ACTING NOW TO PROTECT THE HUMAN CAPITAL OF OUR CHILDREN

The costs of and response to COVID-19 pandemic's impact on the education sector in Latin America and the Caribbean

WORLD BANK GROUP
Education

PHOTO BY: © 2006 JONATHAN ERNST/THE WORLD BANK

Table of Contents

Acknowledgements

This document was produced under the overall guidance of Jaime Saavedra (Global Director, Education Global Practice) and Luis Benveniste (Regional Human Development Director in the Latin American and the Caribbean region) by a core team in the Education Global Practice of the Latin America and the Caribbean Region (HLCED) led by Emanuela Di Gropello (Practice Manager) and also including Juan Diego Alonso, Juliana Chen Peraza, Micheline Frias, Denise Stolt and Madiery Vásquez, with substantial comments and contributions from Enrique Alasino, Rita Almeida, Cristóbal Cobo, João Pedro De Azevedo, Gabriel Demombynes, and André Loureiro. The document also benefitted from the comments and contributions of many other members of the Human Development and HLCED teams through specific inputs, discussions around the report and the many country analytical and policy diagnostics the report builds on. Finally, many thanks to Amira Nikolas for the outstanding administrative support.

List of Abbreviations

BMP	Below Minimum Proficiency Level
EAP	East Asia and the Pacific
ECA	Europe and Central Asia
ECD	Early Childhood Development
ECE	Early Childhood Education
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
EdTech	Education Technology
EduTV	Educational TV
EMIS	Education Management and Information Systems
ENTRE	National Strategy for Successful Transition (Estrategia Nacional para la Transición Exitosa) - Guatemala
GDP	Gross Domestic Product
GLAD	Global Learning Assessment Database
GPE	Global Partnership for Education
HCI	Human Capital Index
ICT	Information and Communication Technology
ITT	Intent to Treat Effect
LAC	Latin America and the Caribbean
LATE	Local Average Treatment Effect
LAYS	Learning-Adjusted Years of Schooling
MENA	Middle East and North Africa
NAC	North America and Canada
NCCA	National Council for Curriculum and Assessment - Ireland
neets	Youth who Are not in Education, Employment or Training
OECD	Organization for Economic Co-operation and Development
PCR	Polymerase Chain Reaction Test
PISA	Program for International Student Assessment
PISA-D	PISA for Development
PNAD	National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios) - Brazil
PPP	Purchasing Power Parity
SAS	South Asia
SES	Socioeconomic Status
SMS	Short Message Service
SSA	Sub-Saharan Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund
VR	Virtual Reality
WASH	Water, Sanitation and Hygiene
WFP	World Food Program

PHOTO BY: © THOMAS MICHAEL PERRY/THE WORLD BANK

Highlights

The COVID-19 pandemic is, without a doubt, the greatest worldwide shock suffered by education systems in history. Ever since its outbreak at the start of 2020, most educational systems across the world faced a sudden shutdown of institutions at all levels as an immediate sanitary measure to control the spread of the SARS-COV-2, a new variant of a coronavirus disease. While overcoming the dual challenge posed to their distressed health and economic systems, Latin American and Caribbean (LAC) countries were forced to adopt a range of remote learning strategies in order to deliver education contents to their student population. Three main messages emerge from the study:

Despite the tremendous efforts made, learning is plummeting in LAC countries due to the pandemic, particularly among poorer children. LAC could be the region with the second largest absolute increase in learning poverty: the share of children that are not able to read proficiently when reaching late primary schooling could rise from a baseline of 51 percent to 62.5 percent, roughly representing an additional 7.6 million of learning poor. And LAC could also be one of the regions with the largest absolute increase in the share of lower secondary education students below minimum proficiency (BMP) levels as measured by PISA test scores. Assuming a school closure length of 10 months and moderate effectiveness of mitigation measures, the share of BMP students in LAC could increase from its current level of 55 percent to 71 percent. Furthermore, learning losses for the region, also measured by PISA mean scores, are estimated to be substantially larger for the poorest students than for the wealthiest ones. Such impact would widen the already high socio-economic achievement gap by 12 percent.

There is no time to waste. LAC countries should ensure, through adequate policies and resources, that their education systems are ready for safe and effective country-wide reopening to speed up the recovery and remediation process from the dramatic negative effects of the pandemic. As of the end of calendar year 2020, LAC countries had been estimated to have missed an average 159 in-person school days. While most LAC countries have by now re-opened to at least some extent, the process in many countries is still proceeding slowly and some countries have not yet set a date. While timing cannot be entirely controlled for, what governments can and should do is to make sure that their education systems are ready for safe and effective reopening. With enough capacity and resources, schools can successfully implement context-appropriate health and hygiene protocols, especially in areas with lower incidence of cases. Reopening effectively also entails important systemic and targeted management and pedagogical decisions to recover from the expected learning losses. Public funding for education needs to be protected to enable a safe and effective reopening. In view of budget constraints, resources need to be well targeted to help the hardest hit schools and communities, and countries need to start exploring how to improve efficiency.

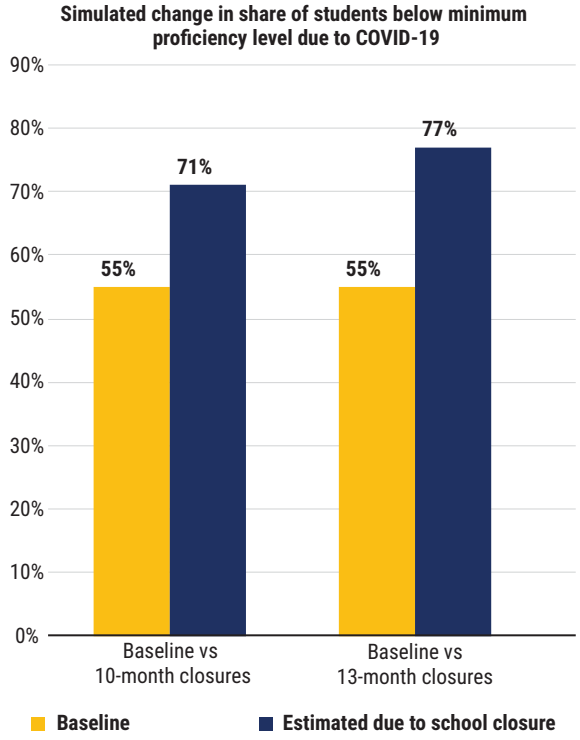
While LAC education systems face a challenge like no other, this exceptionally difficult situation opens a window of opportunity to build back better education systems that are more effective, equitable and resilient. LAC countries should take advantage of good international, regional and country practices that are already evolving and can be adapted and scaled up to accelerate learning and improve equity. Many innovative initiatives could be mainstreamed. A smart use of technology and data interventions can provide long-term opportunities for cost savings, while also supporting better teaching and learning, especially for the most vulnerable, and for strengthened education sector management. COVID-19 could also be an opportunity to transform education systems and develop a new vision where learning happens for everyone, everywhere. The time is now.

WHILE LAC EDUCATION SYSTEMS FACE A CHALLENGE LIKE NO OTHER, this exceptionally difficult situation opens a window of opportunity to build back better education systems that are more effective, equitable and resilient

PHOTO BY: © TAWANROONG/SHUTTERSTOCK.COM

Executive summary

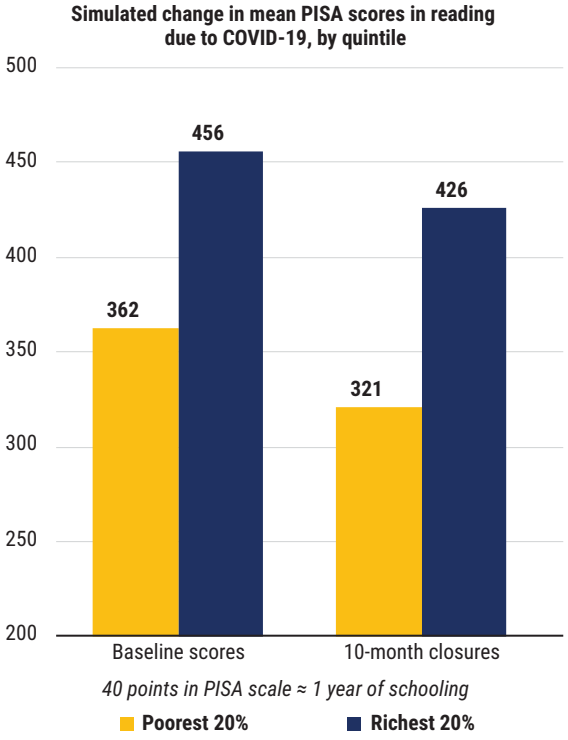
The sanitary and economic shocks caused by the COVID-19 pandemic in 2020 brought about the most historically significant disruption of education, with school closures at all levels affecting over 170 million students throughout Latin America and the Caribbean (LAC). The initial state of quasi-stalemate of the first few weeks of the pandemic was followed by a stage where most countries started swiftly designing a response to ensure some continuity of learning during school closures. Remote learning strategies were implemented with an emphasis on multi-modal solutions to reach out more broadly to students and their families, and providing support to parents and teachers, with varying degrees of effectiveness. However, even assuming extensive reach, which remains a challenge, engagement and quality are difficult to achieve. And the most vulnerable populations were the ones to suffer the most, highlighting, more than ever before, the fundamental equity implications of the pandemic for the future of human capital in LAC.



Initial estimates of the effects of school closure in LAC are staggering: closures could lead to about two out of every three students not being able to read or understand age-adequate texts. Recent simulations suggest that learning poverty could increase by more than 20 percent, equivalent to an increase of roughly 7.6 million learning poor, even just with a school closure equivalent to 70 percent of the academic year. This means that the region could have, on average, almost two in three primary school students who would not be able to read or understand a simple age-adequate text. Results using other metrics that factor in learning that takes place while at school, and accounting for a 10-month school closure, already a reality in several countries of the region and a potential reality for several others if they do not reopen now, show that the losses across the region could be equivalent to about 1.3 years of quality-adjusted schooling (LAYS), and 71 percent of lower secondary education students could fall below minimum proficiency levels according to PISA test scores, from a baseline of 55 percent, implying that over two in three lower secondary education students would not be able to understand a text of moderate length. Countries that do not reopen their school system for three additional months (13 months total) could see losses of LAYS in the order of 1.7 years, and over three in four lower secondary education students could fall below minimum proficiency levels. In the medium and longer term, this will translate into significant losses in human capital and productivity. Learning losses may translate into an aggregate economic cost of foregone earnings of US$1.7 trillion lost (at 2017 PPP) for a 10-month duration of school closures. With over 80 percent of students falling below minimum proficiency levels, learning losses would massively disrupt students from gaining basic/foundational skills in several countries. Furthermore, learning losses for the region, also measured by PISA mean scores, are estimated to be substantially larger for the poorest students than for the wealthiest ones when considering a 10-month school closure. Such impact would widen the already high socio-economic achievement gap

Over 2 in 3

lower secondary education students could fall below minimum proficiency levels



by 12 percent, or a quarter of a school year, and would result in students from the top quintile of the income distribution having, on average, almost a 3-school-year gap compared with their contemporaneous peers by the age of 15. Several country simulations show that the most vulnerable children and youth will be falling further behind. Such harmful effects on the human capital of the region are simply a tragedy. And this is especially worrisome as the expected learning losses in LAC would occur in a region already faced with a learning pre-pandemic crisis, and with the largest inequity in student access to quality education in the world.

The effects of the pandemic transcend the direct impact on learning or schooling: they permeate many other areas of students' lives and, arguably, will persist throughout their lifetimes. Many students, particularly from lower-income groups and those who were learning very little even before the crisis, are now at increased risk of dropping out due to the pandemic, and this is all the truer in a context of economic hardship and recession such as the one experienced by LAC. Some simulations suggest that dropout in LAC could increase by 15 percent due to the pandemic. Moreover, students' socio-emotional well-being is at risk. The interruption of the face-to-face services that students used to receive at schools, including school meals that are the most reliable source of food for 10 million students in the region, along with the economic distress most of their families are facing, is having substantial negative effects on students' physical, mental and emotional health, increasing their vulnerability to adopt risk behaviors. The pandemic is likely to have negative lifelong consequences, especially for young children and families' wellbeing. Finally, some countries are already experiencing a crowding-out effect of students that were previously attending private sector institutions now enrolling in public schools. This sudden jump in student enrollment funded through public finances is creating an additional financial burden for governments across the region, posing yet another challenge for sector financing.

RECENT SIMULATIONS suggest that learning poverty could increase by more than 20%, equivalent to an increase of roughly

7.6 million

learning poor

The huge learning losses and other costs caused by the school closures can be mitigated if governments of LAC act with urgency to address the many challenges that education systems are facing to maintain continuity, engagement, and quality, while seizing opportunities to build back stronger education systems in the longer run. Whilst governments continue to improve the effectiveness of remote learning during the school closures, this should not be done only for coping, but also in order to prepare for or improve blended learning, where face-to-face and remote learning co-exist, which will become the new normal for many more months to come. Simultaneously, countries need to have prepared and/or started to implement, strategies to ensure safe and effective school re-opening country-wide to initiate the recovery phase as soon as possible. While most countries across the region have entered this recovery stage, readiness and implementation are still an issue. And, importantly, as countries are implementing promising initiatives as emergency responses, they already need to start thinking how to adapt, improve and adopt them for the longer term, to build more inclusive, effective and resilient education systems.

Continuing to improve the reach and take-up of remote learning for the most disadvantaged groups and the overall quality of remote learning will be critical to mitigate learning losses and reduce inequalities. Multi-modal delivery, with explicit strategies to reach

out to and support all students, including disadvantaged groups; parental and teacher engagement through interactive communication; teacher training; curriculum prioritization; and learning evaluation strategies are emerging critical drivers of effectiveness, according to an on-going review by the World Bank. For their accomplishment it will be essential for countries to continue developing institutional capacities to secure high-quality remote learning. Teaching remotely requires combining technological and pedagogical skills. To ensure that students have the necessary high-quality pedagogical support, rapid digital training should go hand in hand with sustained professional development, coaching and mentoring of teachers.

Countries should get ready for school reopening country-wide, while ensuring the continuity of the teaching and learning process. While most countries in LAC have now re-opened to at least some extent, with the exception of a few countries reopening more comprehensively than others, the process in many countries was still proceeding slowly by March 1, 2021. When and how governments should reopen schools, combining face-to-face and remote learning, must be grounded on the specific characteristics of each local context. Nevertheless, some countries' delays to reopen schools could also be a sign of limited readiness. The evidence gathered so far, in LAC and elsewhere, shows that with enough capacity and resources, schools can successfully implement context-appropriate health and hygiene protocols, especially if in areas with lower incidence of cases, such as rural areas. Most tasks to prepare and enforce reopening protocols fall on school principals. Ministries of education should therefore consider training devoted to support principals in their modified role. In parallel to getting schools ready, countries should also consider additional policies to enable and accelerate the reopening process country-wide. Teachers should be classified as frontline workers and prioritized in the vaccination process to have them back to school as soon as possible. In addition, education systems should collaborate with health systems to generate local-level data to guide school reopening (and to track how it evolves).

Reopening effectively entails important management and pedagogical decisions, including systemic and targeted measures to recover as soon as possible from and remediate learning losses by ensuring that schools teach at the right (post-COVID-19) level for everybody. Most students will have fallen behind when schools reopen. In some countries, with dramatic implications for the number of students below basic minimum skills. Simplifying curricula, but preserving certain learning standards, modifying academic calendars, and cancelling high stake examinations may be required to adapt teaching and learning to the new reality. At the same time, students are going through very different learning processes. As schools reopen, teachers face the challenge of tailoring classes to students' individual needs. As of June 2020, over 70 percent of LAC countries had plans to roll out remedial programs that, building on diagnostic work and timely assessment of learning losses, can level and reduce the increasing learning gaps. Longer teaching time, student tutoring, and compressing or accelerating learning are all options that have shown results. While in the short-term blended learning models should consider low- or no-tech options depending on the digital readiness of schools, moving students and teachers to digital solutions can facilitate the delivery of content, communication between teachers and students, and monitoring of students' performance. Teachers and principals will need to be supported to respond to the new workload and the demand for additional skills to optimize the alternation of in-person and remote activities for the benefit of students.

PHOTO BY: © NAHUEL BERGER/THE WORLD BANK

LEARNING LOSSES may translate into an aggregate economic cost of foregone earnings of

US$1.7 trillion lost

equivalent to about 10% of total baseline earnings

Expanded mental health and psychosocial support will also be critical to help mitigate the pandemic's secondary impacts. The pandemic has exposed students, parents and teachers to social and economic distress that has seriously affected their income, but also their wellbeing and mental health. Country case studies show that socio-emotional assessment tools could help assess children socio-emotionally and set-up support as needed.

Maintaining student and family engagement will continue to be the priority moving forward, through both the school closing and re-opening stages. Some countries have implemented or scaled-up systems to monitor students, such as early warning systems to identify students at risk of dropout, with much potential to also make a difference in the long run. Beyond specific strategies to improve parental and student engagement in remote learning, including through the right nudges, media campaigns can be a useful strategy by providing information on how to access educational content and the importance of staying in school. Several countries have implemented targeted financial support, including cash transfers, for the most at-risk students, which have shown to be effective to cope with impacts of the pandemic and, as such, is a policy option for other countries to consider. School feeding programs can also play an important role when reprogrammed to reach and protect the nutrition of poor and vulnerable students and compensate for income loss during school closure and to attract them back once schools are open. These measures could be coordinated with the social protection programs and platforms put in place to address the crisis. Adapted school reopening policies and practices could also be needed for vulnerable staff and students. Critical communications on school reopening should also be available in relevant languages and accessible formats to diversify outreach.

Governments across the region need to ensure priority public funding for education to support safe and effective reopening. Competing, often complementary, needs for public resources are huge, but public funding for education in LAC is no less of a priority, in a context where schools need to be urgently made ready for safe reopening, needs for remedial education are huge following the once in a generation learning losses, and as a large proportion of students attending private schools may migrate to public schools following school closures. Stimulus packages have been used in some countries to protect and mobilize resources for education. Additional resources can also be mobilized through development partners and non-traditional sources such as corporate social responsibility contributions or philanthropic organizations. Given fiscal constraints, funding can be reallocated from other sectors or other uses.

Fiscal constraints and the large costs associated with COVID-19 will also make it imperative to spend the new public resources more equitably and, eventually, efficiently. Now more than ever, countries face the challenge of prioritizing additional education funding for schools and communities hit the hardest and exploring the potential for using resources more efficiently. A few countries have been able to allocate more resources to vulnerable areas in a progressive school finance model, which bodes well for addressing the new challenges. In the short run, education sector reallocations based on efficiency and equity criteria could greatly help freeing up resources for the most vulnerable schools and students. Smart use of data and technology could open opportunities for efficiency improvements, especially in the longer run. Improving monitoring, reporting and widespread access to quality education financing data and utilization, and using data to strengthen the relationship between public funding and education outcomes, have shown strong potential for efficiency improvements in some countries. Countries in LAC also have potential for many management improvements.

The COVID-19 pandemic posed the biggest crisis ever to education systems in LAC, but also triggered a remarkable opportunity for change, including by leveraging information and communication technology (ICT) opportunities, as long as digital divides are addressed. During school closure and reopening, countries have been innovating to face current challenges. Some of the measures taken during, or before, the crisis by some countries could play an important role after the crisis. Leveraging the largely untapped potential of ICT is notably a unique opportunity to leapfrog into a new stage of educational development. A smart use of ICT and data interventions can provide long-term opportunities for cost savings, while also supporting better teaching and learning, especially for the most vulnerable, and for strengthened education sector management. Innovative pedagogical solutions can also play an important role. Examples discussed in the paper include

Barriers to effective access to and use of digital technologies related to socioeconomic status, geography, ethnic group, age, gender and disability need to be addressed

early warning systems, education information management systems and teaching-at-the-right level through adaptive learning and other computer-aided learning systems. Currently, less than 43 percent of primary schools and 62 percent of secondary schools in LAC have access to Internet for pedagogical purposes. Closing the digital divides – not only in infrastructure but also in digital and pedagogical capacity and systems to use it well – will be essential to fulfill the potential of many of these innovations: barriers to effective access to and use of digital technologies related to socioeconomic status, geography, ethnic group, age, gender and disability need to be addressed, and the earliest the better to also potentially benefit countries during school closing and reopening stages.

More broadly still, the COVID-19 crisis could be the opportunity to transform the entire education system to prioritize and support student learning and develop a new vision where learning happens for everyone, everywhere. The pandemic has laid bare the urgency for LAC countries to ensure that their systems are geared towards student learning. This was a huge challenge already before the pandemic and made it clear that "recovering learning" is simply not sufficient for the region, especially in certain countries where most students were already not mastering basic concepts. At the same time, the pandemic has also shown the importance of ensuring learning continuity beyond school walls, offering important lessons about the need to close the digital divides for schools and households, and about the critical role of teachers and parents. Countries have now a unique opportunity to leverage the crisis to chart their own ambitious path towards improved learning.

Deeply concerned about the magnitude of the crisis, the World Bank has been committed to help LAC countries in their efforts to mitigate the unfortunate consequences of the pandemic in their education systems. Building on its global expertise on a wide array of thematic areas, the World Bank engaged early in the pandemic with countries across the LAC region, also swiftly leveraging partnerships with core multilateral and bilateral international organizations. The initial focus was geared towards helping countries assess the impact of the pandemic and support remote learning strategies, with a focus on multi-modal approaches to deliver education, with strong support to students, teachers and parents to enhance engagement.

Support to remote learning has been complemented by both financial and technical assistance to help countries get ready for safe and effective school reopening

GOVERNMENTS ACROSS the region need to ensure priority public funding for education to support safe and effective reopening

and embrace technological, data and pedagogical solutions for the long term. A critical strand of work the Bank is prioritizing support to is geared towards bridging the digital divides in LAC's education systems. Of special interest to the World Bank's agenda is the equity angle. And efforts are targeting lower-income groups through digital upgrades of classrooms, expanded connectivity of schools, and building digital skills for key education stakeholders. Other strands of support include remedial education, socio-emotional support, and early warning systems, among others. The World Bank has also been spearheading, from before the crisis but becoming increasingly relevant, digital platforms to "teach at the right level" and improve sector management, including, but not limited to, the management of information and monitoring of youth at-risk.

Going forward, the World Bank is committed to continue supporting countries in their pandemic-related recovery efforts, while accelerating efforts for education reform in the hope of helping countries build back better. The World Bank's agenda for LAC aims at supporting countries in their teaching and learning process to adapt faster to the new normal and prepare adequately for the learning of the future. In doing so, the World Bank will put particular emphasis on a few, overlapping, areas relevant to both the short and longer term: (i) enhancing the reach, use and effectiveness of technology for education – with a focus on closing the digital divides, blended and remote learning and long-term data and technological solutions (adaptive learning; early warning systems; and education management information systems, among others); (ii) supporting pedagogical and management reforms for recovery and resilience – with emphasis on assessment, remediation policies and socio-emotional support, personalized instruction, principal and teacher training, standards and support, and system management and financing reforms; (iii) supporting safe schools – importantly targeting health and hygiene protocols, safety, WASH and connectivity investments; and (iv) developing skills for the post-COVID-19 world – with focus on skills development in the early years, competency-based, flexible, and affordable secondary and tertiary programs, core transversal skills, and school-to-work transition.

PHOTO BY: © CHARLOTTE KESL/THE WORLD BANK

1 Introduction

The COVID-19 pandemic generated an education crisis like no other in the modern history of the LAC region. Midway through March 2020, most of the world completely shut down due to the rapid spread of SARS-CoV-2, a new form of coronavirus. While most education systems around the world were impacted, the LAC region was disproportionately affected. Being the epicenter of the pandemic for the larger part of the past year, LAC is home, to date, of six of the top 25 countries around the world with the highest number of deaths per million inhabitants.[1] In line with this high incidence rate, education systems in LAC have been affected longer than in any other region by the massive closing of educational institutions. While in other regions a large part of students is slowly but firmly returning to classes, the school reopening process is still proceeding slowly in LAC.

