latin America—received only 27 (Graph 6).

Businesses also feel that the education and training provided by schools does not measure up to their needs as

employers. In a survey asking business leaders in 142 countries worldwide to rank how their country's education system met the needs of a competitive economy, Latin American leaders generally rated their education systems a 3 (on a scale of 1-7, with 7 being very well and 1 not very well). The mean for all countries was 3.8. Only Costa Rica and Trinidad and Tobago scored above the mean, while the other 20 participating Latin American and the Caribbean (LAC) countries scored in the bottom half.<sup>21</sup> According to a recent IDB poll in Chile, Argentina, and Brazil, employers had the most difficulty finding employees with soft skills, such as "attitude in the workplace, commitment, accountability, good customer relations, and ability to work."

Most school systems in the region are also notoriously behind in providing teachers and students with access to technology and the skills to use it. Of the 15 LAC countries that responded to a 2011 CEPAL study on Information and Communication Technology (ICT) policy, seven indicated that fewer than half of their schools have a computer.<sup>23</sup> And many students still have difficulty using information online. For example, PISA 2009 tested students' ability to effectively

Macao-China Indonesia Hong Kong-China An advantage of 39 points in Tunisia reading is equivalent to a grade Canada level in an OECD country. Croatia Japan Mexico Italy Brazil OECD average Colombia Chile Trinidad and Tobago Israel New Zealand Panama Uruguay Argentina

Graph 7. Difference in Mean Scores between Rich and Poor Students on the PISA Reading Test, 2009

**Note:** All differences are statistically significant Source: Ganimian and Solano, *Measuring Up?*, 2011

0

15

30

45

60

75

90

Peru

read and navigate a digital text (digital literacy)—following links, analyzing online text, or selecting options from a drop-down menu. Chile and Colombia—the only LAC countries that participated in the digital literacy exam—scored well below the other participating countries.<sup>24</sup>

#### Inequality is Rampant

Poor and minority students are particularly ill-served by existing public schools, which are usually their only choice. (Middle and upper class parents can, and usually do, opt out of the public system in favor of private schools.) Differences are evident in both access and learning—poor children tend to enroll at lower rates, leave school earlier, and score significantly lower on student achievement tests than wealthier peers (Graph 9). Limited family resources contribute to the problem—in surveys most out-of-school youth cite economic reasons for their non-attendance. However, increasing numbers also cite "lack of interest,"

suggesting that they see little value in attending low-quality schools where teachers may or may not show up, and what they learn is unlikely to improve their marketable skills.<sup>25</sup> Because few poor students complete secondary education, free tuition at public universities primarily benefits the upper classes (Graph 10).

105

120

135

150

Aware of the problem, countries are implementing a variety of strategies to improve educational opportunities for the poor. Nineteen LAC countries have implemented conditional cash transfer programs, designed to provide additional funds to poor families in exchange for keeping their children in school. When well targeted, the programs have been shown to reduce poverty and increase school attendance. However, increases in attendance rates have not necessarily translated into increases in learning,<sup>27</sup> probably due in part to the low quality of educational services.<sup>28</sup> Other countries are experimenting with programs that target at-risk groups or allocate

60
50
40
30
20
10
All levels Primary Secondary Tertiary

Graph 8. Percent of Public Education Spending Going to Richest 20% and Poorest 20%, Latin America, 2006

Source: Benedict Clements et al., Public Expenditure in Latin America: Trends and Key Policy Issues, IMF Working Paper, February 2007<sup>26</sup>

more resources to schools serving poor children. However, overall it is clear that the current system is not providing poor or minority children with the skills they need to succeed.

#### Effective Teachers are Scarce

The system for recruiting, training, placing, keeping, paying and supporting good teachers in most countries in the hemisphere is woefully inadequate. In Latin America, teaching is often a fallback for those whose grades aren't high enough to pursue other university studies. Less than 1 percent of Peruvian teachers who took the exam to qualify for permanent placement as a teacher passed it. On average, Mexican teachers who took the Carrera Magisterial exam between 1996 and 2000 got just 53 percent of the answers correct.<sup>29</sup> In 2011, more than half of the basic education teacher candidates at four out of five Chilean teachers' colleges showed "insufficient" content mastery on the exit exam measuring the knowledge and skills expected of all graduates.<sup>30</sup>

By contrast, the most successful education systems worldwide, such as Finland and Singapore, recruit teachers from the top third of their graduating class and provide them with intensive instruction and mentoring. South

Korea selects only individuals from the top 5 percent of their class and Finland from the top 10 percent. Lack of prestige, low standards, inadequate training, lack of merit-based incentives, little support for teachers on a daily basis, and unwieldy management mechanisms for evaluating, hiring and firing teachers further complicate efforts to improve teaching and make it an attractive career.