To mitigate learning losses, countries in the region have made valiant efforts to set up strategies to cope with the crisis and, more recently, to manage continuity of education delivery as schools reopen, but challenges are pervasive. Aiming at reaching students in a very short time period, most of the countries recurred to a common denominator: technology.[2] The limited Internet connectivity led to the implementation of increasingly multi-modal solutions, where traditional means such as TV, radio, and printed materials, complemented Internet-based solutions, and teachers and parents were supported, to make remote learning more inclusive. However, remote learning is not a natural substitute to face-to-face learning, nor is home-based learning a suitable replacement for the many skills acquired through attendance at educational institutions. As a result, remote learning strategies are, at best, only partially mitigating learning losses, especially for vulnerable groups who do not have access to the same support from teachers and parents and quality remote learning. Grounded in significant digital divides across the region, education systems are now facing challenges in terms of maintaining continuity, engagement, and quality, as they start reopening schools in a highly fluid context, where remote and face-to-face learning will continue to co-exist for many more months to come. These challenges require urgent and continuous action.

This document sets forth the World Bank's assessment of the potential education tragedy for LAC and confirms the criticality of protecting the future of LAC children. In doing so, the paper draws on an extensive body of analytical and operational work undertaken by the World Bank, in and outside the LAC region. The paper is structured in eight sections, as follows. After the Introduction, Section 2 presents the state of the education sector in LAC prior to the pandemic, emphasizing the learning crisis that was already underway prior to the COVID-19 outbreak. Section 3 portrays the channels through which the pandemic impacted education systems in LAC. Section 4 lays out the efforts taken by countries in LAC to mitigate learning losses. Section 5 documents why these efforts have faced limitations, according to the evidence collected through Bank-spearheaded efforts. Section 6 provides a set of estimates for learning losses for LAC, using the latest estimates undertaken by the Bank, both for the region as a whole and for selected countries. Section 7 raises awareness of other costs due to the pandemic in the sector. Section 8 makes the plea for the needed sense of urgency, explaining why the call for immediate action is more imperative than ever, what are the stages of the response and initial lessons on what can work and is necessary to help address education sector challenges, with a focus on both the immediate and longer term. Finally, Section 9 concludes the document with a few take-aways.

1 For statistics on COVID-19 deaths per million inhabitants, see: https://www.statista.com/statistics/1104709/coronavirus-deaths-worldwide-per-million-inhabitants/.
2 For education COVID-19 response, see https://en.unesco.org/fieldoffice/santiago/covid-19-education-alc/response.

PHOTO BY: © THE WORLD BANK

2

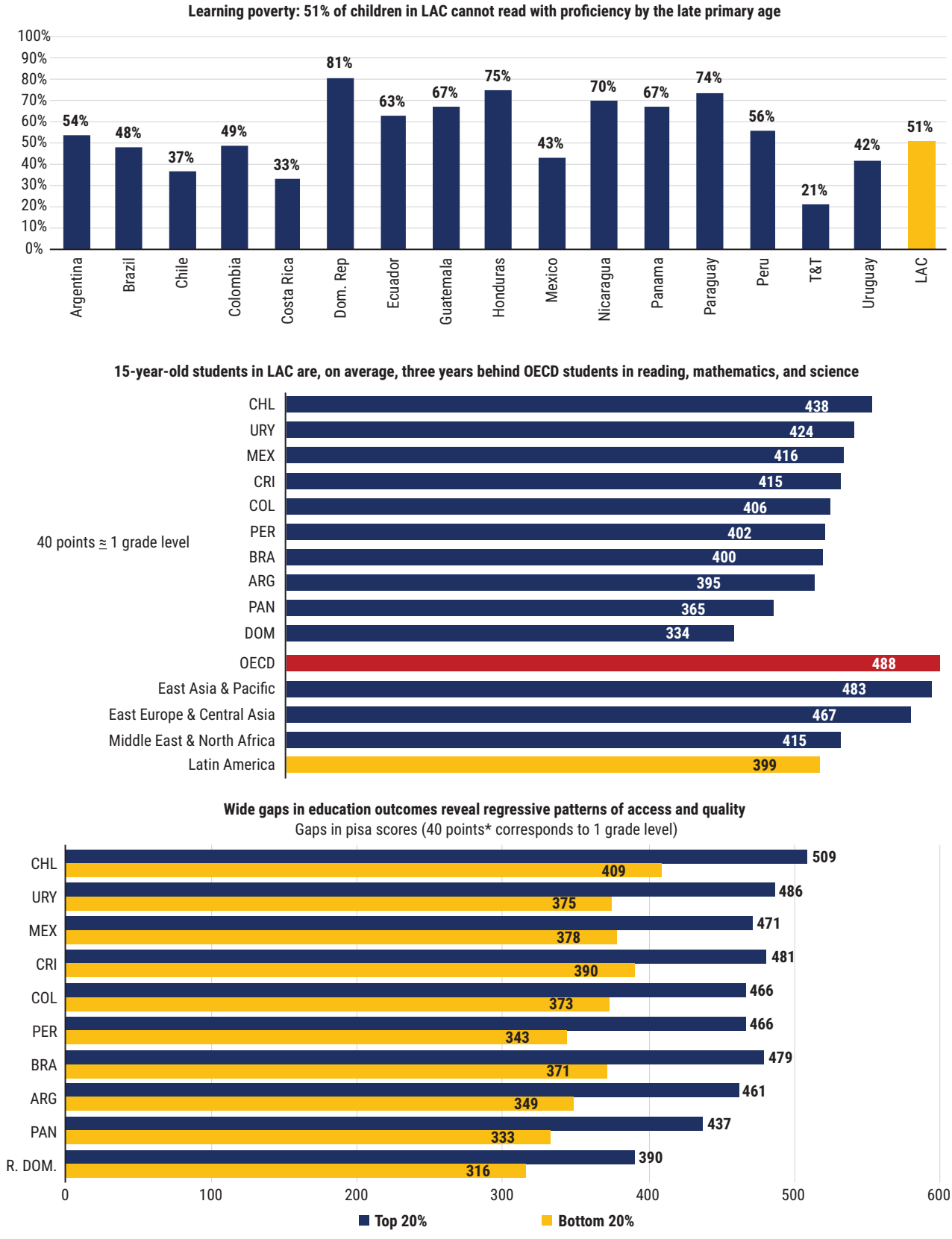
LAC prior to the pandemic: A learning crisis

At the start of 2020, LAC countries were facing stark education challenges, resulting in low levels of learning. In fact, even while enrollment had continued to increase over the last decades and learning outcomes were following an overall albeit slow positive trend, as per the latest data available, an estimated 51 percent of children could not read proficiently enough by their late primary age.[3] This proportion was higher than the global average of 48 percent and similar to the average of low- and middle-income countries (53 percent).[4] The average of learning poverty in LAC disguises, nonetheless, important differences between countries, ranging from 21 percent in Trinidad and Tobago to 81 percent in the Dominican Republic (see Figure 1). Program for International Student Assessment's (PISA) 2018 results compared to OECD's,[5] 15-year-old students in LAC were three years behind in reading, mathematics, and science (Figure 1). Between 2000 and 2018, positive long-term learning trends were only seen in three LAC countries: Peru, Chile, and Colombia, whose 15-year-olds advanced the equivalent to 2.4, 1.4 and 0.9 years of schooling, respectively.[6] But, on the whole, learning results have largely stagnated for the rest of the region.

This learning crisis was even starker for the most disadvantaged students, resulting in highly inequitable learning outcomes.[7] Results for LAC countries that participated in PISA 2018 showed a substantial variance in performance. For instance, Chilean 15-year-olds were, on average, three school years ahead of their Dominican Republican peers (Figure 1). In addition, wide gaps between the top and bottom quintiles in PISA 2018 scores were the norm within most LAC countries. As a matter of fact, while the difference of outcomes in PISA 2018 represented approximately 2.5 school years in the Dominican Republic, the similar measure for within-country differences was equivalent to 4.1 years of school in the case of Peru (see Figure 1). Last but not least, LAC countries also witnessed within-country inequalities when figures were disaggregated by type of school, geographic area and specific population groups, variables usually associated with the levels of socioeconomic status (SES). The average performance of LAC students attending private or urban schools was 2.5 and 1.9 school years higher than among those attending public or rural schools, respectively.[8] In Brazil, learning poverty affected 47.3 percent of Afro-descendant students as compared to 43.79 percent of non-Afro-descendant students.[9] Furthermore, LAC countries seem to have systematically higher between-group inequality than the rest of the world.[10] Nevertheless, learning inequalities between groups explain only a portion of the overall inequality in LAC countries. Even when considering all possible combinations of sex, urban/rural, SES quintiles and schools, only 59% of the overall inequality is explained.[11] In other words, 41% of learning inequality is within schools, among students of the same sex and SES.[12] To make things worse, the most disadvantaged students were also at much higher risk of dropping out, especially in secondary education.[13] These gaps in education outcomes reveal regressive patterns of access and quality of education across the region.

3 Learning poverty considers the share of children who are learning-deprived or have not achieved the SDG 4.1.1b minimum reading proficiency standard, as measured in schools and/or are schooling deprived, defined both in terms of access and flow, as measured by the share of children who are either out of school or showing significant age-grade distortion. See World Bank (2019).
4 Ibid.
5 Organisation for Economic Co-operation and Development.
6 Di Gropello et al. (2019).
7 Saavedra (2021b).
8 CIMA-IDB (2019)
9 Freire et al. (2018).
10 Using data from over 5000 learning assessments, it is estimated that the share of between-group inequality in LAC is 59.5%, the world's highest (world average of 53.8%). Source: Dashboard prepared by the EduAnalytics team based on the harmonized microdata shown in the Global Learning Assessment Database (GLAD). See Azevedo and Goldemberg (2020b) for a discussion about learning inequality. The study also presents an interactive dashboard with learning inequality indicators.
11 Estimates prepared using PISA and PISA-D reading scores from 2017 and 2018 and the dashboard prepared by the EduAnalytics team based on the harmonized microdata shown in the Global Learning Assessment Database (GLAD). See Azevedo and Goldemberg (2020b).
12 Ibid.
13 Di Gropello et al. (2019).

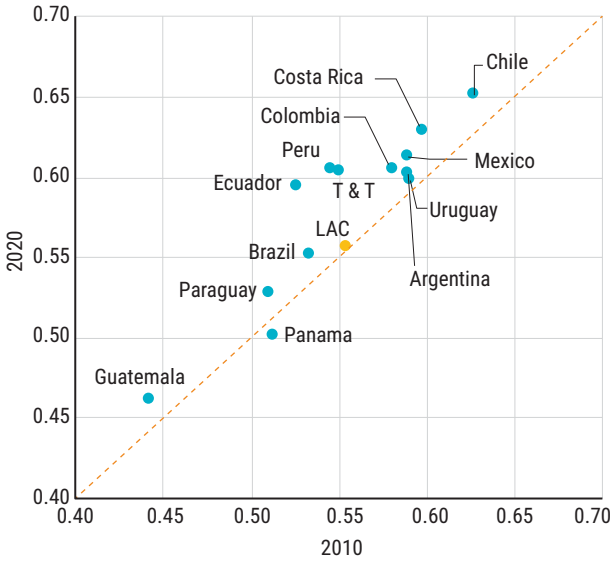
Figure 1: Learning poverty and PISA 2018 results



Source: World Bank and PISA 2018 data: Notes: PISA 2018 results refer to mean scores for reading, math and science.

The combined effect of poor learning and deep asymmetries across and within countries undermines the future productivity across the region, even if countries have made important progress to accumulate human capital. The Human Capital Index (HCI), a metric created by the World Bank in 2018 that combines education and health outcomes,[14] improved in most countries over the last decade (see Figure 2). Despite such progress, even before the pandemic, the average Latin American youth were only 56 percent as productive as they could be if they enjoyed full health and education opportunities. A breakdown of the HCI shows that the learning-adjusted years of schooling (LAYS) (education component of the HCI) is the largest factor behind this productivity gap.[15] The HCI 2020 serves as a pre-pandemic baseline to track the long run cost of COVID-19 on the health and education of children. As shown below, school closures and hardship are already affecting the accumulation of human capital of school-age children in magnitudes similar to the gains of the last decade.[16] Furthermore, lower human capital accumulated in the case of the current student cohort could perpetuate the vicious cycle of poverty and inequality among the most disadvantaged.[17]

Figure 2: Human Capital Index 2010 vs 2020



Source: Authors' calculations based on HCI data from the HCI dataset

14 World Bank (2020g).
15 Ibid.
16 World Bank (2020n).
17 World Bank (2020m).

PHOTO BY: © THE WORLD BANK

3

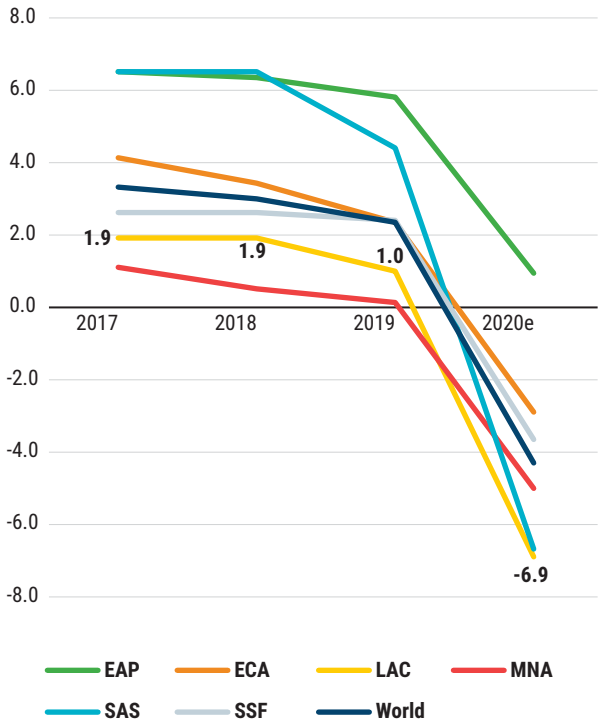
The COVID-19 health and economic crisis in LAC and its impact on school closures

The outbreak of the COVID-19 pandemic caused widespread disruption around the world but hit the LAC region as no other region on the globe. Since the initial COVID-19 outbreak, more than 112 million cases and 2.48 million deaths have been reported as of mid-February 2021 while the virus continues to spread. Among the countries in LAC, the countries reporting most cases are Brazil (10,195,160), with the third largest number of reported COVID-19 cases in the world after the United States and India, Colombia (2,229,663), Argentina (2,069,751) and Mexico (2,043,632). The LAC countries reporting most deaths are Brazil (247,143), Mexico (180,536), Colombia (58,974) and Argentina (51,359).[18] Over the last months, the Americas (LAC and North America) have been declared by the World Health Organization as the epicenter of the COVID-19 pandemic on several occasions.[19]

The pandemic is expected to have a severely harmful impact on growth in LAC, which had experienced only modest economic growth in recent years. As COVID-19 triggers one of the deepest recessions in decades— the World Bank forecasts a 4.3 percent contraction in the global Gross Domestic Product (GDP) in 2020 — LAC's real GDP growth is estimated to have contracted by 6.9 percent in 2020 (Figure 3). Both the absolute GDP loss – a drop of almost 8 percentage points – and the relative GDP loss – compared to the 2019 GDP growth baseline – are the largest for any region in the world. The severity of the impact is expected to bring a heavy toll for the region's human development. Some expected impacts on human capital are a sharp rise in mortality rates, an increase in school dropout rates, and a significant loss of jobs. These projected stylized facts will have spillover effects on productivity, employability, and poverty, disproportionately affecting vulnerable populations.

The most direct channel through which the COVID-19 pandemic affected the education system was the closure of schools, a massive sanitary measure taken to stop the spread of the virus. From the onset of the pandemic, there was a common shared vision around the world that reducing the levels of agglomeration of people was a necessary pre-requisite. This strategy affected all sectors, and, within educational systems, schools became the most immediate vehicle for virus transmission. But not just schools. Several studies had also emphasized the risk that young children may be *natural carriers of high levels of viral loads,*[20] even if the consensus on their role of *spreading the virus* was less firm.[21] As a result,

Figure 3: Real GDP (percent change from previous year)



Source: World Bank Global Economic Prospects, Jan 2021.
Note: e = estimate. EAP = East Asia and the Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SA = Southern Asia; SSAF = Sub-Saharan Africa.

18 A full daily status report can be found at the European Centre for Disease Prevention and Control's website at: https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases .
19 https://www.who.int/docs/default-source/coronaviruse/situation-reports/20201012-weekly-epi-update-9.pdf
20 The Harvard Gazette (2020).
21 Mostafavi (2020).

the consensus across all countries in LAC, except Nicaragua, was to close their school systems to stop the initial spread of the virus. As of early April 2020, around 1.6 billion students were out of school worldwide. Of those, more than 170 million were in LAC, representing an unprecedented emergency.

The duration of school closures in LAC to date has been, however, longer than in any other region in the world.[22] As of the end of calendar year 2020, LAC countries had been estimated to miss an average of 159 in-person school days,[23] varying from a minimum of 101 days to a maximum of 197 days.[24] While some countries have considered remote learning to be a valid substitute for formal school days, others did not.[25] But in any case, even when factoring in all days of remote instruction, on average, by October 2020,[26] LAC countries had reported a higher number of *net days of school lost (52)* due to the pandemic than the global average of 47.[27, 28] LAC countries following a *calendar-year-based school calendar* (e.g. those in the Southern Hemisphere of the region) – where school closures started at the beginning of the school year – reported 60 days of school lost, a sharp difference with those countries or systems following a *split-year-based school calendar* (e.g. those in the Northern Hemisphere) – where school closures took place in the last quarter of their school year, followed by the summer-driven seasonal closure – where only 46 lost days were reported.[29]

As health conditions started improving, countries in LAC have started reopening their school systems. Uruguay was the first country in the region to gradually reopen schools in rural areas at the beginning of April, by June almost all schools had reopened. As of End of February/early March 2021, nonetheless, the list of countries with system-wide open schools has increased, although largely in the Caribbean. By now, in addition to Nicaragua, several other countries - e.g. Argentina, Cayman Islands, Colombia, Cuba, Curaçao, Dominica, Grenada, Haiti, and St. Lucia - have all or most of their schools open with either hybrid or in-person instruction. Other countries have reopened or are in the process of cautiously reopening, but in many cases just a small portion of their school systems.[30] In most cases, the goal has been to prioritize areas with low incidence of COVID-19 cases or targeted groups in their last year of their respective education cycle levels (e.g. end of early childhood education, end of primary, end of secondary). Private schools in many countries are reopening earlier.[31]

22 UNESCO, UNICEF and World Bank (2020b).
23 World Bank LAC Education Unit 2020. Estimates based on number of potential school days missed since school closures to reopening/current date for each country. Estimate does not consider the academic calendar or local holidays.
24 In Nicaragua, where schools remained open, attendance was irregular and decreased to 40 percent during May and June 2020.
25 UNESCO, UNICEF and the World Bank (2020b).
26 Respondents answered the surveys during the period July – October 2020.
27 The "net number of school days lost" is calculated from the survey question "How many days of instruction have been missed (or projected to be missed) for the academic year?", taking into account that remote learning is a valid form of delivery to account for official school days and also factoring in whether academic year is finished (seasonal closure) or ongoing.
28 In Honduras, Nicaragua and El Salvador, loss of formal school days was further affected by hurricanes ETA and IOTA that hit the region in 2020.
29 The pandemic has an added feature to LAC: due to the *geographical disposition of* – with a large fraction of the population being located in the Southern Hemisphere - and *the time the pandemic hit* the continent – in mid-March, when the school year had just started for the largest part of the continent – the pandemic had a different effect relative to other regions, whose countries were in the last quarter of their 2019/20 academic year.

PHOTO BY: © JOA SOUZA/SHUTTERSTOCK.COM

4

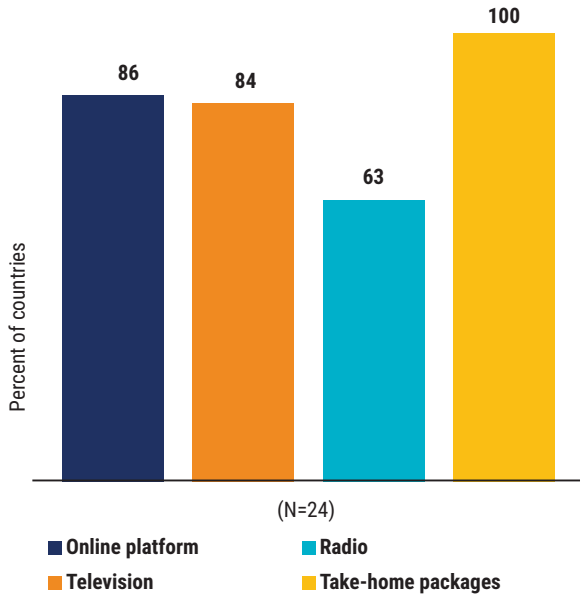
LAC's efforts to mitigate learning losses through remote learning

Almost twelve months into the pandemic, countries have had to make extensive efforts to set up remote learning for their children and youth, aiming to mitigate the potentially dramatic consequences of school closures. Most countries have raised to the challenge and moved rapidly and creatively to use education technology to deliver remote-learning solutions. In some cases, countries like Uruguay, Mexico, Brazil and Chile built on pre-existing investments and efforts; in most of the other cases, however, starting conditions were less favorable, and important efforts had to take place to step up and learn from others. In this sense, knowledge sharing across countries was significant. This led to the implementation of increasingly multi-modal solutions, where traditional means such as TV, radio, and printed materials, complemented Internet-based solutions, to make remote learning more inclusive. In Mexico, a multi-modal initiative, called *Aprende en Casa (Learn at Home),* built on a pre-existing educational television program initiated in 1968, has provided continued learning to 25 million students across the country during the school closures.[30] Panama, from a lower starting point, developed temporary emergency remote learning programs accessible using printed booklets, radio, television, and digital platforms. To distribute the materials developed for television, the government signed cooperation agreements with seven local television channels with national coverage.[31] Uruguay was one of the best prepared countries in LAC to transit to remote learning, relying on an integrated online platform, with nation-wide coverage (85 percent household connectivity) hosting the full curriculum, established before the pandemic.[32] There, customized content for teachers, students and parents coupled with broad access to Internet and devices allowed for more than 75 percent of students and 84 percent of teachers to be connected through the platform during the school closures.[33]

Education continuity has been an enormous challenge, as in Latin America only 77 percent of 15-year-old students have access to Internet at home,[34] and this challenge has been starker for disadvantaged groups. Such coverage, which comprises students with home-based connectivity to either electronic devices (computers, tablets) or access to mobile phones, is 19 percentage points lower than the OECD average. Most importantly, coverage is significantly lower for low-income students with only 45 percent of students in the bottom quintile having Internet access at home. In Peru, Mexico, Panama, and Colombia, for example, barely 14, 19, 24 and 25 percent of students in the bottom quintile have Internet access at home, respectively. Although data on digital access disaggregated by race and ethnicity is scarce in LAC, available data suggests that digital divides are noteworthy. In Brazil, for example, the cell phone is the only tool used to access the Internet by 75 percent of the indigenous population and 65 and 61 percent of the black and brown population, respectively, substantially higher than the white population's 51 percent.[35] Also in Brazil, the proportion of Afro-descendant students enrolled in schools without access to schooling activities during the pandemic was 12.5 percent, which is almost double that of non-Afro-descendant students' 6.4 percent.[36] Even in Uruguay, a country known for lesser inequities, 53.6 percent of Afro-descendants in ages 12 to 17 did not have Internet at home in 2013 (versus 34.8 percent of non-Afro-descendants of the same age).[37] The cost of providing access to connectivity and other services such – as teacher training in rural areas – is significantly higher than in urban areas, which further widens the gap

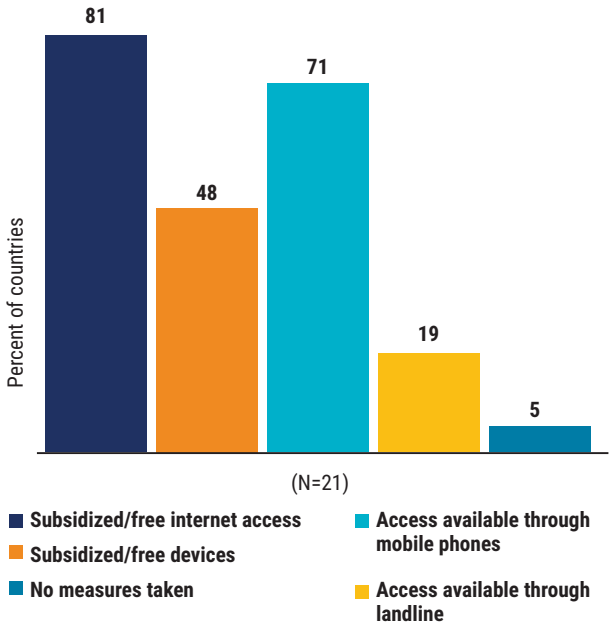
30 The program has specific slots for each educational level, broadcast through TV and Internet platforms with complementary resources. The material is available online and delivered in print to underserved areas. See Ripani and Zucchetti (2020).
31 World Bank (2020j).
32 The platform allows for student monitoring. See Álvarez Marinelli et al. (2020).
33 World Bank (forthcoming, d).
34 Rible-Aubourg and Viteri (2020).
35 Cetic.br (2020)
36 Paffhausen, A. L. (2021). The Brazil PNAD survey is nationally representative. The survey started in May 2020 and collects data from almost 50,000 households per week. The document uses data collected during the July-November 2020 period.
37 UNICEF and ECLAC (2020).

Figure 4: Remote learning modalities in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

Figure 5: Actions to improve connectivity in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

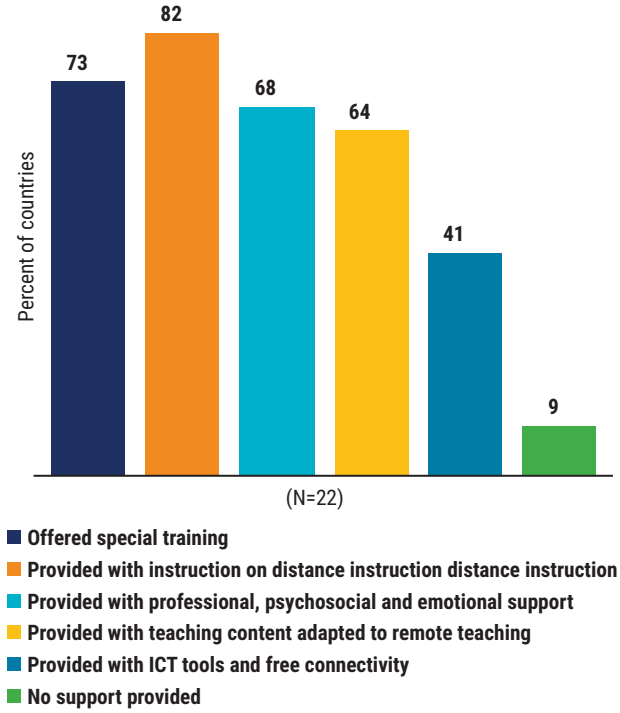
in student access to remote learning. In Mexico, the proportion of rural students with access to Internet is only 27 percent.[38] Meanwhile in El Salvador, only 3.2 percent of students living in rural areas have access to devices to utilize online platforms.[39] Further, slow Internet is a real constraint for learning purposes, especially in households with several school-age members. Finally, digital skills play a major role in the effective access to online learning.

Despite these challenges, remote learning strategies seem to have reached many students across the region thanks to a multi-modal approach. According to the latest UNESCO-UNICEF-World Bank survey,[40] all countries in LAC are using take-home packages[41] (see Figure 4) - a larger proportion than the global average of 85 percent[42] – in a remarkable effort to reach most students. In LAC countries, 86 percent of learning efforts are available through online platforms, and 84 percent on television. Since television reaches about 88 percent of households on average in LAC, its potential reach is clear.[43] Learning through radio has been the least used method to provide remote learning during school closures in LAC countries, with a penetration of 63 percent. There have also been some efforts, further documented in section 8.1, to reach out to, and explicitly support, specific vulnerable groups.

Aware of the digital divides – whose impact was further exacerbated by the pandemic - countries are also taking action to improve connectivity. According to the latest UNESCO-UNICEF-World Bank survey, 81 percent of countries in LAC are partially or completely subsidizing Internet access (see Figure 5), 21 percentage points higher than the global average. Some countries – such as Argentina, Barbados and Chile – enabled

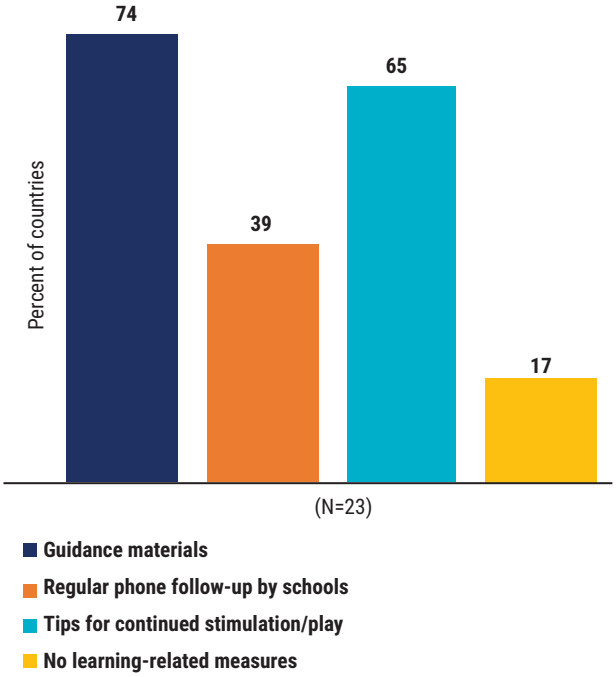
38 According to PISA 2018 results reported in Rieble-Aubourg and Viteri (2020).
39 Authors estimates using El Salvador Household Survey (2018).
40 In collaboration with OECD, a third iteration will document and attempt to better understand responses to school closure and school reopening. This third iteration will comprise two surveys, one for OECD countries and one for the rest of the countries that regularly report statistics to the UNESCO Institute for Statistics (UIS). The questionnaire will consist of a set of core modules aimed at all countries and two sets of supplement modules depending on to whom the countries report their education data (OECD or UIS). The joint report will be released in late April 2021. For further information, visit UNESCO webinar "Understanding the Impact of COVID-19: Launch of the survey on national education responses to COVID-19 (3rd iteration) and rapid assessment surveys", held on February 1, 2021 at http://covid19.uis.unesco.org/webinars/.
41 Take-home packages are defined as "paper-based learning material for students to use from home". The educational content of these packages, though, may differ by country and educational level.
42 Authors' estimates using UNESCO, UNICEF and the World Bank (2020b).
43 Authors' estimates using 2019 CEPAL figures; in Berlanga et al. (2020).

Figure 6: Support provided to teachers in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

Figure 7: Policies to support parents/caregivers in home learning environments in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

the access to education web portals at no (or low) cost for the end user, mainly though zero-rating plans in coordination with telecommunication companies.[44] Access through mobile phone was made available in 71 percent of LAC countries, slightly higher than the global average of 63 percent. In Colombia, a zero-rating initiative was combined with the use of mobile phones to access education resources. *Colombia Aprende Móvil* (Colombia Learns Mobile) was created to mirror the portal *Colombia Aprende* (Colombia Learns), the main site used by the Ministry of Education for education continuity during school closures. In a coordinated effort, Colombia's Ministry of Information, Technology and Communications mandated mobile operators to provide zero-rating conditions to the education community.[45]

In addition, both parents and teachers are receiving support for remote and home learning. Education communities need guidance and training on how to access and use education resources remotely. While teachers had to rapidly adapt their instruction model, parents had to step up and assist the learning process of their children. In LAC, 82 percent of countries are providing instructions on remote learning to teachers (see Figure 6). Most countries are also offering special teacher training. In Mexico, the aforementioned initiative *Aprende en Casa* (Learn at Home) offers digital skills teacher training.[46] Countries have been supporting parents mostly with guidance material for home learning combined with tips for stimulation, particularly relevant for households with younger children (see Figure 7). In the Brazilian state of Maranhão, for example, the non-profit organization *Laboratório de Educação*[47] supported the State's Ministry of Education in developing a family engagement curriculum with concrete suggestions on ways for parents and caregivers to encourage the learning process of young children through daily routines and household tasks.[48] As part of *Mis Manos te Enseñan* (My Hands Teach You) – an initiative to respond to the closure of early childhood development services

44 Even when end users can access a specific portal without consuming data, the access to educational resources and content hosted in external servers might need additional data, usually not covered in zero-rating arrangements.
45 Cerdán-Infantes et al. (2020).
46 Ripani and Zucchetti (2020).
47 "Laboratório de Educação" aims to sensitize adults about their important role in the learning process of the children with whom they live.
48 Piedra et al. (2020).

in Colombia – parents received a pedagogical kit with material such as paper, paint, chalk and crayons to use with children.[49] In LAC, 95 percent of countries are using WhatsApp or other messaging apps that are widely accessible to families. Phone calls and emails are also commonly used, although less so from schools.

49 Gutierrez Bernal et al. (2020).

PHOTO BY: © EMANUELA DI GROPELLO/THE WORLD BANK

5

Remote learning cannot replace face-to-face learning

Education technology has been shown to improve learning outcomes and other education indicators.[50] Educational programs for primary and pre-primary education, such as EduTV or radio, can encourage literacy skills acquisition, such as children's letter recognition, vocabulary, and syllabification.[51] Evidence shows that preschool educational programs can lead to higher achievement in school.[52] Viewing edutainment programs at young ages has been shown to lead to improved grades in high school even when family characteristics are controlled.[53] For secondary and post-secondary, long-term studies of EduTV programs for out-of-school children find significant impact on increased enrollment into formal education and consequently, increased labor-market participation and earnings.[54] Interactive radio instruction has also been shown to improve learning outcomes. Regarding online learning, a comparison of 150 interventions to improve education outcomes found that interventions using technology-assisted adaptive instruction are between the top ten performers in terms of learning gains.[55]

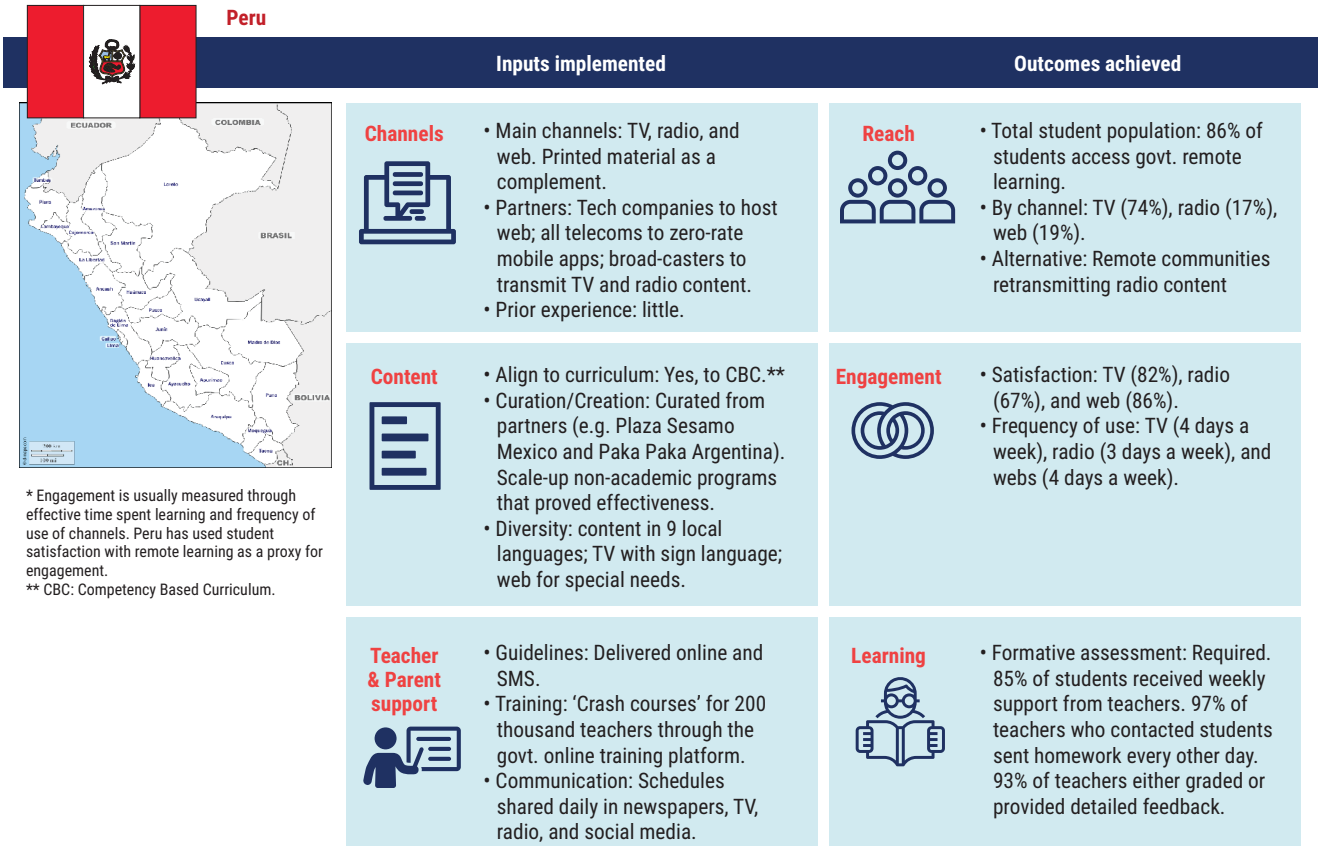
While **92% of students** are participating in remote learning activities in the South region of Brazil, only **52%** of students are doing so in the poorest, North-West region

However, recent evidence painfully reminds us that remote learning is not a natural substitute to face-to-face learning. Despite LAC countries' concerted efforts to ramp up low- and high-tech technological solutions and complementary interventions, information and communications technology (ICT)-driven strategies cannot fully replace face-to-face learning. Even assuming a satisfactory level of reach, which is not yet the case in all countries, due to a combination of particularly acute connectivity issues and limited use of low-tech alternatives, a critical issue with remote learning is that *participation and engagement are difficult to achieve.* A study by the Lemann Foundation[56] shows that, while 92 percent of students are participating in remote learning activities in the South region of Brazil, only 52 percent of students are doing so in the poorest, North-West region. The same study reveals that difficulties to keep up with the routine have been identified as one of the greatest challenges faced by students, pointing to the fact that students' lack of motivation for activities at home increased from 46 percent in May to 54 percent in September.[57] This is especially true for the most vulnerable children and youth with considerably less family support and access to complementary digital devices.

Effective take-up of remote learning strategies is also generally more challenging for one-way channels of communication and the most vulnerable. With limited experience of providing remote learning prior to the pandemic, Peru has been able to provide access to 86 percent of its students through multi-channel strategies (Figure 8). However, only 19 percent of these students used web-based solutions. Like in the Brazil case, only 67 percent of parents and 82 percent of children in Peru, respectively, were satisfied with TV learning (one-way teaching). TV learning faces significant barriers to achieve student engagement or participation at least somewhat comparable to face-to-face teaching.[58] Broadcast media are mainly a one-way channel of communication, which

50 World Bank. (2020d).
51 Borzekowski & Henry (2010).
52 Wright et al. (2001).
53 Anderson et al. (2001).
54 Navarro-Sola (2019).
55 Angrist et al. (2020).
56 https://fundacaolemann.org.br/
57 Fourth round of survey "Remote education: perspectives of students and their families". Lemann Foundation.
58 Word Bank (forthcoming, d). Results from semi-structured interviews conducted between early-June and mid-July 2020 with key public officers.

Figure 8: Remote Learning Effectiveness in Peru: A Summary



Source: World Bank (forthcoming, d).

implies that teachers need to make additional efforts to support and monitor students' needs. While most countries in LAC have set up communication lines with families, remote and vulnerable families are not being reached. As of July 2020, 40 percent of students in borderlands in the Dominican Republic, one of the poorest areas in the country, were not accessing remote learning, a share substantially larger than the national average of 16 percent.[59] In Peru, while 85 percent of families reported having been contacted by teachers,[60] which is a notable result, there are wide gaps across regions of the country, ranging from 58.5 percent in the Madre de Dios department to 88.5 percent in Metropolitan Lima.[61] A wide geographical gap has also been identified in Bolivia where the share of students engaged in learning activates since schools closed is 81.7 percent in urban areas and 67.5 percent in rural areas.[62] In Paraguay, while 71.8 percent of students in urban areas had sessions with their teachers, the share is only 56.3 percent among students living in rural areas.[63] Another limitation is that engaging TV lessons and good scripts for educational radio take time to produce. Many countries relied on existing content to accelerate deployment. Even though printed material can be considered as a safe option to reach children, it requires children and parents to have literacy skills and it can also take time for production and distribution. All these factors combined – widespread reliance on TV rather than Internet-based solutions, limited communication lines and possible lack of literacy skills– are putting vulnerable children and youth at an increasing disadvantage. When possible, online platforms usually facilitate communication and monitoring of those

59 United Nations et al. (2020) in Vasquez and Baron (forthcoming).
60 Ibid.
61 Ministry of Education, Peru (2020)
62 COVID-19 High-Frequency Monitoring Dashboard by The World Bank: https://www.worldbank.org/en/data/interactive/2020/11/11/covid-19-high-frequency-monitoring-dashboard
63 Ibid.


PHOTO BY © MADIERY VASQUEZ/THE WORLD BANK

that have access, although they can be a more appropriate means for older students that usually have higher propensity for independent learning.[64] Online courses also are not ideal to develop certain noncognitive skills, like perseverance (for which in-person instruction may be better designed).[65] Again, the lack of family support can make this particularly challenging for more disadvantaged students.

But even if take-up of remote learning is good, perceived effectiveness of remote learning strategies hinges on the quality of the teaching and learning, which poses significant challenges. According to the latest UNESCO-UNICEF-World Bank survey, on-line learning platforms, TV and radio were perceived as very effective for remote learning only by 36, 28 and 20 percent of countries worldwide.[66] Even in the case of well-designed online courses, relative to courses with some degree of face-to-face teaching, students taking on-line-only courses may experience negative learning outcomes.[67] Combined with limited access, on-line solutions are therefore also problematic. In the case of the LAC region, even in a country like Chile, where many schools are able to offer remote learning, a recent study jointly developed with the World Bank[68] shows that, when taking into account both coverage and broader effectiveness constraints, remote education strategies in that country would only be able to mitigate between 12 and 30 percent of learning losses associated with school closures, depending on the length of closures, in the most optimistic scenario. Most importantly, effectiveness decreases to a low range of between 18 percent and six percent for public schools, where the most disadvantaged students are enrolled. Preliminary results from an ongoing study of perceived effectiveness of remote learning in Uruguay, the first country in the LAC region to reopen schools, underscore the previous message. Results show that remote learning cannot replace face-to-face learning in the classroom, even in a best-case scenario, with high levels of student participation, provision of virtual classrooms with two-way communication and individualized content, and promising results documented prior to the pandemic.[69] Last but not least, measuring remote learning appropriately presents significant challenges.[70]

64 World Bank (2020e).
65 Escueta et al. (2020).
66 UNESCO, UNICEF and World Bank (2020a).
67 Escueta et al. (2020).
68 Ministry of Education, Chile (2020d).
69 Word Bank (forthcoming, d).
70 For a recent comprehensive treatment of the distance learning challenges for measuring distance learning, see USAID (2021).

PHOTO BY: © EMANUELA DI GROPELLO/THE WORLD BANK

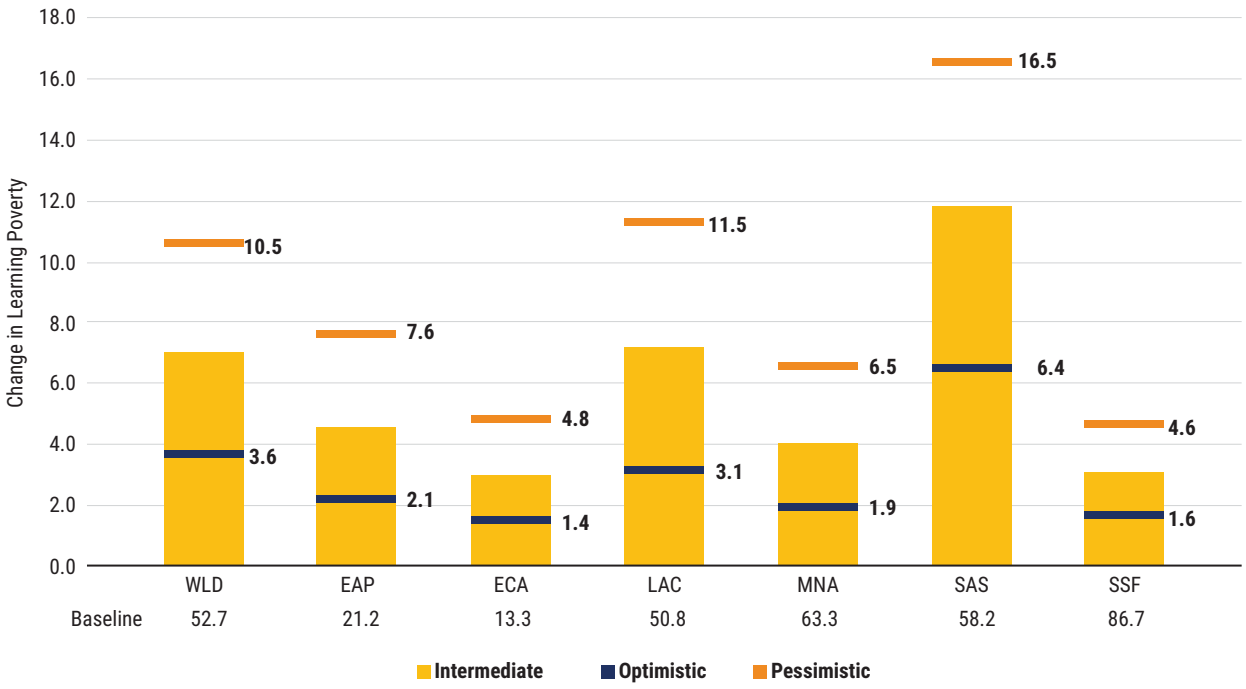
The heavy learning losses in LAC countries

The region is on a path to experience significant learning losses, potentially jeopardizing the education outcomes of an entire generation of students and deepening the existing learning crisis. As recently described, COVID-19 could take education systems in LAC back to the 60s.[71] Learning losses can be estimated in terms of schooling and learning, taking into account the missing learning while schools are closed and the preexisting learning that will be lost or forgotten as students disengage with the education system.[72] The most recent simulations by the World Bank[73] point to serious potential impacts of the pandemic on learning poverty in low and middle income countries.[74] In the most pessimistic scenario according to the author (where schools are closed for seven months, and no remediation or mitigations options are provided), learning poverty could increase by 10 percentage points, from 53 percent to 63 percent. This would boost the number of the learning poor from 382 million to 454 million, an increase of 72 million primary school age children. Figure 9 shows the results of a learning poverty simulation by region. In the pessimistic scenario, LAC is the region with the second largest absolute increase in learning poverty (11.5 percentage points) from a baseline of 51 percent,[75] which would roughly represent an additional 7.6 million learning poor. Additional evidence on LAC shows that the change in learning poverty may not be accompanied by an equally sharp increase in the learning poverty gap (the average distance of a learning deprived child to the minimum reading proficiency level) and learning poverty severity (which measures the inequality among the learning-deprived),[76] with the crisis's largest impact expected to be in the passage of a large number of students to just below the minimum proficiency level, rather than in the increase of learning poverty severity. Furthermore, COVID-19 school closures could increase the learning deprivation gap by approximately 2.5 percentage points, which is almost a 40 percent – and the highest – relative increase from a baseline of 6.2 percent (but not in absolute term). The learning deprivation severity would only increase by 0.5 percentage points (while that of sub-Saharan Africa increases by over 1 percentage point).[77]

The extent of this decline in learning outcomes due to COVID-19 varies greatly across LAC, with higher relative losses in countries already worse-off before the pandemic. The World Bank's COVID-19 learning losses simulation tool, currently in its version 6.0,[78] allows to estimate the effects of school closures and mitigation efforts on learning-adjusted years of schooling (LAYS) – a metric that combines the amount of schooling that children typically reach with the quality of learning during school years, relative to a benchmark.[79] If schools stay closed for 10 months - already a reality for several countries of the region and a potential reality for several others if they do not reopen now[80], and considering a medium level of mitigation effectiveness, on average the loss of LAYS could be as high as 1.3 years, from a baseline of 7.7 years (see Figure 10).[81], [82] In this scenario, the loss in absolute terms could be higher for countries that were better off before COVID-19.[83] In Chile

71 See the full article here: https://www.eltiempo.com/vida/educacion/educacion-en-america-latina-en-1960-por-el-covid-559205
72 Azevedo et al. (2020).
73 Simulations for learning poverty at the global level use parameters based on each country's income group (e.g. expected learning gains range from 0.2 for low-income to 0.5 in high income countries), and assume that remote learning is inferior to in-person delivery; in all scenarios, schools close for 70% of the year but vary in mitigation and remediation effectiveness.
74 Azevedo (2020a).
75 Ibid.
76 See Table A.1 in Azevedo (2020b).
77 Azevedo (2020b).
78 See: https://worldbankgroup.sharepoint.com/sites/Education/SitePages/Detail.aspx/Blogs/mode=view?_Id=25652&SiteURL=/sites/Education
79 Azevedo et al. (2020).
80 Several countries with a calendar-year-based school calendar that have not yet fully reopened schools will hit the 10-month benchmark.
81 These and other simulations are based on a set of comparable parameters to allow for global comparisons. It is understood that countries may obtain different results based on their own sets of assumptions and parameters, as also illustrated in some examples below. Additionally, results would vary if considering partial re-openings. These results should therefore just be considered as a first set of estimates for further refinement.
82 In the set of estimates generated with the simulation tool, LAC average excludes Nicaragua (never officially closed schools) and Uruguay (reopened schools relatively early).
83 This is because countries with higher expected learning gains in a single year stand to lose more from school closures.