Three main factors, in addition to low entry standards, hinder the development of the teaching profession:

- 1. Pre- and in-service training does not meet teachers' needs. Training tends to be highly theoretical and largely disconnected from the practical challenges teachers face in the classroom. Few countries follow up to see whether teachers are applying what they have learned, and new teachers seldom receive regular support, assessment and feedback from master teachers on how to improve instruction.
- 2. Teacher performance is not effectively monitored or evaluated. Few countries evaluate teacher performance beyond periodic classroom observations conducted by peers, principals or supervisors. The evaluations tend to produce positive findings for almost all teachers and

generally carry no consequences. At least two countries, El Salvador and Chile, test teacher candidates prior to entry into the profession and use those tests as criteria for awarding a teaching degree or allowing a teacher to practice. However, high failure rates on both exams year after year suggest that results are not being used to improve the system. Efforts to evaluate teachers already in the classroom, such as those in Mexico, Peru, Ecuador and Chile, are growing, despite fierce resistance from teachers' unions.

3. Few countries honor great teachers or remove poor ones. In most of the region, teachers receive the same pay and recognition, regardless of their performance.31 Salaries are based on seniority and training, and virtually no teacher is dismissed for poor performance. More experienced teachers have more say over where they are assigned and tend to choose schools with better working conditions—which means that poor children, who are most in need of good teachers—are least likely to get them. Few governments dare to challenge the powerful teachers' unions that defend these labor contracts. For their part, teachers complain that they have few opportunities for teamwork or professional development (PREAL-GTEE, 2009).32 A few countries, including Brazil, Colombia, Guatemala, Mexico, Nicaragua, and Peru have begun to honor great teachers through an annual teaching prize, often working in cooperation with local business and civil society organizations, although this is still the exception rather than the rule.

#### Management is Weak

The challenges go beyond teaching, however. Education systems, particularly in Central America, suffer from a chronic shortage of qualified personnel, from school administrators to district or regional managers to Ministry of Education staff. Ministers of education change frequently, often along with key staff and policy priorities, interrupting or discontinuing implementation of education initiatives. Ministries of education seldom talk to the ministries of labor, planning, finance or other relevant government offices to jointly analyze problems or coordinate solutions where education overlaps with other development objectives. Relevant education data may be housed in several ministries, or various levels of the education system (schools,

districts, municipalities, region/states, national) all working in isolation. Few education systems have established consistent, transparent accountability mechanisms that set clear goals (for both outcomes and resource availability) and then hold students, parents, teachers, principals and ministries responsible for meeting those goals and performing at the highest level. Programs and school performance are not routinely evaluated, making it difficult for them to improve.

The link between strong, capable school leaders and educational excellence is clear. Analyses of PISA data suggest that giving schools a greater say in determining student-assessment policies, course content and textbooks improves reading performance.<sup>33</sup> This is consistent with findings by other researchers that in successful school systems, principals play a key role as instructional leaders, driving educational innovation and providing a crucial backstop for both teacher development and accountability for learning outcomes.<sup>34</sup> In Latin America, however, school principals and supervisors tend to arrive at their posts after careers as teachers, but with little prior management experience or training.

#### Political Obstacles Dominate

Governments face a dual pressure to produce short-term results and keep powerful groups—such as teachers' unions and university students—happy. Consequently, reforms have tended to focus on measures that have immediate, tangible outcomes and that few oppose, like spending, enrollments, inputs (e.g., infrastructure, books, materials, access to the Internet), and teacher training. The key problems, however, are systemic and as such require systemic solutions. But systemic change tends to threaten powerful vested interests, and so brings political problems.

At the same time, important stakeholders, including parents, students and employers, seldom press governments for reform or actively support reform initiatives. In part, this is because they have little information on how well schools are actually doing. They also have few mechanisms to influence what happens in schools. This is particularly true of poor parents, who have few options other than to send their children to low-quality public schools. Middle-income and upper-income parents, who might have the power to

influence policymakers, tend to opt out of the system, choosing to send their kids to private schools. Businesses tend to prefer smaller scale interventions, like adopting a school or providing materials or scholarships, which have high public relations value and allow them to save their political clout for issues that more immediately affect their bottom line. The result is a system that favors the status quo and does little to strengthen learning.