Figure 9: Simulated Changes in Learning Poverty due to COVID-19 by Region



Source: Azevedo (2020a).
Note: EAP = East Asia and the Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; NAC = North America and Canada; SAS = South Asia; SSF = Sub-Saharan Africa; WLD = World.

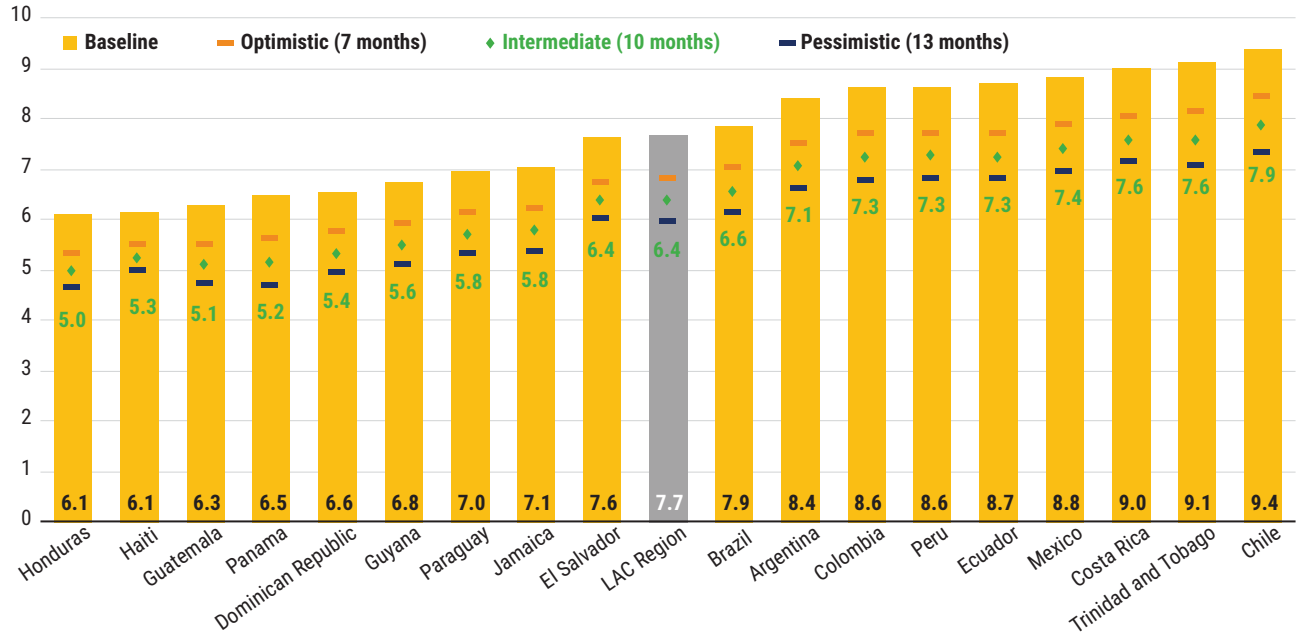
and Trinidad and Tobago, LAYS could drop by 1.5 years. Nevertheless, in relative terms the loss in learning would represent a bigger share in countries with lower LAYS prior to school closures, with very few exceptions. Dominican Republic, Guatemala, Guyana, and Honduras could lose 18 percent of pre-COVID-19 LAYS, and Panama could lose up to 20 percent. Countries that do not reopen their school system for three additional months (13 months total) could see losses of LAYS in the order of 1.7 years (under a pessimistic scenario with a low level of mitigation effectiveness).

Implications for earnings and productivity could be tremendous. The loss of learning can be quantified in terms of lifetime earnings using evidence on returns to schooling, life expectancy and labor market variables. [84] With a 10-month closure, the average student in LAC from the cohort in school today could lose $23,628 (in 2017 PPP dollars) in lifetime earnings, equivalent to $1,313 (in 2017 PPP dollars) in yearly earnings. In the medium and longer term, and with the economic crisis hitting the region very hard, countries may suffer significant losses in human capital and productivity. It is expected that learning losses in LAC may translate into an aggregate economic cost of foregone earnings of US$1.7 trillion lost (in 2017 PPPs) for a 10-month school closure.

The region would be hit hardest in terms of share of students below the minimum proficiency level. The simulation tool also allows estimating the changes in mean PISA test scores and the resulting change in the share of students below the minimum proficiency level (BMP). Measured by the test scores in PISA, average learning levels could drop by 38 PISA points, if schools stay closed for 10 months and mitigation measures have a medium level of effectiveness, from a baseline of 399 in reading (Figure 11). When considering children BMP – students not able to identify the main idea in a text of moderate length, find information based on explicit though sometimes complex criteria, and reflect on the purpose and form of texts when explicitly directed to do so[85] – the share in LAC could increase by 16 percentage points after 10 months of school closures (Figure 12). The baseline level in LAC was already high with a share

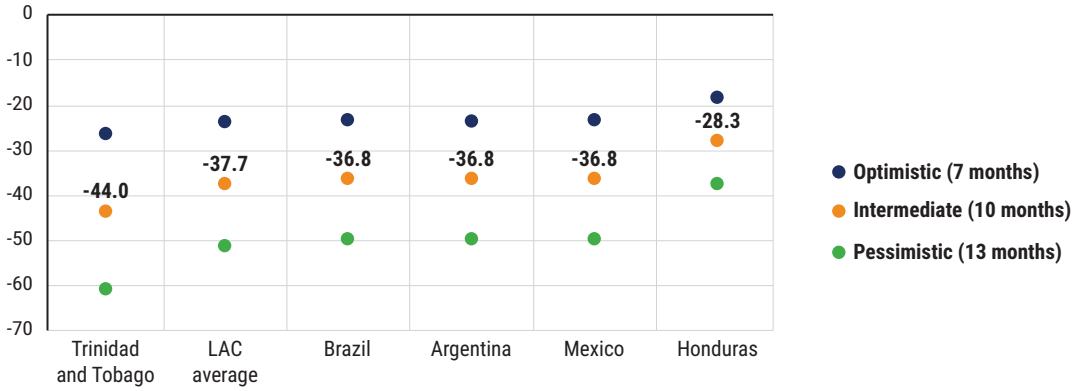
84 Azevedo et al. (2020).
85 Ibid.

Figure 10: Simulated loss in Learning-Adjusted Years of Schooling (LAYS) due to COVID-19



Source: Estimates by LAC Education's COVID-19 Learning Losses Team using Azevedo et al. "Country Tool for Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning, version 6". See the data table in Annex A.
Note: The parameters used here match global simulations based on the country's income level group. Remote learning is assumed to be only via the Internet. The school year is assumed to be 10 months in all countries. Optimistic, Intermediate, and Pessimistic scenarios vary in length of school closures (7, 10, and 13 months, respectively) and effectiveness of mitigation strategies (high, medium, and low, respectively). Numbers in green reflect estimates for a 10-month closure. LAC average excludes Nicaragua (where schools never officially closed) and Uruguay (where schools reopened relatively early).

Figure 11: Simulated change in mean PISA scores due to COVID-19 (selected countries)

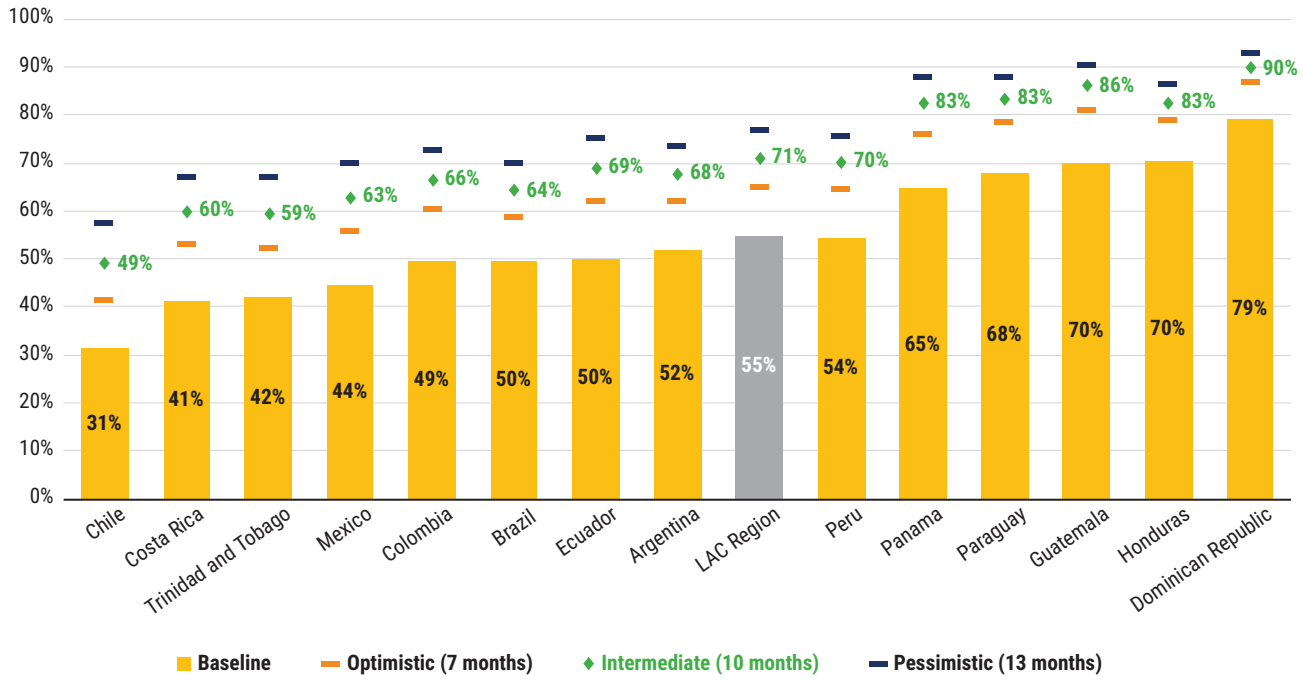


Source: Estimations made by LAC Education's COVID-19 Learning Losses Team using the World Bank's Country Tool for Simulating the Potential Impact of COVID-19 School Closure on Schooling and Learning, version 6.
Note: The parameters used here match global simulations based on the country's income level group. Remote learning is assumed to be only via the Internet. The school year is assumed to be 10 months in all countries. Optimistic, Intermediate, and Pessimistic scenarios vary in length of school closures (7, 10, and 13 months, respectively) and effectiveness of mitigation strategies (high, medium, and low, respectively). PISA and PISA-D scores are the latest available. LAC average excludes Nicaragua (where schools never officially closed) and Uruguay (where schools reopened relatively early).

of 55 percent of students below minimum proficiency levels, increasing therefore to 71 percent. Countries that do not reopen their school system for three additional months (13 months total and low mitigation effectiveness) could see almost 77 percent of these youth falling below minimum proficiency levels. Very recent simulations conducted by the World Bank[86] provide cross regional comparisons for up to nine months of school closures, showing that the share of students below the minimum proficiency level in LAC could experience

86 Azevedo et al. (forthcoming).

Figure 12: Simulated share of students Below Minimum Proficiency (BMP) levels due to COVID-19



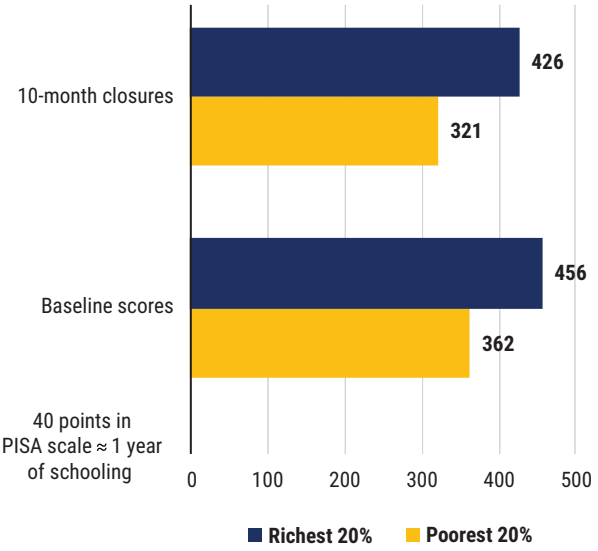
Source: Estimates made by LAC Education's COVID-19 Learning Losses Team using Azevedo et al. "Country Tool for Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning, version 6". See data table in Annex A.
Note: The parameters used here match global simulations based on the country's income level group. Remote learning is assumed to be only via the Internet. The school year is assumed to be 10 months in all countries. Optimistic, Intermediate, and Pessimistic scenarios vary in length of school closures (7, 10, and 13 months, respectively) and effectiveness of mitigation strategies (high, medium, and low, respectively). Numbers in green reflect estimates for a 10-month closure. LAC average excludes Nicaragua (where schools never officially closed) and Uruguay (where schools reopened relatively early).

one of the largest absolute increases compared to other regions.[87] Across countries, learning losses may have different implications and long-term consequences. For example, learning losses in low-performing countries would likely massively disrupt students from gaining basic/foundational skills, as illustrated by very high and growing shares of students below minimum proficiency levels in Figure 12. Furthermore, in countries with a high share of children BMP, the impacts of COVID-19 are also more likely to be felt by children already below this threshold.[88] Mitigation and remediation costs facing low-income countries would be relatively higher.

Learning losses could account for as much as 88 percent of what students would have learned in an average school year. A recent study jointly prepared with the World Bank[89] on Chile considers mitigation factors—such as the coverage of remote education, students' access to remote learning and students' capacity for autonomous learning—to estimate learning losses under different scenarios and assumptions. It shows that learning losses in Chile may be equivalent to 42 percent students' learning during a regular school year in a scenario where schools remain closed for six months. The learning losses could rise to 88 percent of learnings in a given year if schools stay closed for 10 months. In Colombia, fifth-grade students could lose 37 percent of learnings during a 3-month period of school closure.[90] Considering a scenario of three months of remote education followed by five months of blended learning, the learning

87 The estimated loss is similar across regions, with a global average of 35 PISA points: 39 in North America, 35 in Europe and Central Asia, 34 in LAC and East Asia and the Pacific, 33 in Middle East and North Africa, and 29 in Sub-Saharan Africa. This simulation also suggests that in the same scenario, 70 percent of students in LAC would be below the minimum proficiency level, only lower than Middle East and North Africa (71 percent) and Sub-Saharan Africa (88 percent). In this scenario, authors consider a low level of mitigation effectiveness and include Nicaragua and Uruguay in the LAC average, so differing from figures reported in Figure 11 and Figure 12 where different lengths of school closures and levels of mitigation effectiveness are used, and Nicaragua and Uruguay are excluded (see notes to figures).
88 Azevedo et al. (forthcoming).
89 Ministry of Education, Chile (2020d).
90 Cerdán-Infantes et al. (2020).

Figure 13: Simulated change in mean PISA scores in reading due to COVID-19 by quintile



Source: Estimations made by LAC Education's COVID-19 Learning Losses Team using the World Bank's Country Tool for Simulating the Potential Impact of COVID-19 School Closure on Schooling and Learning, version 6.
Note: The parameters used here match global simulations based on the country's income level group. Remote learning is assumed to be only via the Internet. Estimates consider an intermediate scenario of a 10-month school closure and medium level of mitigation effectiveness. This regional average excludes Nicaragua (where schools never officially closed) and Uruguay (where schools reopened relatively early).

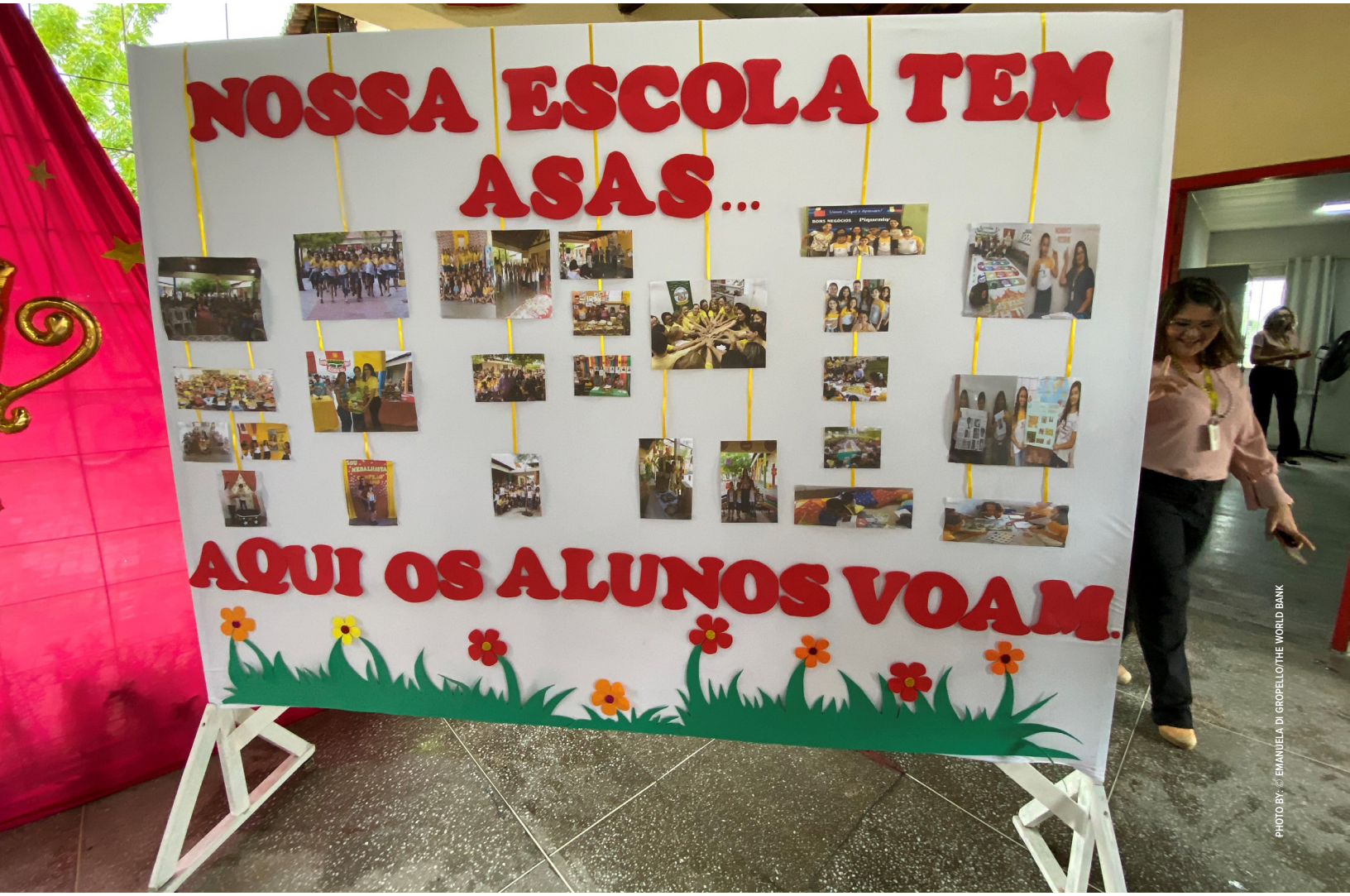
losses of Colombian students after eight months would be equivalent to 75 percent of what they learn in a regular school year. Furthermore, early estimates from April 2020 for Brazil[91] show that a loss equivalent to 37.5 percent of the regular school year could have led to a 3.9 percentage point increase in learning poverty, from 42.2 percent to 46.1 percent (or a 9.2 percent increase). These estimates could be interpreted as a lower bound, considering that most students in Colombia and Brazil have been out of school for at least 9 months. The simulations above, while acknowledging their limitations, account for longer school closures for these two countries.

Evidence for these learning losses, or the "COVID-19 slide", is emerging in countries all over the world. Studies find actual learning losses in countries with relatively high mitigation effectiveness[92] that have re-opened schools. In Belgium, primary level test scores dropped by 0.19 standard deviations in math and 0.29 standard deviations in Dutch after three months of school closures. In the Netherlands, test scores decreased by 0.08 standard deviations in various subjects (math, spelling, reading) after eight weeks of school closures. Results from Switzerland show differences in learning losses at different levels, with secondary students being largely unaffected after eight weeks of school closures in terms of learning gains, while learning for primary students slowed down and variance in learning gains across students increased. In the United States, those who had the fewest academic opportunities before the pandemic were likely to exit with the greatest learning loss, with a recent study[93] highlighting increasing disparities between Black and Hispanic students and their white peers.

These shocking results nonetheless underestimate the true cost of the pandemic for the most vulnerable children and youth, who will fall further behind. Historical evidence shows that the COVID-19-slide is not distribution neutral.[94] LAC averages hide huge disparities within countries, with children and youth from the most disadvantaged backgrounds suffering the most for multiple reasons related to access to and take-up of remote education, parental support and economic hardship, among others. To make the situation worse, the reopening of many private schools, attended in general by wealthier students, and/or their higher level of endowment in digital resources, can also potentially widen the pre-existing learning inequalities within countries and between students. Figure 13 shows that the loss in learning in LAC, measured by the PISA mean score, could be greater for the poorest 20 percent of students (41 PISA points) than for the richest 20 percent of students (30 PISA points) when considering a scenario of a 10-month school closure. Furthermore, the socio-economic achievement gap between students in the bottom and the top quintiles could increase from 94 to 105 PISA points, basically equivalent to a quarter of a year of schooling. Individual

SIMULATIONS FOR CHILE show that students from the lowest income quintile could lose up to **95% of their yearly learning** if schools stay closed for 10 months

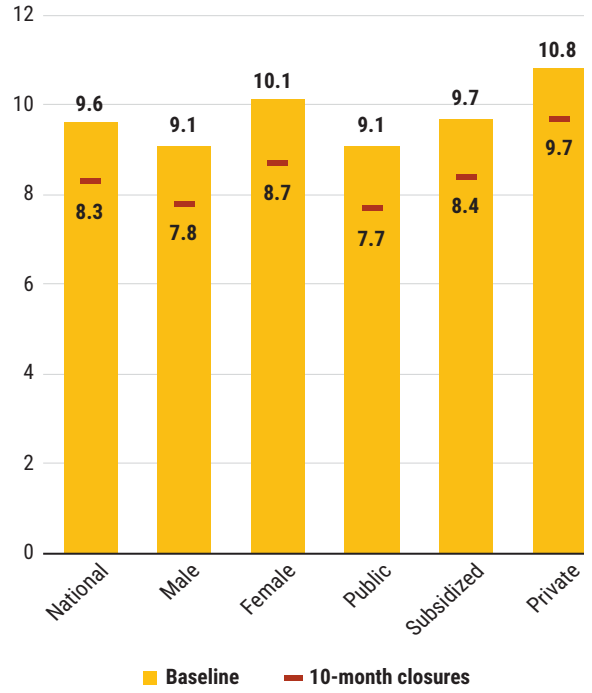
91 Estimating Covid-19 Impact: Brazil, EduAnalytics, World Bank, April 2020.
92 Results from various studies are summarized in the following blog post: https://blogs.worldbank.org/education/covid-19-slide-education-real
93 McKinsey (2020).
94 Azevedo and Goldemberg (2020a).



country simulations reveal unequal effects of COVID-19 within countries. Simulations for Chile[95] show that students from the lowest income quintile could lose up to 95 percent of their yearly learning if schools stay closed for 10 months, 31 percentage points higher than the top quintile (64 percent). The loss would be higher for students in the public sector compared to those in subsidized or private schools, and for female students, as illustrated in Figure 14. For fifth-grade students in Colombia, even with partial reopening of schools, the learning loss of students in the bottom quintile could double the loss of the top quintile, deepening preexisting gaps.[96] Figure 16 illustrates the gaps by (a) socioeconomic status and (b) region. Worryingly, both the overall losses and the gaps between groups would increase with the number of days schools stay closed – and we are already at this stage significantly beyond the 150-day benchmark, with new estimations soon to be available. It is good news that the country is in the process of reopening schools more extensively. Early results published on Costa Rica[97] show that the most disadvantaged students could be losing almost an additional year of schooling vs. the wealthiest. Finally, simulations undertaken on Peru are another clear illustration of how the pre-COVID-19 PISA gaps could increase as a result of the crisis, with a decrease of seven percent in the learning outcomes of the poorest quintile translating into an increase of almost seven percent of the gap vis-à-vis the top quintile (Figure 15).

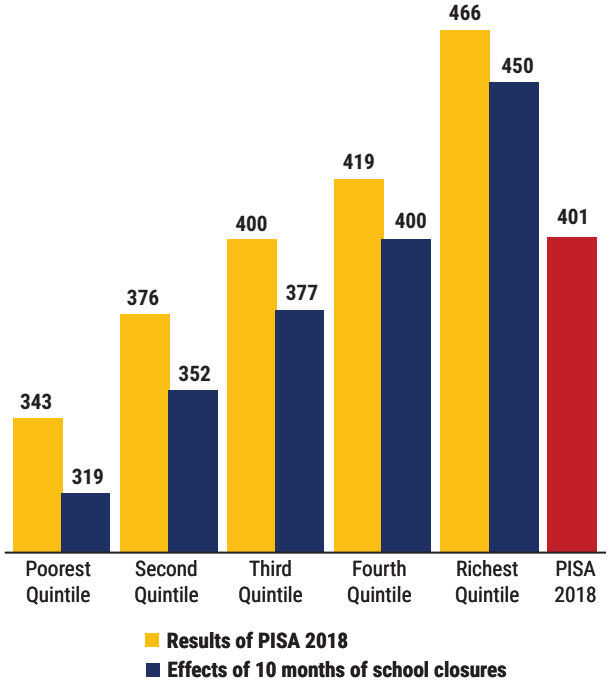
95 Ministry of Education (2020d).
96 Cerdán-Infantes et al. (2020).
97 Fernández Aráuz (2020).

Figure 14: Simulated loss in LAYS due to COVID-19 in Chile, by groups of interest



Source: Ministry of Education, Chile (2020d)
Values differ from Figure 10 because these are national simulations applying a slightly different set of criteria.

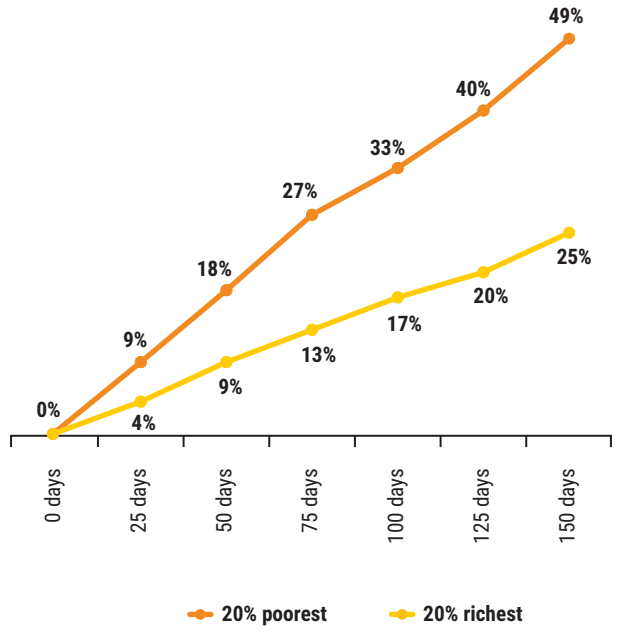
Figure 15: Simulated change in mean PISA scores due to COVID-19 by wealth quintile in Peru



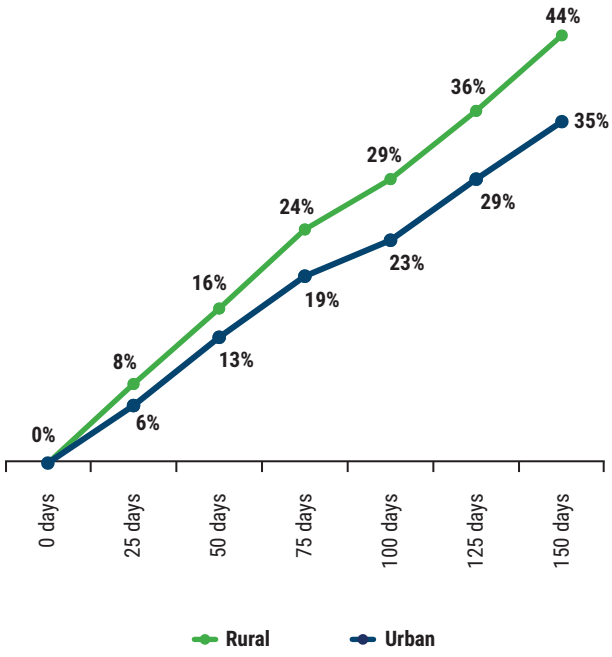
Source: Peru Policy Note, World Bank

Figure 16: Gaps in Learning Losses for 5th Grade (as % of what they would have learned) in Colombia

A. By socioeconomic status (richest vs. poorest)



B. By region (rural vs. urban)



Source: Cerdán-Infantes et al. (2020)

PHOTO BY: © EMANUELA DI GROPELLO/THE WORLD BANK

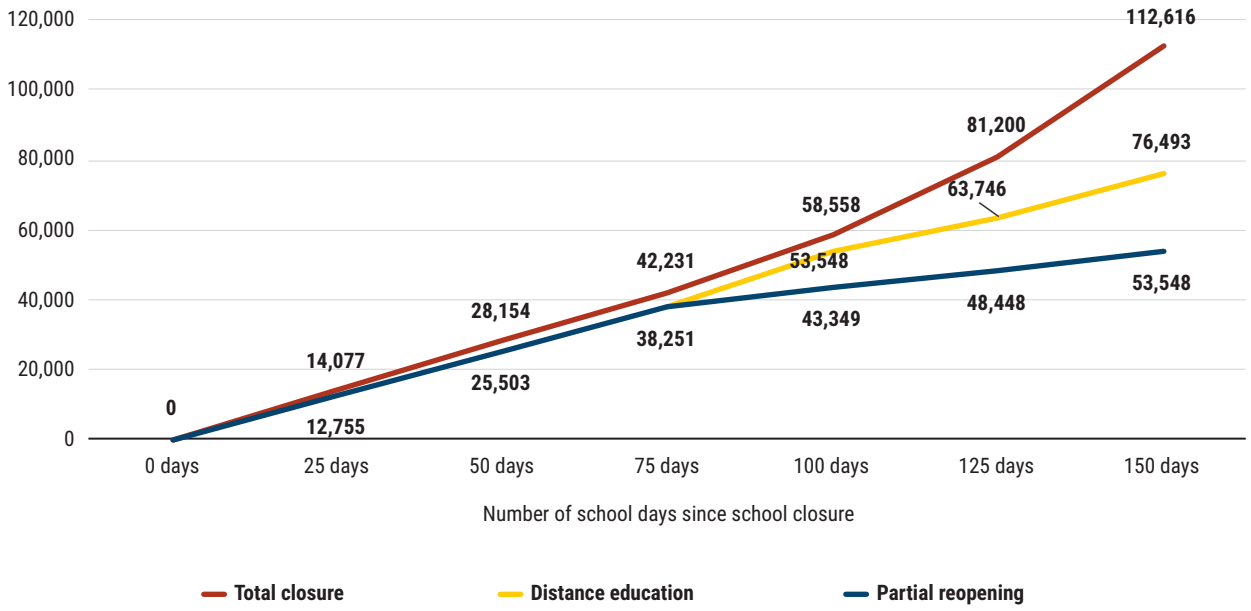
The pandemic is costing more than the learning loss

The learning losses do not capture the full picture of the negative effects following the crisis. Many students, particularly from lower-income groups and who were already learning very little before the crisis, will disengage themselves and simply drop out of school. In the long term, recent estimates suggest that the shock on human capital will likely substantially reduce intergenerational mobility and the likelihood of children from low educated families to complete secondary education.[98] Social distancing restrictions are also affecting students' wellness and mental health. This is especially the case for children from the most vulnerable households who are experiencing an entirely different learning experience at home than those from wealthier backgrounds.[99]

COVID-19 is reverting years of progress in terms of coverage. One channel that captures the short-term impact of the economic hardship and school interruption is students' participation in education. On one hand, students might be tempted to transit to the labor market to alleviate the economic shock for their families. On the other hand, students could completely disengage during school closure. The decision to return to school is also influenced by other relevant aspects such as families' well-being. In a context of economic hardship and recession such as the one experienced by LAC, effects on dropouts can potentially be massive. Recent simulations[100] suggest that dropout in LAC could have increased by 15 percent due to the pandemic among children aged 6 to 17 during 2020. In other words, the pandemic could jeopardize progress in enrolment achieved in the last eight years. In relative terms, Panama, Mexico, Costa Rica and Bolivia could have suffered the biggest loss with 20 percent or higher dropout rates.[101] The prognostic is already visible in the region. Mexico's Secretary of Education reports, approximately 2.5 million students in pre-primary, primary and secondary education may have dropped out of school, decreasing enrolment by 10 percent.[102] A recent World Bank policy note on Colombia[103] shows a similar path: school closures could have led to between 53,000 and 76,000 students dropping out by December 2020, associated with learning losses during school closure (Figure 17). And recent initial estimates, pointing to over 120,000 students out-of-school in public education, show that this may have been an underestimation.[104] Estimates by the Ministry of Education also suggest that the drop-out rate has been higher for pre-primary (1.70 percent) and secondary education (1.77 percent), compared to primary education (1.43 percent).[105] Colombia is actively pursuing strategies to counter these effects. Data from Peru show a similar trend with drop-out rates of 6.6 percent in pre-primary, 3.5 percent in primary and 4 percent in secondary education.[106] Furthermore, Afro-descendants could be at increased risk of dropping out, considering the exceptionally lower pre-pandemic rate of completion when compared to non-Afro-descendants: 64 percent vs 83 percent in primary education, 30 percent vs 46 percent in secondary education and 5 percent vs 14 percent in tertiary education.[107] In the longer term, the pandemic could increase the share of *neets* – youth who are not in education, employment or training– between 18 and 23 year-olds by 21 percent, equivalent to 2.7 million youth.[108] The increase would be higher in Bolivia, Peru and Ecuador, with rises of 52, 51 and 42 percent, respectively.[109]

98 Neidhoefer et al. (2021).
99 https://digitark.ee/wp-content/uploads/Telia-CAP-Digital-Learning-Report_2020-June.pdf
100 Zoido et al. (2020).
101 The model considers economic (loss of income and employment) and academic (unequal access to remote education, resources and support, student capacity in adapting to remote learning), factors assumed to increase dropout as result of the pandemic. The countries mentioned are more affected by these factors and did not have, in relative terms, high levels of dropouts pre-COVID-19. Zoido et al. (2020).
102 2.5 million students drop out of school during the lockdown: https://www.adn40.mx/mexico/video/videos/2021-02-06-13-10/2-5-millones-de-ninos-abandonaron-la-escuela-durante-el-confinamiento-sep
103 Cerdán-Infantes et al. (2020).
104 Ministry of Education, Colombia. November 2020 estimates.
105 Ministry of Education, Colombia.
106 Ministry of Education, Peru. SIAGIE information system.
107 World Bank (forthcoming, a).
108 The authors built a 30-year synthetic panel of 18 LAC countries. Zoido et al. (2020).
109 The model considers economic factors as a result of the pandemic impacting the level of *neets*. The countries did not have, in relative terms, high levels of pre-COVID-19 *neets*. See Zoido et al. (2020), footnote 57, for details.

Figure 17: Out-of-school children in basic and secondary education in Colombia



Source: Cerdan et al. (2020), based on Colombia's Saber Tests 2012-2019.
Note: Coverage rates and Saber test scores are negatively correlated. Such correlation is used to linearly estimate the change in coverage rates by education level, using a municipal-level data panel. Authors are undertaking complementary estimates that will soon be published.

A potential reduction of private education supply (and demand) would represent a further risk for enrollment or an extra financial burden for the public sector. With the economic hardship, many families will no longer be able to afford a private education for their children. World Bank simulations for Peru suggest that drop-out in private schools could increase by 25 percentage points between 2019 and 2020 due to lower purchasing power of households.[110] Before the pandemic, 25 percent of pre-primary students were enrolled in private institutions in LAC, posing significant challenges to the region if families are required to rely on the public education sector. In primary and secondary education, 20 and 19 percent of students, respectively, were enrolled in private schools.[111] Others, less affected by the pandemic, might perceive that services provided (i.e. remote learning) do not meet expectations. Losses in tuition fees for private schools could mean a further reduction in the supply of education. Private schools face the possibility of having to downsize in the short term by scaling back staff and services. It is also possible that, in some instances, the severe economic recession that is predicted to follow the pandemic could result in the permanent closure of some private schools. As a result, many students may drop-out or migrate from the private to the public sector. Governments might either absorb the new demand or subsidize private education, incurring in major costs in both scenarios. In the first one, governments would face the pressing challenge of providing additional physical and human (teachers) resources. In the second scenario, governments could consider costly direct subsidies (e.g., vouchers to families) or indirect subsidies (e.g., paying private school teachers' salaries). This phenomenon is already visible in LAC. As of June 2020, 120,000 students had transferred to public schools in Ecuador.[112]

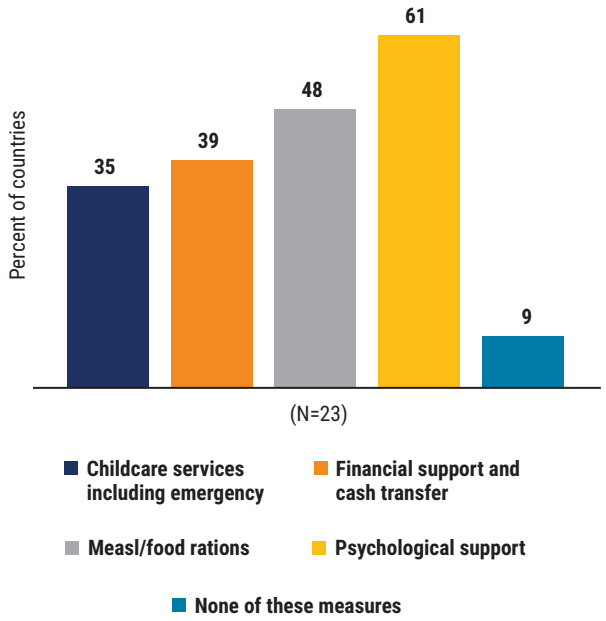
Higher education is also suffering from the disruption. Roughly 27 million tertiary students in the region have been out of school during the pandemic. There is a risk that many students will not return when institutions reopen, forced to join the labor market, resulting in reduced enrolment rates. By September 2020, the Ministry of Education of Peru estimated an increase of drop-out

110 Lavado, P. (2020), Avitabile (forthcoming).
111 Data from World Bank Education Statistics (EdStats): https://databank.worldbank.org/source/education-statistics:-core-indicators#
112 Olsen (2020).

in higher education from 12 percent to 18.2 percent,[113] an increase significantly higher than in the other education levels.[114] This is expected to adversely affect the most vulnerable students with already low tertiary participation levels. The crisis is having short- and medium-term implications on critical dimensions of the higher education system across the region. These implications are the result of a combination of the preexisting challenges mentioned above, preparedness to provide remote education, and the expected intensity of the health and economic crisis. Attempts to continue schooling through ICT could exacerbate the existing inequalities given the existing digital divide.[115] Before the pandemic, only 19 percent of higher education programs in the region were delivered virtually, and 16 percent used blended modalities. The limited use of virtual teaching in higher education has created a situation where only one in four professors feel prepared to fully incorporate digital tools into their courses.[116] In Brazil, 48 of the 69 federal universities have suspended classes indefinitely without any alternative educational measures. Of the 21 that have not suspended classes, seven are maintaining partial openings and 14 are offering remote learning.[117] In addition, the combination of socioemotional and economic factors may lead students to discontinue their programs, especially lower-income students. Regarding the quality of the services during school closures, anecdotal evidence suggests a significant increase in the teaching quality gap, because some faculty are poorly trained or inexperienced in remote learning. With little support, over 1.9 million faculty members are experiencing stress and anxiety, besides coping with their confined life during the pandemic, which may further impact teaching quality.[118]

Staying at home is also affecting students' physical, mental and emotional health, as well as their vulnerability to engage in risk behaviors. Schools are considered a safe place where students access not only education services, but also complementary services such as nutrition and psychological support. School closure is affecting 85 million children in LAC that used to benefit from school meal programs; 10 million of those had school meals as one of the most reliable sources of food.[119] Additionally, previous crises have shown that students can suffer increased levels of anxiety and depression due to the social implications of the lockdown and the health concerns.[120] School closures could be also associated with increased involvement in criminal activities, sexual violence and adolescent fertility.[121, 122] Countries in LAC are making noticeable efforts to mitigate the effect of the pandemic on families' wellbeing. Overall, 61 percent of countries in LAC are providing psychological support to families (Figure 18), 19 percentage points higher than the global average and similar to the average for high income countries (also 61 percent).[123] Regarding nutrition, 48 percent of countries in LAC are supporting students with meals and food rations, substantially higher than the global average of 27 percent. Some countries such as Guatemala, Peru, Haiti and Colombia served food rations to take home during school

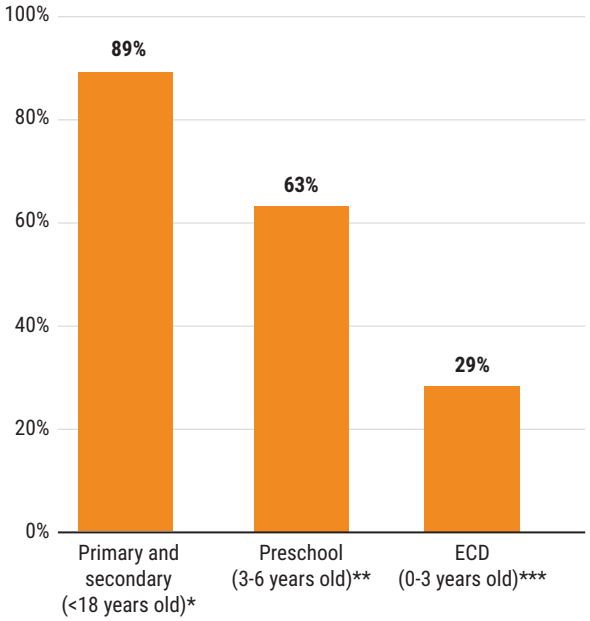
Figure 18: Economic and wellbeing measures targeting families in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

113 TV Perú (2020).
114 ComexPerú (2020).
115 Becerra et al. (2020)
116 Arias Ortiz, Escamilla et al. (2020)
117 Becerra et al. (2020)
118 Data from World Bank Education Statistics (EdStats) https://databank.worldbank.org/reports.aspx?source=1159&series=SE.TER.TCHR#.
119 http://www.fao.org/americas/noticias/ver/en/c/1266855/
120 Cerdan-Infantes et al. (2020).
121 World Bank (2020m).
122 UNICEF (2020a).
123 UNESCO, UNICEF and World Bank (2020a).

Figure 19: Access to and usage of remote learning in Mexico



Source: World Bank (2020f) and UNICEF (2020g). *Attended remote classes (ENCOVID 19); **Accessed educational content on TV/mobile device; ***Caregiver watched "Aprende en casa".

closures. The effect of the pandemic on families' wellbeing will depend, at least partially, on the effectiveness of these mitigation measures.

Young children and families are experiencing enormous challenges following the pandemic. A review of recent surveys in the region documented lower access to health services and deleterious effects on nourishment among young children.[124] A phone survey supported by the World Bank in Mexico[125] found significantly lower access of younger children to remote learning. Only 63 percent of children between 3 and 6 years were reported to have access to remote education, and only 29 percent of caregivers watched learning programs together with their younger children (0-3 years) (See Figure 19). Additionally, 19 percent of households reported job losses due to the pandemic, with a larger impact on mothers than fathers, and twice as large impacts among the poorest households. The findings further indicate that the share of households where mothers are the main caregivers increased by 16.5 percentage points (from 60.3 percent) and average time dedicated to care increased by 3.8 hours per day from pre-pandemic levels, underlining the additional burden placed on women. This is also consistent with limited access to childcare emergency services during the pandemic, as also illustrated in Figure 18 for LAC countries. The impact of the unemployment shock during the pandemic was found to be strongly and negatively associated with several critical dimensions for child development. A large share of children, 14 percent, was found left unsupervised by adults, and 60 percent of the children were reported to have increased their screen time. Additionally, caregivers were found to show increased signs of stress and violent behavior and children to show signs of depreciating socio-emotional well-being. The survey findings indicate potential life-long negative consequences for children and families' wellbeing, as well as dramatic impacts on countries' future human capital and productivity.

124 Guerrero (2021).
125 World Bank (2020f).

PHOTO BY: © MANOEJ PAATEL/SHUTTERSTOCK.COM

A call for action (and how it can be operationalized)

The education response involves three critical overlapping phases aiming to address the immediate effects of the crisis, while seizing opportunities to make education more inclusive, effective, and resilient than before the crisis (see Figure 20).[126] While schools are closed, education systems are implementing policies such as remote learning to cope with immediate impacts. Even though remote learning cannot replace in-person learning, acting early and effectively in this phase can help mitigate learning losses and inequalities to the extent possible. In this stage, countries already need to start getting ready for school reopening in the continuity managing/recovery phase. Physical distancing restrictions impose a challenge both for sanitary conditions and for the pedagogical strategy for school reopening. Some lessons learned have been documented that can guide countries in the process. The third phase, which overlaps with the other phases, is improving and accelerating. Countries are implementing promising initiatives as emergency responses that can be adapted, improved and adopted in the longer term. In the long term, the goal is to build education systems that are more inclusive, effective and resilient. At the end of February 2021, a very few LAC countries had reopened their school systems country-wide, of which mainly Caribbean countries, the vast majority had partially re-opened schools to various extents, and some countries had not even partially opened their schools since the pandemic hit. This means that the large majority of the countries find themselves either in the coping phase or between the coping and managing continuity phases. All stages of the response remain therefore highly relevant, even more so as the situation remains highly fluid.