Paradoxically, while civil society considers better education to be a priority issue, individuals also express high levels of satisfaction with the education system. A recent region-wide survey shows that one out of three Latin Americans believes that improving education is more likely to improve civilian security than expanding the police or offering youth new opportunities. At the same time, 54 percent said they were very satisfied or more than satisfied with the public education system—a five percentage point increase since 2003.<sup>35</sup> Clearly, more needs to be done to increase awareness of the problems and build a broader constituency for reform.

#### What the Summit Missed

President Santos's summary (in the absence of a formal declaration) noted that the heads of state "agreed to promote education, share educational materials, and empower each student in their education and in overcoming social and economic barriers... [and] adopted the goal of designing and deepening public policies that would enable us to apply ICTs to education, healthcare, innovation, entrepreneurship, productivity, competitiveness, and the rise of micro, small, and medium-sized enterprises."<sup>36</sup> While unobjectionable, these agreements target changes that are relatively easy to implement—information exchanges and use of technology—and do little to address the quality, equity and policy issues that are vital to improving education in the region.

Below is a set of commitments that the heads of state could have adopted at the Cartagena Summit and that would have made an important contribution, at least at the symbolic level, to moving the region's education policy agenda in the right direction.

1. Make learning the center of education policy. Getting children into school is not enough. They must acquire

the cognitive and behavioral skills necessary to succeed. Governments need to measure success less in terms of spending and enrollments and more in terms of how much children learn. They should establish worldclass learning standards, not only for fundamental academic skills like reading, math and science, but also for the equally critical foreign language, technology and soft skills. Countries should develop robust national student assessment systems to determine whether learning standards are being met, and participate in at least one global student achievement test. In addition, governments should pay close attention to whether or not certain children or groups of children are falling behind and intervene early when they are. Because so many of the deficits in learning start before school begins, governments and the region need to pay particular attention to providing quality pre-school for vulnerable populations beginning by age two or earlier.

- 2. Improve all aspects of teacher policy-not just **teacher training.** The teaching profession has not been designed to produce good teaching. Governments need to establish clear expectations for what teachers are to do and accomplish, and require schools of education to organize training around them. They should set high standards for entry into the profession, and establish the incentives necessary to attract top graduates. Governments should make sure that teachers are trained intensively in classroom instruction (under the guidance of master teachers and with lots of hands-on work in the classroom). And they need to restructure teacher management to strengthen school leadership, regularly evaluate performance, help teachers become more effective instructors, and remove from the classroom those who fail to do so. Pay should be tied to performance, so that good teachers are rewarded and bad teachers are not. Teachers' unions should not be allowed to veto performance evaluations, and to keep poor teachers in the classroom.
- 3. Focus on systemic change rather than single interventions. The magnitude of institutional, managerial and political problems facing so many Latin American education systems makes it unlikely that discrete program improvements will by themselves have much effect. Benefits from better teacher training, wider

access to and use of technology, and improvements to curriculum will improve learning very little if schools and teachers are poorly managed, if resources are scarce, and if poor children are systematically underserved. School systems need to function differently, and making that happen requires fundamental changes in the policy framework that surrounds them. Countries should begin by addressing problems in the teaching profession outlined above, but should also: experiment with mechanisms to promote greater accountability by making schools more autonomous; establish meaningful consequences for good and bad performance; and give parents a greater say in the schools their children attend and how those schools are run. Universities should not be exempt from the accountability discussion. Governments should condition university funding on meeting specific performance objectives, and channel some part of public funds directly to students (principally from poor families) in the form of scholarships they can use at any accredited university, public or private. To help address the equity concerns inherent in providing free public university to all, governments should charge tuition to those students who can afford to pay.

4. Strengthen the demand for quality education. Making schools better requires building a broad-based coalition of political leaders, parents and employers that can support reform-oriented politicians when they make tough decisions. The first step in that process is providing parents—and citizens more generally with reliable, timely and user-friendly information on how their schools are doing. This implies making the results of student and teacher assessments publicly available. The business community and other professional groups should develop strong positions on education policy and make their recommendations known to political and governmental leaders. Governments should work with these groups to make high-quality education the collective goal of the entire nation. A strong, well-informed network of civil society leaders is one of the surest ways to counter vested interests that oppose necessary reforms.