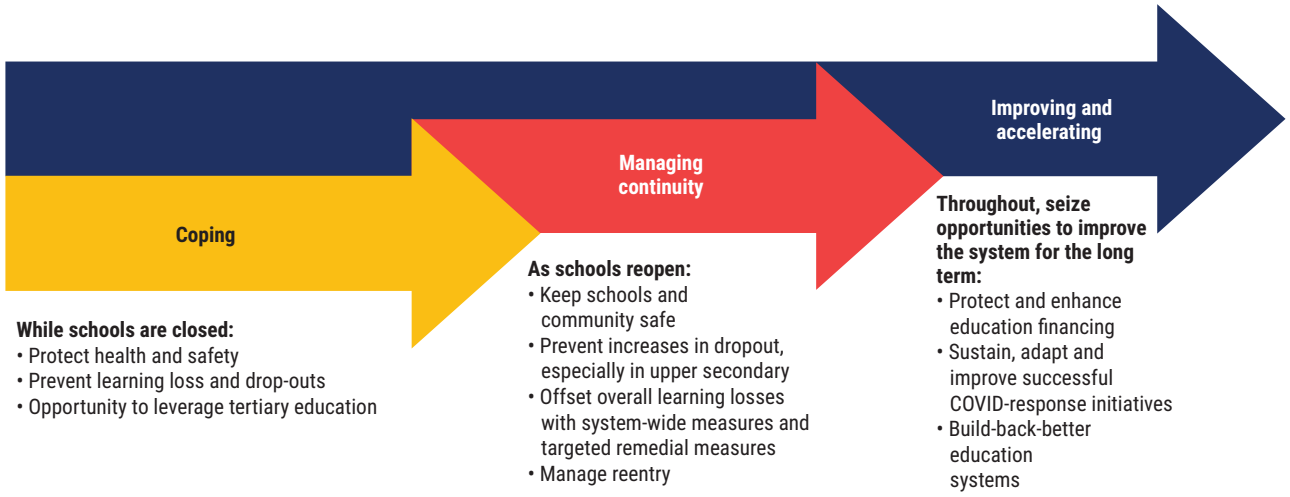
MAINTAINING STUDENT AND FAMILY ENGAGEMENT should continue to be the priority **moving forward**

8.1 Coping when schools are closed

The huge costs of the pandemic can be mitigated if governments continue to retain students in the education systems and improve the effectiveness of remote schooling. Maintaining student and family engagement should continue to be the priority moving forward. When measuring reach, engagement and other education outcomes during remote learning, participation and accuracy of results can be improved by: (i) combining remote and in-person data collection mechanisms; (ii) using multi-modal interfaces such as phone calls and SMS; and (iii) mixing data gathering methods, such as interviews and surveys.[127] In LAC, several countries, like Peru and Colombia, are monitoring the reach of remote learning through regular surveys. Most commonly, countries have relied on phone surveys.[128] Additionally, some countries in LAC have implemented or scaled up systems to individually track students during the pandemic, including early warning systems to identify students at risk of dropping out (see more details in Section 8.3). When it is not possible to accurately track students while schools are closed, assessing students' engagement can pose a challenge, but there are emerging lessons on what can be done in the meantime to keep students and their families engaged. Parents need to be supported and motivated to maintain their children engaged, especially when children are very young. The Read@Home, an initiative led by the World Bank, is supporting El Salvador and Honduras with reading, learning and play materials for households with 3- to 12-year-olds and supporting parents to engage in children's learning.[129] Nudges have also been successfully used to prevent student dropout. In a recent intervention in Brazil during school closure, high-school students or their primary caregivers received encouragement text messages twice a week aiming to engage students in remote learning and motivate them to stay enrolled in school.[130] An impact evaluation found that the intervention is linked to a 77 percent lower dropout rate (6

126 World Bank (2020m).
127 Morris et al. (2021).
128 Guerrero (2021).
129 World Bank (2020l).
130 Lichand and Christen (2020).

Figure 20: The three overlapping phases of the education response in LAC



Source: Adapted from World Bank (2020m).

percent in control group versus 1.4 percent in treatment group) and a 44 percent decrease in lack of motivation to return to school (or expected dropout rate) (23.9 percent in control group versus 13.5 percent in treatment group). Media campaigns can be another useful strategy by providing information on how to access educational content and, more importantly, the importance of staying in school. Some countries in LAC that provided regular information on remote learning offers, such as Peru and Uruguay, were able to reach a high share of students' population (over 85 percent). In *Ceibal en Casa*, the education remote learning strategy implemented in Uruguay during school closures, communication campaigns and content delivery layouts were also necessary in order to make the educational resources visible, accessible, and easy to use.[131] As an example from outside the region, some anecdotal evidence suggests that the "Stay in School" media campaign launched in Indonesia during the 1990s economic crisis helped maintain educational outcomes.[132] Systems should also consider targeted financial support for the most-at-risk students. In Dominican Republic, the program *Bono Estudio Contigo* (I Study with You Scholarship) partially subsidized enrollment costs of 30,000 low-income students from selected private universities.[133] While LAC countries have put significant focus on psychological support for families, less than 40 percent have made use of financial support and cash transfers (Figure 18). These interventions are also very relevant to prevent drop-outs in the school reopening stage.

Continuing to improve the reach and take-up of remote learning for the most disadvantaged groups and the overall quality of remote learning will also be essential to mitigate learning losses and reduce inequalities. Countries' efforts to provide remote learning options aiming to reach all students need to continue, through low-tech options, persistently striving to bridge the digital divides and making delivery as inclusive as possible by adapting it to the needs of at-risk groups. At the same time, securing that learners are engaged and with the needed skills and motivation to learn can be challenging, even when the digital divides have been addressed, and particularly so for the most vulnerable students. A survey in the Dominican Republic found that 41 percent of students received less than two hours of class daily.[134] Multi-modal delivery, with explicit strategies to reach out to and support all students, including disadvantaged groups; parental and teacher engagement with interactive communication; teacher training; prioritization of the curriculum; and learning evaluation strategies are emerging critical drivers of effectiveness

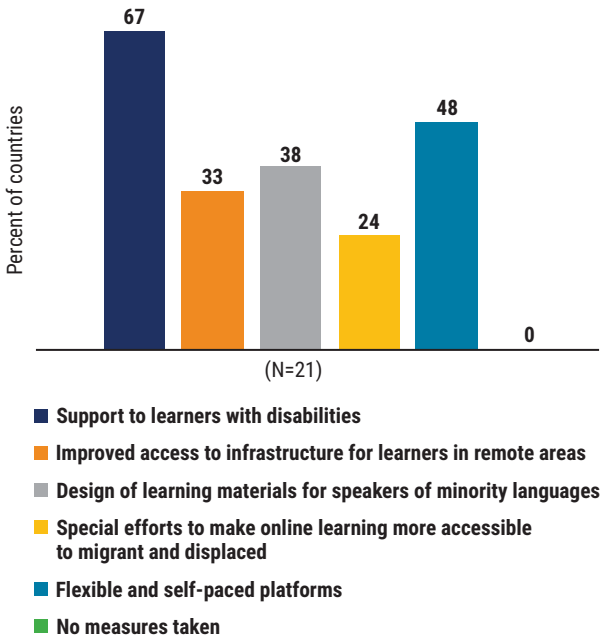
131 Ripani (2020).
132 World Bank (2020m).
133 https://progresandoconsolidaridad.gob.do/noticias/lo-que-debes-saber-sobre-el-bono-estudio-contigo/.
134 United Nations at al. (2020) in Vasquez and Baron (forthcoming).

IN CEIBAL EN CASA, the education remote learning strategy implemented in Uruguay during school closures, communication campaigns and content delivery layouts were also necessary in order to make the educational resources visible, accessible, and easy to use.

according to an on-going review of the World Bank.[135] As a critical condition for this, it will also be essential for countries to continue developing their institutional capacities to secure high-quality remote learning, which will entail, for countries with most prior experience, to continue leveraging their national institutional capacities, building on the experience of their ministries of education in EdTech programs, and for other countries, collaborating with private institutions, such as EdTech companies and telecommunication operators, third sector organizations, and other countries, to effectively continue providing remote learning programs. Regulation plays an important role in mainstreaming the policy and sustainability of remote learning. In Panama, the World Bank supported the government in setting up the legal framework to implement temporary remote learning programs during the 2020 school year, with a focus on reaching poor and vulnerable students.[136]

LAC countries have strived to reach out to and support learners with disabilities and, to some extent, indigenous groups through their remote learning strategies, but this effort needs to be ramped up. A recent UNESCO-UNICEF-World Bank survey found that 67 percent of countries in LAC are implementing

Figure 21: Measures for students at risk of exclusion from remote learning in LAC



Source: Authors' estimates using UNESCO, UNICEF and World Bank (2020)

measures to support learners with disabilities (see Figure 21), 11 percentage points higher than the global average. In Guyana, for example, the Ministry of Education is distributing printed and manipulative materials to benefit children with disabilities.[137] Supported by the World Bank, the strategy called *Te Queremos Estudiando en Casa* (We Want you Studying at Home) in Honduras is delivering printed material to indigenous and Afro-Honduran students.[138] In Mexico, the Educational TV strategy *Aprende en Casa* (Learn at Home) also included a special radio strategy to reach students from indigenous communities.

Radio programs are aired in 15 different languages through a network of community and indigenous radio stations and the National Institute of Indigenous People.[139] According to data from the Ministry of Education, 82 percent of surveyed teachers reported having weekly interactions with 9 out of 10 of their students, suggesting a relatively high coverage of students.[140] As

135 World Bank (forthcoming, d).
136 Program Document for the Panama Pandemic Response and Growth Recovery Development Policy Loan. World Bank Group Education Global Practice.
137 UNICEF (2020f).
138 See https://portal.portaleducoas.org/es/content/honduras-te-queremos-estudiando-en-casa.
139 Ripani and Zucchetti (2020).
140 Ibid.

PHOTO BY: © NAHUEL BERGER/THE WORLD BANK

part of the education continuity strategy *Aprendo en Casa* (I Learn at Home) in Peru, classes are being broadcast by national and subnational radio in nine native languages,[141] making it possible to reach 86 percent of the student population.[142] The UNESCO-UNICEF-World Bank survey, however, found that less than 40 percent of the countries have supported the design of learning materials for minority languages.

Efforts also need to continue to improve the take-up and quality of remote learning. A multichannel strategy can increase take-up if complemented by a widespread communication strategy and can facilitate teacher-student feedback when guidelines are clear, and contents are aligned across channels, with some tradeoffs regarding channels or delivery means used. As we saw above, while one-way channels are effective to increase reach, tracking students and increasing engagement poses a challenge. Engagement, whatever the channel, can be increased when complementing remote learning methods with interactive communication, with a special focus on the most disadvantaged groups. Increasing parental engagement will be particularly important for early childhood education. Strategies have been put in place to improve parental and teacher engagement, but with less success for more vulnerable groups and early education, and with still limited scope in terms of teacher training. Prioritization can also improve the effectiveness of remote learning strategies when focused on core subjects and basic competencies, contents are aligned with the national curriculum, and existing content is curated. Teacher skills and competencies to undertake remote learning are also critical. Other learning aspects, also relevant to the remote learning stage, are further developed in Section 8.2 below.

Further building teachers' digital and pedagogical skills may help circumvent the low perceived levels of effectiveness of remote learning strategies. The quality of teachers is a key determinant of students' learning, yet many students do not have access to highly skilled teachers.[143] Furthermore, teaching

141 https://www.tvperu.gob.pe/noticias/nacionales/aprendo-en-casa-radios-regionales-transmiten-contenidos-en-lenguas-originarias.
142 World Bank (forthcoming_d).
143 Saavedra (2021a).

remotely requires combining technological and pedagogical skills. Accordingly, teacher training programs should not only focus on developing instrumental capacities to teach remotely using ICT but also on developing pedagogical skills to teach remotely. In Brazil, *Educação em Rede (*Online Education), a teacher training platform aiming to train over 2 million teachers in digital and pedagogical skills during the COVID-19 pandemic, was established recently. To date, 500,000 teachers have enrolled in rapid courses and tools. Whilst being a welcomed initiative, initial findings highlight that teacher *crash courses* with the aim to quickly understand how to use remote learning tools may not be enough to improve student learning experience. To ensure that students receive the necessary high-quality pedagogical support, rapid digital training should be linked with sustained professional development, coaching and mentoring of teachers.[144] Section 8.3 delves further into the longer-term digital skills agenda. Overall, a key lesson is that remote learning strategies can be adjusted to meet the needs of students and teachers when countries monitor reach, engagement and learning, and design and implement strategies which can address them, while considering and mitigating trade-offs. Strategies to improve remote learning will continue to be relevant when most schools have re-opened and hybrid learning becomes the main operating mode.

Table 1 below provides a brief reminder of key intervention areas, and some, purely illustrative, selected examples from the region, for the coping stage.

Table 1. Coping when schools are closed: Summary of key intervention areas and some selected examples in the region

SUPPORT LEARNING CONTINUITY DURING SCHOOL CLOSURE
• **Multi-modal remote learning.** Mexico's *Aprende en Casa* (Learn at Home), built on a pre-existing educational television program, has specific slots for each educational level broadcast through TV and Internet platforms with complementary resources. The material was delivered in printed format to underprivileged areas (Ripani and Zucchetti, 2020). Colombia, through its platform *Aprender Digital* (Digital Learning), provided a wide variety of educational resources for education continuity, including formats such as articles and newspapers, 3D interactive games, eBooks, digital libraries, video lessons, audiobooks and virtual learning objects (Sánchez Ciarrusta, 2020).
SUPPORT TEACHERS IN BUILDING SKILLS FOR REMOTE LEARNING
• **Support to teachers.** In Brazil, over 500,000 teachers have enrolled in rapid courses and tools from *Educação em Rede* (Online Education), a teacher training platform aiming to train teachers in digital and pedagogical skills during the COVID-19 pandemic. In Mexico, thanks to a public-private partnership strategy with national and international organizations (including technology companies, non-profit organizations, and universities) the Secretariat of Public Education gathered educational resources and provided training for teachers to develop digital and remote learning skills, reaching over one million teachers (Ripani and Zucchetti, 2020).
MAINTAIN STUDENTS AND FAMILIES ENGAGED, WITH SPECIFIC MEASURES TARGETING THE MOST MARGINALIZED
• **Support to parents.** As part of *Mis Manos te Enseñan* (My Hands Teach You) in Colombia, parents received a pedagogical kit with material such as paper, paint, chalk and crayons to use with children (Gutierrez Bernal et al., 2020). At-risk children and pregnant women additionally received phone-based guidance on ECD services. • **Communication campaigns**. In *Ceibal en Casa* (Ceibal at Home), Uruguay's remote learning strategy, communication campaigns and content delivery were used to make the educational resources visible, accessible, and easy to use (Ripani, 2020). • **Scholarships.** The *Bono Estudio Contigo* (I Study with You Scholarship) in Dominican Republic partially subsidized enrolment costs of 30,000 low-income students from selected private universities. • **Materials in minority languages**. In Mexico, *Aprende en Casa* (Learn at Home) included a special radio strategy to reach students from indigenous communities airing programs in 15 different languages through a network of community and indigenous radio stations and the National Institute of Indigenous People (Ripani and Zucchetti, 2020).

144 World Bank (forthcoming,_d).

Box 1: World Bank support to remote learning in LAC

The World Bank LAC education team has swiftly leveraged its expertise, in close collaboration with the global EdTech team*, on effective use of education technologies to help countries in the region design and implement remote learning. The focus has been on using multiple education technology solutions (digital/online tools, television, radio, mobile phones, and print) – so called, multi-modal approaches – to deliver education, with strong support to students, teachers and parents to enhance engagement. These technologies have also enabled access for children in remote and poorer areas. Support has included knowledge sharing, technical assistance and operational responses. Examples of such support include:

Remote learning strategy in Peru:

The government of Peru launched a distance learning strategy (Aprendo en Casa) that exploits Internet, TV, radio and WhatsApp messaging, and includes the distribution of more than 1,000,000 tablets in rural areas and poor urban areas (with off and on-line content). The education team is using machine learning techniques to identify areas where the delivery and the maintenance will be more challenging to help defining special requirements for the providers, and survey data to identify parents and students´ constraints to use tablets.

Remote early childhood development strategy in Mexico:

The education team is supporting effective remote learning in ECD in Mexico via innovative TV broadcast and mobile phone use, and a phone survey to assess the status of and response to ECD during emergencies. The TV capsules, which focus on promoting nurturing and sensitive care during the pandemic, are expected to benefit at least 2 million children. A play-based methodology will also be integrated into the training of 20,000 facilitators and implemented remotely by complementing TV broadcast with well targeted phone calls, WhatsApp and text messages, benefitting over 450,000 children in rural and indigenous communities.

Multi-modal approach to remote learning in Ecuador:

Through the restructuring of its basic education project and technical assistance, the education team is supporting Ecuador's multi-modal solutions for remote learning and emotional well-being, which include the development and broadcasting of educational content for television and radio, and a digital portal ("COVID Education Plan -19") where students can access virtual classrooms, 840 online resources, and guidance for teachers, students and families.

Source: World Bank (2020o).
* The EdTech team of the World Bank has set up both an internal website and external site to share just-in-time information and knowledge on scalable remote learning approaches with Bank staff and clients. In partnership with the Harvard Global Education Innovation Initiative, HundrED, and the OECD Directorate for Education and Skills, the Bank is also working on analyzing the learning effectiveness of the responses to the crisis (notably in Peru, Brazil, and Uruguay) and is developing a curated database of online learning tools and how-to resource guides for educators, policy makers and learners on effective remote learning approaches.

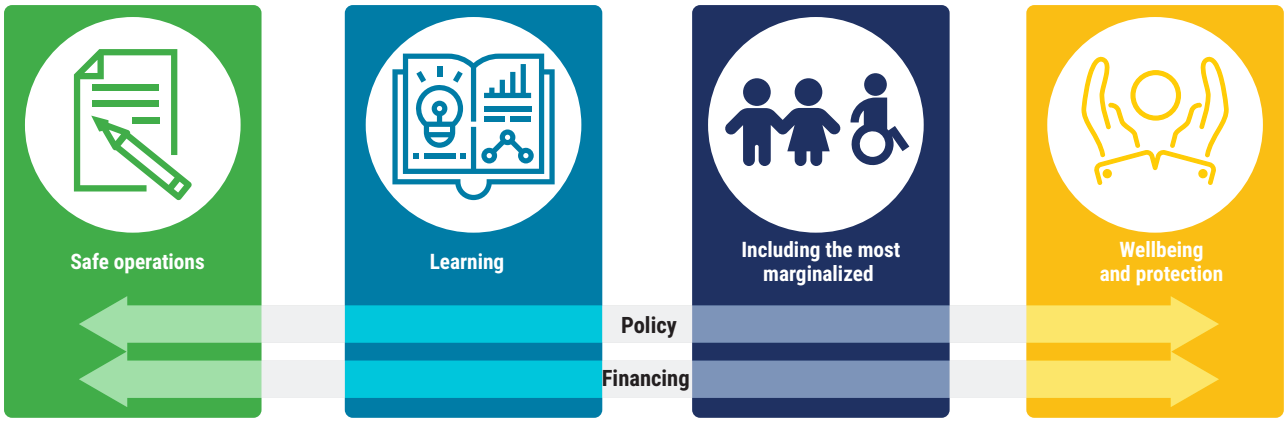
Building on its global expertise on a wide array of thematic areas, and also swiftly leveraging partnerships with core multilateral and bilateral international organizations, the World Bank has engaged early in the pandemic with countries across the LAC region to help them address the impact of the pandemic on their education sectors. The initial focus was geared towards helping countries in the design and implementation of remote learning strategies while schools were closed, with a strong focus on multi-modal approaches and supporting the whole education community in their implementation. Box 1 offers some examples of support.

8.2 Managing continuity and recovering learning as schools reopen

As countries have started to transit, some of them quite decisively, or will soon transit, to the phase of managing continuity and recovering learning, governments must continue to take action to make sure schools are ready to reopen safely and effectively country-wide. At the same time, countries that have not yet done so should plan how to bring students back to school, especially considering the opportunity cost of keeping schools closed for much longer. While most countries in LAC have now re-opened to at least some extent, and some large countries, like Colombia and Argentina, are decisively reopening, the process in many countries is still proceeding slowly and some countries have not yet set a date. While this may be a legitimate reflection of the severity of the pandemic in the region, this could also be a sign of limited readiness to reopen. Reopening schools is an excruciating decision which needs to be informed by public health data. Overall, evidence suggests that susceptibility to infection increases with age and that young children might be less likely to transmit the virus[145] but also that there is a relationship between the incidence of COVID-19 cases in the community and

145 UNESCO, UNICEF, World Bank, WFP and UNHCR (2020).

Figure 22: Dimensions for school reopening



Source: UNESCO, UNICEF, World Bank, and WFP (2020).

safe reopening. A review of the reopening process in 20 countries showed that in satisfactory reopening cases, the return to school took place when the number of daily new cases was either decreasing or steady.[146] Education systems should collaborate with health systems to generate local-level data to guide school reopening (and to track how it evolves). Countries could also consider additional policies to enable and accelerate the reopening process country-wide. Teachers should be classified as frontline workers and prioritized in the vaccination process to have them back to school as soon as possible. In Chile, for example, teachers are already getting the vaccine following a presidential goal to inoculate 500,000 workers of the education system aiming to reopen schools in March, 2021.[147] While timing cannot be entirely controlled for, what governments can and should do is to invest in school readiness for safe and effective reopening. Several organizations, including the World Bank, have teamed up to provide guidance on key readiness criteria for reopening and start extracting lessons on what works, which can be grouped in six key dimensions (see Figure 22), with two of them – policy and financing – transversal to the other four. The discussion on the policy dimension is integrated within each of the dimensions.

Teachers should be classified as frontline workers and prioritized in the vaccination process to have them back to school as soon as possible

Ensuring safe operations and a smooth reopening process

With sufficient capacity and resources, schools can successfully implement context-appropriate health and hygiene protocols. As an example, a review of international experiences identified frequent school cleaning and disinfecting as one of the hygiene measures taken by countries that have reopened schools without major setbacks.[148] Countries in LAC that have got, or are getting, their schools ready for reopening have done so by defining and combining different context-specific hygiene measures, including school cleaning and disinfecting and improving handwashing facilities. UNICEF has identified 24 out of 36 countries and territories in LAC with national protocols or guidelines for the safe reopening of schools,[149] covering at least general health and hygiene aspects.[150] Attention must be placed on how local governments and schools are adopting and implementing the guidelines, particularly in decentralized education systems, and how to enforce these guidelines in time. Most of the task for implementing reopening protocols falls on school principals. In Ecuador, for

146 Vozes da Educação (2020).
147 Chile announces mass vaccination of teachers: https://www.infobae.com/america/america-latina/2021/02/15/chile-comenzo-a-vacunar-a-los-contra-el-covid-19-a-los-maestros-para-garantizar-el-regreso-de-las-clases-presenciales/
148 Ibid.
149 UNICEF (2020e).
150 In 17 of the protocols, health and hygiene aspects are defined in detail. The rest of the protocols identified only have general considerations about health and hygiene aspects. Source: Author's own review based on protocols documented by UNICEF in https://www.unicef.org/lac/en/protocols-and-guidelines-reopening-schools .

example, school principals must adapt hygiene protocols and guarantee the implementation of the protocols along with other members of the education community (Box 2). Hence the importance of principals' leadership during the reopening process to ensure compliance with health guidelines for school organization once schools reopen.[151] Ministries of Education should consider training devoted to support principals in their modified role.

To comply with health and hygiene protocols, education systems will likely need to improve school facilities. In Nicaragua, the World Bank is supporting the government in the improvement of Water, Sanitation and Hygiene (WASH) conditions in schools.[152] In 90 schools located in the Northern and Pacific regions of the country (the country's Dry Corridor), minor works will be carried out to ensure access to clean water, adequate water storage, lavatories, and sewage treatment.

Early and regular communication with and support to teachers, parents, and students can help address concerns, surface innovations, and ensure a safe, widely accepted reopening. A good practice seen in countries that have reopened schools is having sound communication strategies through which authorities address frequently asked questions, share clear information about the guidelines for school reopening and explain the phasing criteria.[153] The need to provide comprehensive information about a safe return to school has also been identified in Uruguay as a lesson learned during school reopening.[154] In Sierra Leone, after the Ebola epidemic, communicating about improved hygiene practices at school encouraged parents to send their children back to school.[155] According to UNICEF, 85 percent of countries in LAC have some strategy of advocacy or communication for school reopening.[156] In El Salvador, for example, the Ministry of Education developed a communication campaign to motivate parents to send their children back to school.[157] Regardless of having a good communication approach, countries should bear in mind that reopening strategies might face resistance, but public opinion usually eases as school reopening takes place with success.[158] In the emergency context, good school management practices should rely on informing effectively all school actors about school operations and thus bring reassurance that the school environment is safe for teachers and students.[159]

IN EL SALVADOR the Ministry of Education developed a communication campaign to motivate parents to send their children back to school

Countries that reopened schools without major setbacks took measures to reduce the density of people at schools.[160] While no one size fits all solution exists, keeping social distancing has been identified as a common measure taken by countries that went through a satisfactory reopening process.[161] It is possible to reduce physical contact and limit transmission by staggered schedules, alternating shifts/days and remote/in-person learning. Blended learning has become the new normal in countries that are reopening, as education systems need to implement flexible protocols that allow for reopening and closing schools as required and apply social distancing. In Brazil (mainly in Amazonas) and St. Vincent and the Grenadines, students were reorganized in smaller groups for in-person classes and staggered in shifts in a blended learning model.[162] Restrictions on size of gatherings in schools have also helped to keep the social distance. [163] Reducing class size, along with resources and implementing strict protocols, have been identified as key factors to control outbreaks in private schools in some counties in the United States, despite local

151 Avitabile, Dinarte & Lemos (2021).
152 World Bank (forthcoming, b) Project paper of the Additional Financing to the Alliance for Education Quality Project for the Republic of Nicaragua. Internal document.
153 Vozes da Educação (2020).
154 Alarcón and Méndez (2020).
155 UNESCO (2020).
156 UNICEF (2020e).
157 UNICEF (2020f).
158 Vozes da Educação (2020).
159 Avitabile, Dinarte & Lemos (2021).
160 Ibid.
161 Ibid.
162 UNESCO, UNICEF, World Bank, WFP and UNHCR (2020).
163 World Bank (2020k).

Box 2: Self-care and hygiene protocol for the reopening of schools in Ecuador

The Ministry of Education of Ecuador defined three phases for education in the context of the sanitary emergency: (i) learning together at home; (ii) we learn together and we stay safe; and (iii) everyone back to school. For the staggered return to school (phase 2), the authorities formulated a self-care and hygiene protocol that schools and education communities must follow during school reopening. The mandate of the protocols includes: the availability of hygiene products, the identification of isolation spaces for people with symptoms, the rearrangement of school spaces promoting the use of outdoor areas, maintaining 2-4 meters of physical distance in school premises, establishing and signalizing entry and exit one-way routes, communicating measures and hygiene practices for food manipulation, frequent cleaning and disinfecting, the availability and signaling of hand washing stations, defining and informing new schedules, and establishing working groups to monitor the compliance of the protocols. Each school is responsible for adapting hygiene measures to local context. School transportation has a specific protocol for service operation. Schools must use posters and signs of safety measures, including:

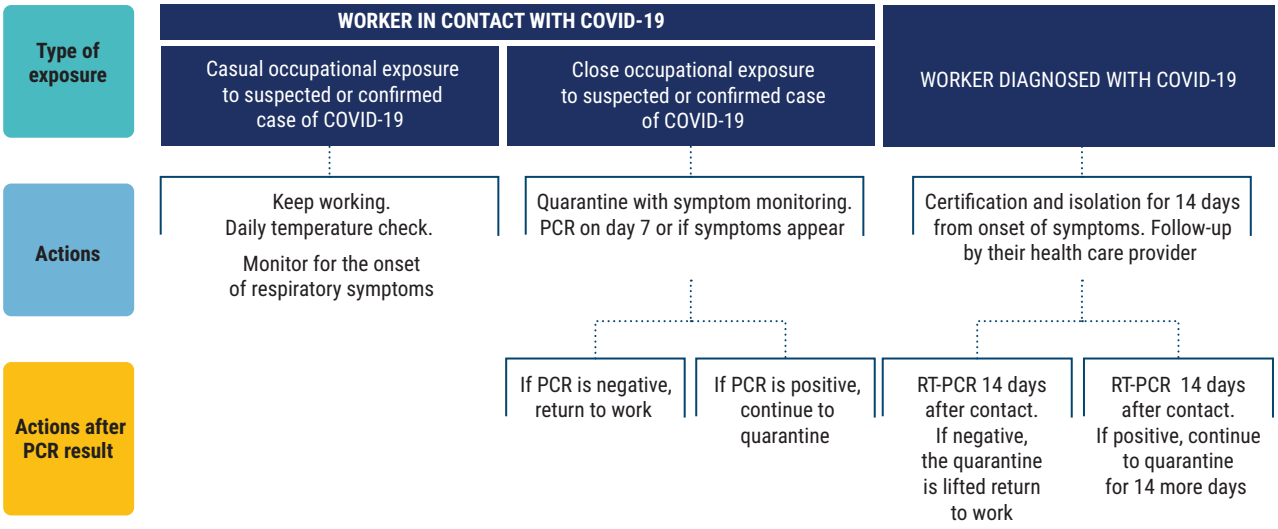
Source: Self-care and hygiene protocols. Ministry of Education of Ecuador.*
* https://educacion.gob.ec/wp-content/uploads/downloads/2020/08/Protocolo-para-el-autocuidado-e-higiene-de-la-poblacion-educativa-covid-19.pdf

outbreaks.[164] When possible, events should be avoided. Logistical/operational aspects, such as how to maintain social distancing in shared transportation, must be considered in the reopening process. If not arranged for, transportation can become a hotspot for high density of people which can make social distancing difficult and can also be a barrier to the return of students when services operate less frequently due to the pandemic, creating or widening access gaps.[165] In Italy, the guidelines for school transportation include sanitation measures and mandate one meter between students while riding the bus.[166] The government also agreed to allocate more funds to increase public transport services for students to travel safely to schools.[167] In LAC, some countries such as Ecuador and Chile, have developed specific protocols for school transportation.[168]

Prioritizing early grades and exam-preparatory classes, as well as rural areas, has been identified as an emerging lesson to mitigate learning losses while maintaining physical distancing. Countries in LAC are mostly combining different criteria. In Uruguay, schools in rural areas and vulnerable schools opened first, followed by secondary and pre-primary schools.[169] The number of children attending rural schools helped to meet physical distancing requirements and implement staggered entry and exit, which was more challenging for urban schools.[170] The road map for the reopening of schools in rural areas of Uruguay was based on an algorithm for action in non-health sectors developed by the Ministry of Health (see Figure 23). In Peru, some pilots have taken place in rural areas with limited means of communication, Internet connectivity, and zero COVID-19 infections.

164 See the case of Carroll County: https://www.baltimoresun.com/maryland/carroll/education/cc-private-schools-success-during-covid-20201202-ptc5goxgz-nai5jy7oxn7siyrtm-story.html
165 Alarcón and Méndez (2020).
166 https://www.mit.gov.it/comunicazione/news/linee-guida-per-il-trasporto-scolastico-dedicato-scuolabus
167 https://www.reuters.com/article/us-health-coronavirus-europe-education-f-idUSKBN25S4L4
168 See for example Chile's protocol for school transportation
169 Alarcón and Méndez (2020).
170 Ibid.

Figure 23: Algorithm for action in non-health sectors in Uruguay



Source: Alarcón and Méndez (2020).

Recovering learning

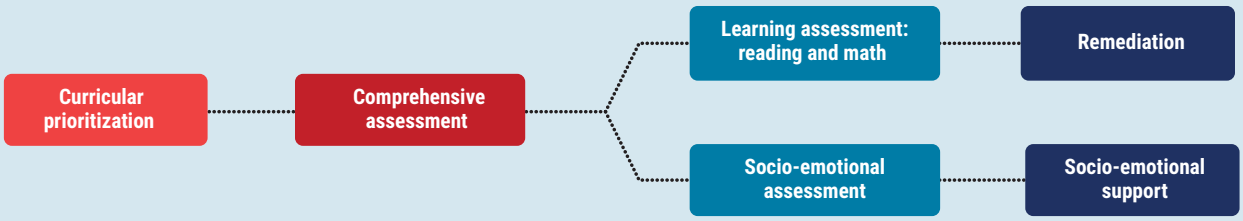
Reopening effectively entails important management and pedagogical decisions, including systemic and targeted measures to ensure that schools teach at the right (post-COVID-19) level for everybody to recover from, and remediate, learning losses.[171] Most students will have fallen behind when schools reopen. In some countries, even with dramatic implications for the number of students below basic minimum skills. Simplifying curricula, modifying academic calendars and cancelling high-stake examinations may be required to adapt teaching and learning to this new reality. Several of these measures are also relevant to the coping stage when schools are closed and may already be in place. At the same time, students are going through very different learning processes, with inequities having very likely significantly increased, and, as schools reopen, teachers face the challenge of tailoring classes to students' individual needs. Effective and scalable strategies for level-appropriate teaching can be adapted and/or adopted to the post-COVID needs.[172] In Côte d'Ivoire, for example, a teaching-at-the-right-level approach has been implemented in over 200 schools for the past two years where students are grouped base on learning needs, lessons are focused on basic skills, and learning is regularly assessed.[173] When schools reopened over the last quarter of the academic year, some schools used an adapted approach to help children catch up. During school reopening in LAC, teaching-at-the-right level approaches and remedial programs could be used. The implementation of systemic and targeted strategies is likely to take place yet for many months to come in a blended learning context alternating remote and in-person learning and where schools, even when they have reopened, can close again at short notice. It will likely take significant time to make up for the learning losses and other negative effects caused by the pandemic.

Simplifying the curriculum may help deal with continued uncertainty and enable learning as schools reopen. After the Ebola crisis, African countries adjusted learning priorities to cover their curriculum in a shorter academic year.[174] Since school closures due to COVID-19, several LAC countries decided to focus on specific content of the curriculum for education continuity. Prioritization is taking place following different incentives and criteria, such as focusing on high-stake exams or language and math. In some cases, countries focused on content that had not been covered before closure. For example, the content of *Aprende en Casa* (Learn at Home) – the remote education initiative of Mexico - covers 25 percent of the curriculum of each educational level, since it was estimated that by the time schools closed, students had already learned 75 percent of the annual

171 World Bank (2020m).
172 Ibid.
173 Curtiss (2020).
174 UNESCO (2020).

Box 3: Summary of the pedagogical plan for school reopening in Chile

With the aim to recover learning, the pedagogical plan for school reopening in Chile is based on curricular prioritization. A comprehensive assessment would set the baseline for remedial programs to tackle learning gaps. In a first phase, teachers will be using an assessment package developed by the *Agencia de Calidad de la Educación* (Education Quality Agency) with two specific tools: a socio-emotional assessment tool and a learning assessment tool. In a second phase, schools will receive a special lesson (unit zero) with language and math content. At the end of the unit, students' learning will be assessed. If students are below a certain threshold, the group takes two weeks of remedial content. Schools that need support will join the *Programa Alerta Escuela* (School Alert Program), through which teachers would receive feedback and pedagogic orientation throughout the remedial program. Students receive support until they can master the lessons' contents.



Source: Ministry of Education, Chile (2020b)*
* https://sigamosaprendiendo.mineduc.cl/retorno-a-clases-presenciales/

study program. Panama issued a resolution approving a criterion for curricula prioritization for all subjects offered from pre-primary to secondary education for the school year 2020.[175] The Dominican Republic developed a remote learning strategy for the current academic year based on a simplified curriculum focusing on core competencies.[176] Similar measures are being adopted for school reopening to ensure the coverage of fundamental content. In Chile, for example, the pedagogical plan for school reopening, already implemented in a few schools, is based on a streamlined curriculum focusing on mathematics and language (see Box 3). While curricular prioritization can be convenient during and immediately after school reopening, eventually it will require additional actions to compensate in other disciplines.

The academic calendar can be adapted to compensate for the lost in-person classes. During school closures, countries in LAC modified academic calendars, mostly to gain time to deploy remote learning options. In the Dominican Republic, for example, the 2020-2021 school year started remotely almost three months later than usual, which time was used to train teachers and adapt/produce educational content.[177] In some cases, countries are shortening summer and winter breaks as a strategy to partially recover learning losses. In Guatemala, authorities extended the school cycle during the remote modality until mid-December (two additional weeks) to provide additional lessons focused on language and math skills.[178] For school reopening, countries might also extend or modify the academic calendar to allocate more time to compensate for the time students have spent out of school. In Uruguay, for example, over 9,000 students with learning difficulties are participating in additional classes during the summer months.[179] In France, the government extended the school year with summer programs to tackle learning gaps before the beginning of the new academic year.[180] Latin American countries that have just or are planning to re-open soon should consider this option for their summer or winter breaks.

Remedial programs can level and reduce learning losses, helping address some of the increasing learning inequities, but effectiveness may vary. A variety of means can be used to help students catch up, including allocating additional teaching time, tutoring students, and compressing or accelerating learning. In-school and after-school remedial approaches were linked to large increases in learning in a non-emergency

175 See World Bank (2020j).
176 Vasquez and Baron (forthcoming).
177 UNICEF (2020d).
178 Ibid.
179 ANEP announces summer classes.
180 UNESCO and McKinsey & Company (2020).

Table 2: How to implement diagnostic classroom assessments

CONTEXTS WITH EXTREMELY LIMITED RESOURCES	CONTEXTS WITH MODERATE RESOURCES
1. Ministries of Education distribute to schools existing classroom assessment tools and existing supplementary training materials to administer and score these tools.	1. Ministries of Education identify the curriculum content to be assessed for each assessed subject and school grade based on the previous school grade's curriculum. 2. Ministries of Education develop and distribute to schools detailed plans of the classroom assessment tasks and activities to assess the selected curriculum content.
	3. Teachers are trained on the administration, scoring, interpretation and use of diagnostic classroom assessment tools at least one month before schools reopen.
2. Once schools reopen, teachers administer the existing classroom assessment tools. Teachers can first focus on re-establishing the classroom culture, ensuring student well-being, and reviewing critical material from foundational subjects covered during the previous school year. After these critical activities, diagnostic assessment administration needs to occur during the first few weeks after schools reopen.	3. Once schools reopen, teachers administer comprehensive diagnostic assessments of students' knowledge and skills in relevant subjects of the curriculum within the first few weeks (after students acclimatize) using the diagnostic classroom assessment tools made available by the Ministry of Education.
3. Teachers score the assessments and interpret the results to guide personalized instruction, as well as communicate the results to school principals, who allocate support and additional interventions to students with greatest need.	4. Teachers score and interpret the assessment results for each student in the classroom, and use this information to support personalized instruction, provide constructive feedback, and promote learning recovery.

Source: Luna-Bazaldúa et al. (2020).

remedial program in Ghana.[181, 182] An online tutoring program implemented for disadvantaged students in middle schools in Italy during school closure increased students' academic performance by 0.26 standard deviations.[183] Tutors were university students that volunteered at least three hour weekly. Overall, remedial programs seem to have better results when academically focused and structured in small groups of intensive tuition by experienced teachers.[184] As of June 2020, over 70 percent of countries in LAC had plans to implement remedial programs[185] and, as of October 2020, around 30 percent of countries in LAC were either implementing or developing remedial programs.[186] Considering the unequal effect of school closure among students, countries can implement diagnostic classroom assessments once students readjust to the school environment and their well-being is ensured to assess the needs for remediation (see Table 2). The return to school strategy in Chile contemplates learning and socio-emotional diagnostic tests and subsequently remedial programs based on a simplified curriculum.[187] After a month of classes, students learning will be assessed and those groups of students below a certain threshold will participate in a two-week remedial program (see Box 3).[188] In Panama, the World Bank is supporting the Ministry of Education in designing a new regulatory framework to integrate ICT in acceleration programs, especially for poor and vulnerable students.[189] Supporting teachers and principals to teach to

IN PANAMA, the Ministry of Education is designing a new regulatory framework to integrate ICT in acceleration programs, especially for poor and vulnerable students

181 Ibid.
182 Other programs tested were using a normal curriculum or providing targeted lesson training for teachers.
183 Carlana and La Ferrara (2021). Students could participate in the program free of charge. The program also increased students' socio-emotional skills, aspirations and psychological wellbeing.
184 UNESCO and McKinsey & Company (2020).
185 https://infogram.com/1pk6vq7555dkngh973lqk3x1dki33nzryml?live.
186 Based on 24 countries with available information documented in UNESCO, UNICEF and World Bank (2020).
187 The Ministry of Education, forms about the return to schools: https://sigamosaprendiendo.mineduc.cl/retorno-a-clases-presenciales/.
188 Ministry of Education, Chile (2020b).
189 World Bank (2020j).

WELL-DESIGNED BLENDED LEARNING MODELS can have very good results, especially when considering digital solutions

the right level is critical for the implementation of remedial programs. Guyana, for example, is focusing teacher training on strategies to assess and remediate learning losses. When enabling conditions are met, such as government's buy-in, digital infrastructure, teacher training and content alignment, adaptive learning technologies can also be used to teach-at-the-right level and remediate and accelerate learning based on students' individual learning pace.[190, 191] These will be further discussed in Section 8.3, given their long-term potential.

Remedial programs may involve significant investment to cover additional resources such as infrastructure or teachers,[192] which may also entail reorganizing existing resources. And needs may be even higher for schools located in disadvantaged and rural areas, which are also the ones likely to have the highest need for remedial education. Findings from a remedial reading program targeting low performing students in Colombia showed that the dosage (i.e. offering more sessions and make-up sessions of additional teaching time) had a positive impact on reading fluency by 20 percent of a standard deviation, suggesting that increasing time for remedial classes is required, by either hiring or reorganizing teachers, to ensure sustained impact of remedial education interventions.[193] Mozambique, Spain and Italy are among the countries that were planning to hire additional teachers to support remedial programs.[194, 195] It is worrisome, however, that over 70 percent of LAC countries were either not planning to hire new teachers or yet did not know if they would, as of October 2020.[196] Countries can opt to hire contract/fixed-term teachers to provide support in the shorter-term and/or look at better ways to reorganize their teaching staff. They can also opt to reorganize teachers in blended learning models where students have assignments, independently giving teachers more time to lead remedial programs. The reopening protocol of Argentina considers scheduling adjustments to accommodate for learning practices in a blended learning model.[197] In the United Kingdom, a one-year volunteer program was launched for retired and inactive teachers to return to classes to support vulnerable students. Graduate students can also participate in a call to support disadvantaged students.[198]

Another emerging lesson is to cancel less important examinations, modify essential examinations, and make certifications more flexible to reflect school closure periods and to reduce physical contact. These are measures that have been taken by several countries in LAC during school closure. In Ecuador, for example, the Ministry of Education decided to reduce the length and the pool of students required to take the higher education admission exam,[199] taking off 40 items from the exam compared to the previous version.[200] Other countries, such as Argentina, Costa Rica and Dominican Republic, cancelled some of their national assessments.[201] Governments can consider the possibility of using other sources of information for high-stakes decision making (such as calculated grades) and plan for ensuring quality and fairness of inputs. In Curaçao, for example, in lieu of the national examination, students can graduate based on their school grades.[202] A similar case was Belgium where teachers relied on the last available grades (pre-closure) for students' evaluation.[203] For the reopening phase, the focus should be on assessing learning losses as soon as possible, to validate/confirm expected losses, and bridge learning gaps.

Well-designed blended learning models can have very good results, especially when considering digital

190 Wilichowski & Cobo (2021).
191 Muralidharan et al. (2019).
192 UNESCO and McKinsey & Company (2020).
193 Álvarez Marinelli et al. (2019).
194 Ibid.
195 https://www.eldiario.es/castilla-la-mancha/contratacion-1-500-profesores-permitira-desdobles-aulas-proximo-curso-escolar_1_6158465.html
196 UNESCO, UNICEF and World Bank (2020) in Berlanga et al. (2020).
197 http://fediap.com.ar/wp-content/uploads/2020/06/Protocolos-y-Recomendaciones-para-el-Regreso-Presencial-a-las-Aulas-Trabajo-del-Consejor-Asesor-del-MEN.pdf
198 UNESCO and McKinsey & Company (2020).
199 UNESCO (2020).
200 Luna-Bazaldúa et al. (2020).
201 ECLAC-UNESCO (2020).
202 Except for vocational education and secondary education. UNESCO (2020).
203 Carretero Gomez et al. (2021).

PHOTO BY: © EMANUELA DI GROPELLO/THE WORLD BANK

solutions. Blended learning models, i.e. combinations of in-person and remote learning that leverage technology in the learning process, are becoming the new normal to ensure continuous flexibility and address physical distancing needs and can work if well designed and implemented.[204] Students of *Ceibal en Inglés* (Ceibal in English), a blended learning model used in Uruguay over the past years to address the scarcity of English teachers, perform similarly to students in fully face-to-face classes.[205] Blended learning models can leverage different technologies. The reopening strategy of Oman combines in-person classes with online learning and educational television.[206] Similarly, South Africa combined in-person classes with a special package of radio and TV broadcasts.[207] Uruguay has been combining online learning and face-to-face learning, relying mainly on digital technologies.[208] While in the short-term blended learning models should consider low- or no-tech options based on the digital readiness of schools, students and teachers, moving to digital solutions can facilitate the delivery of content, the communication between teachers and students, and the monitoring of students' performance.[209, 210] Younger students will likely need more parental support.[211]

Blended learning models can be demanding in terms of pedagogy and logistics, burdening teachers, principals, and parents.[212] Organizing the provision of

204 Several blended learning models can be combined using different channels, interactions and pedagogical approaches. Some examples can be found here: https://www.blendedlearning.org/models/
205 Systematic evaluations have been conducted every year to monitor the program. Recent reports can be found here: https://www.ceibal.edu.uy/es/articulo/monitoreo-y-evaluacion
206 https://www.zawya.com/mena/en/life/story/Blended_learning_A_new_approach_to_Omans_education_system-SNG_184461208/
207 https://blogs.unicef.org/blog/south-africa-covid-19-schools-reopening-digital-learning/
208 Ripani (2020).
209 García Jaramillo (2020).
210 Arias Ortiz, Brechner et al. (2020).
211 Carretero Gomez et al. (2021).
212 Ibid.