By jointly committing to the principles outlined above, the heads of state would send a powerful message regarding

priorities in education policy and reform. Such symbolic gestures can shift debate and place important issues on the policy agenda. They exploit the comparative advantage of summits.

In addition, the heads of state could agree to several joint actions that would help move the commitments forward. They could:

- Develop a voluntary, region-wide set of learning standards in reading and math. Experience in the United States in working with state governments to develop and adopt the Common Core State Standards is likely to be helpful.
- Establish a common test that would measure progress toward achieving the reading and math standards each year. This should build on UNESCO's region-wide reading, math and science exam (SERCE) that has been administered twice during the past decade, and is scheduled again for 2013. It should be keyed in some way to a comparable global test (such as TIMSS) so as to permit comparisons with countries beyond LAC.
- Agree to guarantee that all children will be able to read by the time they complete the third grade. Making a joint and highly visible commitment to such a reasonable goal will force attention to learning outcomes and their determinants.
- Expand the concept of student exchanges to encompass professional exchanges and virtual communities of practice that allow administrators, principals, teachers, opinion leaders (business, journalists, legislators), and technical experts from across the region to visit promising interventions elsewhere (charter schools, business-education partnerships, large-scale school reform), exchange ideas, and bring those lessons back to their own countries.

Some of these activities might be implemented by international organizations like UNESCO, the Organization of American States (OAS), or the development banks. Others might be entrusted to non-governmental or civil society organizations. Together, they might take an important step toward "connecting the Americas" and addressing some of the region's most pressing educational challenges.

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## **COMMENTARY BY DIANA V. NEGROPONTE**

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This comprehensive and excellent survey of education in Latin America stresses the importance of systemic problems that result in growing inequity, rising levels of youth violence, and persistently low levels of citizen education. The failure of the Cartagena Summit to adequately address the challenge of education does not dilute the national challenges that each leader faces back home. Poor-quality education from teachers who are inadequately paid, trained and supervised has resulted in students from the hemisphere registering the lowest performance levels on the Programme for International Student Assessment (PISA) reading and math scores. Beyond the testing of students in third and eighth grades, the authors extend their analysis to the performance of the region's universities. In the 2011-2012 ranking of the world's 400 top universities, no Latin American university ranked in the top 100. Less than onequarter of all university graduates receive science or engineering degrees and even fewer receive doctorates. Brazil produces only one doctoral graduate for every 70,000 people. Chile produces one for every 140,000. This compares to an OECD average of one per every 5,000 people.

Hemispheric expenditures on education as a proportion of GDP is relatively high, with an average of 4.8 percent, compared to 5.2 percent invested in developed countries. However, the effectiveness of this investment in Latin America is stunted. Despite the comparative weakness of education in the hemisphere, 54 percent of those surveyed are satisfied, or very satisfied, with the level of education. This suggests a high degree of complacency and insufficient citizen demand to improve quality. Those with means seek private schools, leaving the majority of students with parents at the lower ends of the income scale to inherit the poor educational system that their parents suffered. The consequence is structural persistence of the education and income gap.

Beyond the in-depth assessment of the problems, the authors propose over two dozen specific recommendations for improving the quality of education. These include establishing world-class national learning standards and robust national student assessment systems; restructuring teacher management to strengthen school leadership; and making schools more autonomous and giving parents a greater say

in the schools their children attend and how those schools are run. Rightfully, the authors propose that teacher training meet a clear set of expectations regarding what teachers should know and do. Sadly, this does not exist in the hemisphere. As a result, virtually all countries have spent significant sums of money on teacher training and produced only meager results. The focus, therefore, has to change. The recruitment should be more selective, poor teachers should be removed from the classroom, and in-school leadership must be strengthened. To implement these recommendations, both ideas and monies are needed from civil society and the private sector. Parents also have an important role to play. Their contribution both to identifying needs, as well as to rewarding good teachers, can help meet the challenge of poor performance.

Communities that are increasingly linked through cell phones can raise awareness of relatively well-performing schools. This can stimulate demand for quality education. Parents must have choice on where they wish their children to study. This is possible within urban or semi-urban communities, but more difficult in rural areas. However, even there, children are encouraged to stay with relatives in the towns where better schools exist. Expanded choice is related to changing cultural norms in which quality education becomes prized and opting out is viewed as unacceptable. Changing the culture through personal example, inspirational media and the value of discipline can help restore the focus on education as the principal path to success.