Box 4: How are countries implementing blended learning models

The extent and implementation of blended learning models vary greatly between and within countries. A few examples from LAC and outside the region are described below:

- **In Uruguay,**[1] the authorities have been guiding schools and teachers on how to best complement remote and in-person learning. Their blended learning model combines a focused curriculum and project-based learning. Students received support in learning time management while at home and are encouraged to participate in educational TV programs and online learning platforms. When students are in school, teachers provided lessons covering complex explanations, real time comprehension, and clarification of students' doubts. The time at school is targeted to activities that are not easily done in a virtual environment.
- **Ireland**[2] – At national level, the Department of Education and Skills in coordination with the National Council for Curriculum and Assessment (NCCA), has been working in defining blended learning models appropriate for individual school contexts, adapting the curriculum for a blended learning environment and advising on particular curriculum subjects. The NCCA will guide schools in curriculum differentiation. The Department of Education and Skills has also been working on the operational aspects of the blended learning model, such as curriculum implementation.
- **In Germany,**[3] authorities have been prioritizing face-to-face learning; blended learning models are being used in cases of teacher shortage or in cases of teachers with COVID-19 risk profiles. Complementary remote learning relies mostly on digital technologies and is used mainly for exercise and repetition.[4]
- **In Scotland,**[5] in addition to classrooms, schools are using other school physical spaces to maximize the number of students at school while maintaining social distance and safety measures. With class sizes significantly reduced, former teachers have been considered for the blended learning model, either for in-person or virtual support to students.
- **In United States,**[6] blended learning models are being implemented at school district level. In Wall Township Schools (New Jersey), in-person classes are used for lessons in math, English, and social studies. Teachers that are not willing to expose themselves to the virus can teach virtually from designated areas within schools while students are supervised by another teacher in the classroom. In Marshall Public Schools (Michigan), teachers are giving face-to-face lessons in reading, math, and social-emotional learning when students are in school. Home assignments build on what students learned in class.

1 https://www.ceibal.edu.uy/es/articulo/educacion-combinada-un-ecosistema-para-el-aprendizaje-hibrido
2 https://www.education.ie/en/covid-19/planning-for-reopening-schools.pdf
3 https://analysis.covid19healthsystem.org/index.php/2020/09/15/what-strategies-and-approaches-are-countries-implementing-within-schools-both-in-response-to-covid-19-and-to-localized-outbreaks/
4 https://www.dw.com/en/german-schools-reopen-despite-coronavirus/a-54415687
5 https://www.bbc.com/news/uk-scotland-52412171
6 https://www.edweek.org/leadership/how-hybrid-learning-is-and-is-not-working-during-covid-19-6-case-studies/2020/11

education in a blended model has been identified as the most difficult aspect by educational staff in Estonia, a country with some previous experience with e-learning.[213] As very early evidence from Argentina's reopening is showing, parents can feel anxious with and burdened by the complexities entailed by this hybrid approach. While schools remained closed, countries in LAC have been supporting teachers with training, guidelines on remote instruction and, to some extent, teaching content adapted to remote teaching. For the reopening of schools, teachers will need support to respond to the new workload and the demand for additional skills to optimize the alternation of in-person and remote activities for the benefit of students.[214,215] Turkey, for example, is training teachers in effective blended learning methods while providing phone-based psychosocial support.[216] While most countries are developing protocols and guidelines defining the pedagogical model for school reopening, the planning and reorganization for blended learning at school level rely on principals with little prior experience. The demand of blended learning models in terms of both the pedagogical approach and the logistical aspects (e.g. scheduling) highlights the importance of also supporting and training school principals. Additional complexities can emerge in decentralized countries, such as Colombia, where all sub-national governments have a separate blended learning plan. Box 4 presents some examples of how countries are implementing blended learning.

213 Ibid.
214 UNESCO (2020).
215 Arias Ortiz, Brechner et al. (2020).
216 UNESCO, UNICEF, World Bank, WFP and UNHCR (2020).

The quality of school management, that is, the practices that school leaders implement, can help mitigate and recover from the negative and long-lasting effects of school closures. The positive relationship between the quality of day-to-day school management practices and student outcomes shows that school leaders "matter". Similarly, quality school leadership can play an important role on student outcomes during adverse circumstances. For example, a study of the 2016 Hurricane Matthew shows that better-managed schools were more likely to learn from past shocks and recover from the effects of the shock on learning outcomes.[217] More recently, preliminary evidence from Puerto Rico suggests that during COVID-19 related school closures, stronger school leaders were better able to utilize remote learning tools and retain students.[218] Good school management practices in the short run may rely on school organization, such as using resources efficiently, and organizing different modes of education such as face-to-face, hybrid, and remote or instructional planning, such as adaptive learning and teaching at the right level.[219]

QUALITY OF LEADERSHIP can play an important role in mitigating the impact of adverse circumstances on student outcomes

Including the most marginalized

Targeted resources and measures can help to attract vulnerable groups back to school and maintain them in school. As schools reopen, countries should plan for additional efforts directed toward groups at higher risk of dropout and disengagement. Some of these groups were likely already learning very little before the crisis and may have by now completely disengaged. Some countries with schools partially or completely open in LAC are implementing measures directed to vulnerable groups. In Uruguay, for example, the authorities are developing a scholarship program targeting vulnerable adolescents.[220] In Jamaica, the Ministry of Education is prioritizing the delivery of tablets to children who receive conditional cash transfer programs.[221] In Salvador (Brazil), before the COVID-19 crisis, families of at-risk youth were regularly visited to prevent school dropout and promote school readiness, and scaling-up this program will also help in the school re-opening stage (Box 5). School meals programs can also play an important role by being reprogrammed to reach and protect the nutrition of poor and vulnerable students and compensate for income loss during school closure and to attract them back once schools are open. During the pandemic, most countries deployed new and expanded existing social protection programs to allocate resources to families most affected by the economic crisis, including in some cases conditional cash transfers and scholarships. In coordination with social protection institutions, ministries of education could leverage the platforms put in place for social protection programs to target education policies to attract students back to school and keep them in school, in particular those in pre-primary and upper secondary and higher education that are at increased risk of dropping out, as discussed in section 7.

Adapted school reopening policies and practices are needed for vulnerable staff and students. As mentioned above, countries in LAC have been supporting vulnerable and minority groups during school closure, especially students with disabilities. For the reopening phase, countries should consider specific measures acknowledging these groups, such as having inclusive WASH and sanitation infrastructure, or revising policies restricting access to school for pregnant or married girls when schools reopen. Remedial education programs also may need to be tailored to the needs of vulnerable and minority groups. In Curaçao, weekly meetings with school boards to monitor schools and teachers have enabled keeping track of vulnerable children.[222] In Chile, the government developed specific guidelines to roll out diagnostic tests for students with special needs.[223] Special provisions have also been included for vulnerable staff and students in reopening guidelines in some countries outside LAC such as Croatia, Germany, Norway and Denmark. Critical communications should also be

217 Adelman, Baron & Lemos (2020).
218 Bobonis et al. (2020).
219 Avitabile, Dinarte & Lemos (2021).
220 UNICEF (2020c).
221 UNICEF (2020b).
222 UNESCO (2020).
223 Ministry of Education, Chile (2020a).

Box 5: World Bank support to School Readiness in LAC

Education projects and technical assistance supported by the World Bank in several countries of the region are striving to support school readiness for safe and effective reopening and/or operations, building on the lessons reviewed above. Regarding technological solutions, the main focus is on bridging the digital divide for lower income groups through digital upgrades of classrooms and schools, as well as, when needed, school connectivity – also a longer-term regional challenge – and teacher training. Interventions also include remedial education, socio-emotional support, and early warning systems, among others. Examples of operational engagement include:

Digital classrooms and socio-emotional support in Nicaragua:

A new COVID-19 project financed by a Global Partnership for Education (GPE) grant is supporting the design and implementation of:

- An updated Mobile Digital Classrooms strategy (Aulas Digitales Móviles) to increase access to digital learning contents for vulnerable students in 80 primary rural schools with no or limited connectivity.
- A socioemotional support progran targeting school staff, students and their families and including course guidelines and manuals for school principals and teachers on how to promote self-care, provide socio-emotional support to families, and develop socioemotional skills in students through school activities.

Smart classrooms in Guyana:

A new education project financed by a GPE grant will support Smart Classrooms, including smartboards, tablets, and projectors, in schools in both urban and rural areas. Teachers will be trained to utilize this equipment during lessons.

- The Smart Classrooms will also enable hybrid learning by connecting better-performing, centrally located teachers to classrooms in remote schools ("twinning"), whereby the central teacher can lead a class whilst the local teacher facilitates the lesson. The project will take advantage of the government's initiative of bringing Internet to various remote communities to ensure benefits to the most vulnerable students. Similar interventions are also supported in the on-going secondary education project.

Accelerated learning programs and early warning systems in Salvador (Brazil):

Salvador's Social Multi-Sector Service Delivery Project, Phase II, supports the provision of emotional support to teachers, students and families, and innovations to accelerate the acquisition of basic skills and prevent dropouts, in the Municipality of Salvador, including:

- Accelerated learning programs, focused on training overage students (Se Liga) and progression of students across grades (Acelera); and
- Early-warning systems, through the improvement of the Agentes da Educação program that monitors attendance and visits families of at-risk youth to prevent school dropout and promote school readiness.

Source: World Bank (2020o), World Bank (2020c), Nicaragua COVID-19 Education Sector Response Project, Guyana Secondary Education Improvement Project, Salvador's Social Multi-Sector Service Delivery Project, Phase II. Note: In Nicaragua the socioemotional support development program has three components: i) principals and teachers' support and training; ii) student support, and iii) parent support. The World Bank is also supporting the government through: (i) strengthening access to WASH facilities in schools located in remote areas through cost-effective water and sanitation facilities, and (ii) pedagogical guides with prioritized content to accelerate learning for vulnerable groups with low or no access to digital technologies.

available in relevant languages and accessible formats to diversify outreach.[224]

Supporting wellbeing and protection

Increased provision of mental health and psychosocial support can help mitigate secondary impacts of the pandemic. During the pandemic, students, parents and teachers have been exposed to social and economic distress that have seriously affected their wellbeing and mental health. Children are at increased risk of loneliness, which is associated with both depression and anxiety, even up to 9 years later.[225] Psychological support offered during school closure most likely cannot have addressed all distress factors. In China, a tailored back-to-school campaign was deployed, informed by a rapid online survey, to respond to the concerns of children and school communities, and included information on prevention, learning, stigma and information for safe return to school.[226] In Chile, a socio-emotional assessment tool has been developed to help assess children socio-emotionally and set-up support as needed (Box 3). The Jamaican government established 36 regional parent helplines to provide psychosocial care to parents through the process of returning to school. [227] A lesson learned in the reopening of schools in Uruguay is the importance of including the disruption of normality

224 UNESCO (2020).
225 World Bank (2020k).
226 UNESCO, UNICEF, World Bank, WFP, and UNHCR (2020).
227 The Ministry of Education of Jamaica launches special help lines

and the impact of physical distancing in students' routine and class content, to thereby contribute to a positive processing of emotions. [228] Some measures that can help in the wellbeing of students and teachers (especially for remote and blended learning) include: defining specific time slots for online sessions and task completions for students, encouraging outdoor activities and having good teacher-student and teacher-parent communication.[229] During school reopening, teachers will need support for their own wellbeing and, at the same time, on how to support students. In Nicaragua, a socioemotional shoring up program, supported by the World Bank, includes resources to improve the readiness of principals and teachers to aid their students (see Box 5).

Protecting and enhancing financing for the short and longer-run

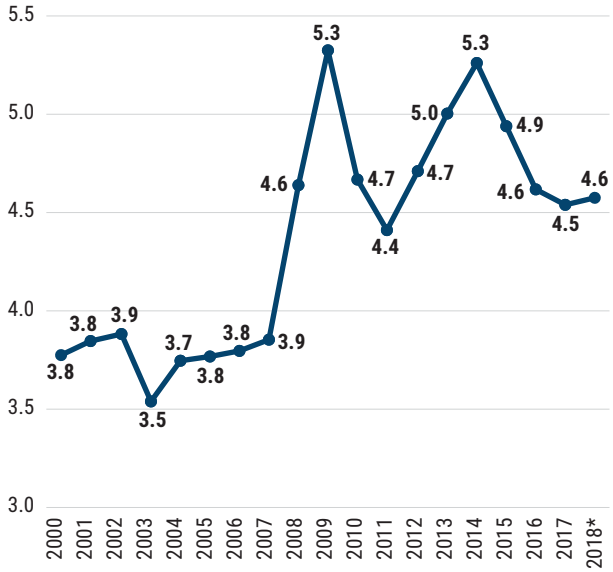
Reopening schools and ensuring consistent safe and effective operation requires protecting and investing more public resources for education. Experience from past recessions shows that per-capita student spending decreases as governments' budgets are hit.[230] Countries around the world should learn from past crises as preparing for, implementing, and maintaining safe and effective reopening require governments to invest the necessary resources to safeguard education. Estimates for the United States suggest that school reopening could cost as much as US$486 per student.[231] In other crises, stimulus packages have been used in some countries to protect and mobilize resources for education.[232] Additional resources can also be mobilized through development partners and non-traditional sources such as corporate social responsibility contributions or philanthropic organizations' funding.[233] Given the fiscal constraints, funding could in the short run be reallocated from other sectors or shifted from other uses.[234]

LAC needs to ensure priority public funding for education. Before the crisis, and according to the latest available validated data, unfortunately, LAC's education spending was slipping already 5.3 percent in 2014 to 4.5 percent in 2017, and 4.6 percent in 2018, as share of GDP (see Figure 24).[235] In addition, the unprecedented health crisis and recession in Latin America is creating immediate and pressing competing needs for support to the broader economies, namely, health and social protection, which also have to be addressed to facilitate education recovery. Spending on vaccines, for instance, will help going back to full face-to-face in the longer-term, and social protection programs can be designed to also support education attendance. But public funding for education in LAC is no less of a priority, in a context

PHOTO BY EMANUELA DI GROPELLO/THE WORLD BANK

228 Alarcón and Méndez (2020).
229 Carretero Gomez et al. (2021).
230 World Bank (2020m).
231 Estimated cost of reopening per child: https://network.asbointl.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=c47d56c0-811b-c444-5dc7-890f18f0420a&forceDialog=0
232 Al-Samarrai et al. (2020).
233 Ibid.
234 Many countries in LAC and elsewhere spend substantial amounts of public funds on inefficient subsidies, such as gasoline and energy, which instead of benefitting the poor end up being regressive, and disproportionately benefit wealthier households. (Coady et al., 2015).
235 World Development Indicator. Most recent data.

Figure 24: Government expenditure on education, total (% of GDP) - LAC



Source: World Development Indicators, most recent data. 2005 and 2012 are point estimates on the basis of neighboring years. Data for 2018 was calculated as a simple average of available country data (15 countries).

where schools need to be urgently made ready for safe reopening, needs for remedial education are expected to be huge following the once-in-a-generation learning losses, and a large proportion of students attending private schools that face economic hardship and potential closures is expected to generate a large migration of students to public schools increasing enrolment figures. In Peru, for instance, the Ministry of Education has calculated that for a safe reopening of 35 percent of schools, it will require about US$180 million to support, among other activities, Internet access and improvement of school infrastructure. Ultimately, the estimated learning losses, as shown in this paper, will directly translate into human capital losses and a less productive labor force, eventually affecting the overall productivity and economic development of countries, if urgent action is not taken. Encouragingly, in Colombia, the National Congress just approved the largest educational budget ever for the 2021 calendar year.[236] The share of education in the total government budgets of Panama and Peru follows a similar upward trend, as they are projected to increase by 8.5 and 1.9 percent respectively for 2021.[237] Other countries, however, are seeing projected decreases, as seen world-wide[238].

Fiscal constraints and the large costs associated with COVID-19 will make it imperative to spend those resources more equitably and, eventually, efficiently. Now more than ever, LAC countries face the challenge of prioritizing additional education funding for hardest-hit schools and communities and exploring the potential for using resources more efficiently. Spending allocation across areas and schools needs to take equity criteria into account. In Argentina, for example, the Ministry of Education surveyed the 24 jurisdictions in the country to assess school infrastructure and funding for school reopening was allocated based on the identified needs.[239] Chile, Ecuador and Peru have been able to allocate more resources to vulnerable areas in a progressive school finance model[240] which bodes well for addressing the new challenges. In Chile, students of low socioeconomic status receive a voucher 50 percent higher. In the short run, within the education sector, reallocations based on efficiency and equity criteria could greatly help freeing up resources for the most vulnerable schools and students, while waiting for longer-term efficiency improvements. For instance, in Peru, the Ministry of Education is also considering the reallocation of internal resources which are under-utilized or directed to less urgent purposes.

A smart use of data and technology could create opportunities for efficiency improvements, especially in the longer-run. If enabling conditions are there, technology applied to well-designed blended models and teacher utilization and allocation policies could offer potential to support efficiency improvements already at the school reopening stage to recover from learning losses, especially in under-served areas and schools. Using satellite Internet to connect its best teachers to more than 100 million rural students, China managed to improve their learning outcomes, while helping address the urban-rural gap in teacher allocation and realize efficiency gains in the use of resources.[241] A comparable strategy, albeit on a much smaller scale, will also be implemented in Guyana (Box 4). Over the longer-term, improving monitoring, reporting and the widespread access to quality education

236 https://www.eltiempo.com/economia/sectores/educacion-tendra-para-el-2021-el-presupuesto-mas-alto-de-su-historia-544282.
237 In Peru, the opening budget allocated to education in 2021 ($9.2 billion) increased by 5.8 percent compared to last year. Education has received the highest amount of resources from the government expenditure (17.9 percent).
238 World Bank and UNESCO (2021).
239 UNICEF (2020e).
240 Elacqua et al (2020).
241 Bianchi, Lu and Song (2020). "Twinning teachers" has also been more recently been used in several parts of China, including Shanghai.

PHOTO BY: © TAWANROONG/SHUTTERSTOCK.COM

financing data and utilization would help identify and correct spending inefficiencies and inequalities, and ultimately improve spending decisions benefiting the most vulnerable.[242] Pernambuco (Brazil) developed a cost information system at school level that helps identify inefficiencies in the distribution of resources by socioeconomic status.[243] This type of system can help use resources better. Countries could also consider using data to strengthen the relationship between public funding and education outcomes. Through results-based intergovernmental school transfers, the state of Ceará, in Brazil, where municipalities compete for a fixed pool of education financing by achieving improvements (not by being the best) in key indicators (learning scores and progression rate) — achieved the highest improvements in learning outcomes in recent years among all Brazilian states. Despite being one of the poorest Brazilian states, lessons learnt from Ceará could inform reforms for improved efficiency in education spending, targeting the most marginalized, which will become more important following the pandemic.[244] This type of strategy is part of the solution in the longer-term to build a more equitable and efficient system.

Finally, in the long run, it is important to consider that management affects how well every level of an education system functions, from individual schools to central technical units, and how well they work together. Sustainable efficiency and learning gains are unlikely without better management.[245] Better management can help the education sector respond adequately to shocks to its delivery of education services and thus enhance sector resilience, while helping the sector recover from the effects of crises and promote higher overall efficiency. Several pathways can lead to strengthened management in LAC countries, with the potential for significant results such as: (i) improving selection processes for managers, (ii) creating or improving management career frameworks with training, support, and incentives, (iii) and aligning system actors towards delivering quality services.[246]

242 Al-Samarrai et al. (2020).
243 Ibid.
244 Sondergaard (2020) and Loureiro et al. (2020).
245 Adelman and Lemos (2021).
246 Ibid.

Table 3 below provides a brief reminder of key intervention areas, and some, purely illustrative, selected examples from the region, for the continuity managing and learning recovery stage.

Table 3: Managing continuity and recovering learning as schools reopen: Summary of key intervention areas and some selected examples from across the region

SUPPORT SCHOOLS TO ENSURE SAFE OPERATIONS
• **Health and hygiene protocols.** In Ecuador, authorities prepared a self-care and hygiene protocol that schools and education communities must follow during school reopening. School principals must adapt hygiene protocols and guarantee enforcement of protocols along with other members of the education community. • **Density of people at schools.** In Brazil (mainly in Amazonas) and St. Vincent and the Grenadines, students were reorganized in smaller groups for in-person classes and staggered in shifts in a blended learning model (UNESCO, UNICEF, World Bank, WFP and UNHCR, 2020).
ENSURE THAT SCHOOLS TEACH AT THE RIGHT (POST-COVID-19) LEVEL FOR EVERYBODY
• **Simplified curriculum.** Panama approved criteria for curriculum prioritization for all subjects from pre-primary to secondary education for the 2020 school year (World Bank, 2020j). • **Pedagogical plan, assessment and remedial programs.** The pedagogical plan for school reopening of Chile includes a comprehensive assessment (socio-emotional and learning assessments) to set the baseline for remedial programs to tackle learning gaps. • **High-stake examinations.** In Ecuador, for example, the Ministry of Education decided to reduce the length of exams and the pool of students required to take the higher education admission exam (UNESCO, 2020), taking off 40 items from the exam compared to the previous version (Luna-Bazaldúa et al., 2020). • **Blended learning.** In Uruguay, the blended learning model is based on a focused curriculum and a project-based learning approach. When students are in school, teachers explain complex topics, focus on real time comprehension, and clarify students' doubts. The time at school is targeted to activities that are not easily carried out in a virtual environment.
TAKE MEASURES TO RETAIN AND REINTEGRATE VULNERABLE GROUPS AND ENSURE WELLBEING
• **Vulnerable students.** In Curaçao, weekly meetings with school boards to monitor schools and teachers have enabled keeping track of vulnerable children (UNESCO, 2020). In Jamaica, the Ministry of Education is prioritizing the delivery of tablets to children registered in conditional cash transfer programs (UNICEF, 2020b). • **Socio-emotional support.** In Nicaragua, a socio-emotional support program, supported by the World Bank, aiming to improve the readiness of principals and teachers, including course guidelines and manuals to support students and families (World Bank, 2020c).
PROTECT AND INCREASE, AND BETTER TARGET AND USE, RESOURCES FOR EDUCATION
• **Increased budget.** The National Congress of Colombia approved the largest educational budget ever for the 2021 calendar year. Priorities include ensuring access to education and improving education infrastructure. • **Targeted budget.** In Argentina, the Ministry of Education surveyed the 24 jurisdictions in the country to assess school´s infrastructure. Funding for school reopening was allocated based on identified needs (UNICEF, 2020e). • **Using technology smartly:** Smart Classrooms in Guyana will help connect better-performing, centrally located teachers to classrooms in remote schools ("twinning") to help fill the urban-rural gap more efficiently (World Bank, 2020o).

8.3 Improving and accelerating for the longer-term

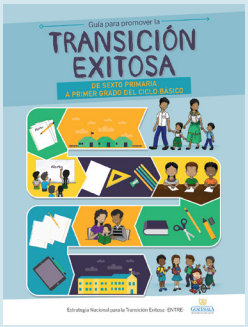
With the urgency to respond to immediate needs, governments should not neglect opportunities of reforms that improve education systems in the long term. An international review of school reopening plans documented that during the reopening phase governments have often focused on implementing hygiene protocols over systemic and coherent reforms to build back better education systems.[247] Governments should balance short- and long-term goals.

Mainstreaming innovations

Within a relatively short time frame, promising measures and innovations introduced before and during the crisis could be mainstreamed. During school closure and school reopening, countries have been innovating to face current challenges. It is crucial to learn from the COVID-19 response in education and adapt and integrate successful experiences into regular processes.[248] Some of the measures taken — such as multi-modal remote and blended learning, streamlining the curriculum, teaching at the right level, monitoring youth at-risk, or adjusting high-stakes examinations — could play an important role after the crisis. Leveraging efficiency-enhancing technological and data innovations, introduced before or during the crisis by some countries, could be especially instrumental in building stronger and more equitable education systems, if they are accompanied by clear guidance, development of digital and pedagogical capacities, and effective monitoring. Some examples of efficiency-enhancing reforms for the long term have already been discussed above; further examples of some related low-hanging fruit innovations, with a focus on data and digital and pedagogical solutions, are reviewed below, while also highlighting some important conditions that need to be in place for those and other related innovations to be implemented.

Early warning systems (EWS), for example, are being used to early identify students at risk of dropping out during the school closures to timely target interventions, which could be mainstreamed. Peru recently implemented *Alerta Escuela* (School Alert Program), a tool targeted to school principals and teachers, and supported by the World Bank education team, which uses machine learning and student-level data to identify students at risk of dropping out[249] (Figure 25). The information is updated monthly, and principals and teachers are provided with pedagogic and management strategies to support those students at risk. In a pilot program in Guatemala, in combination with better data to identify students-at-risk of dropping-out, principals received guidelines and strategies to prevent drop-out including simple actions to encourage students to stay in school.[250]

Box 6. Evaluating Guatemala's early warning system

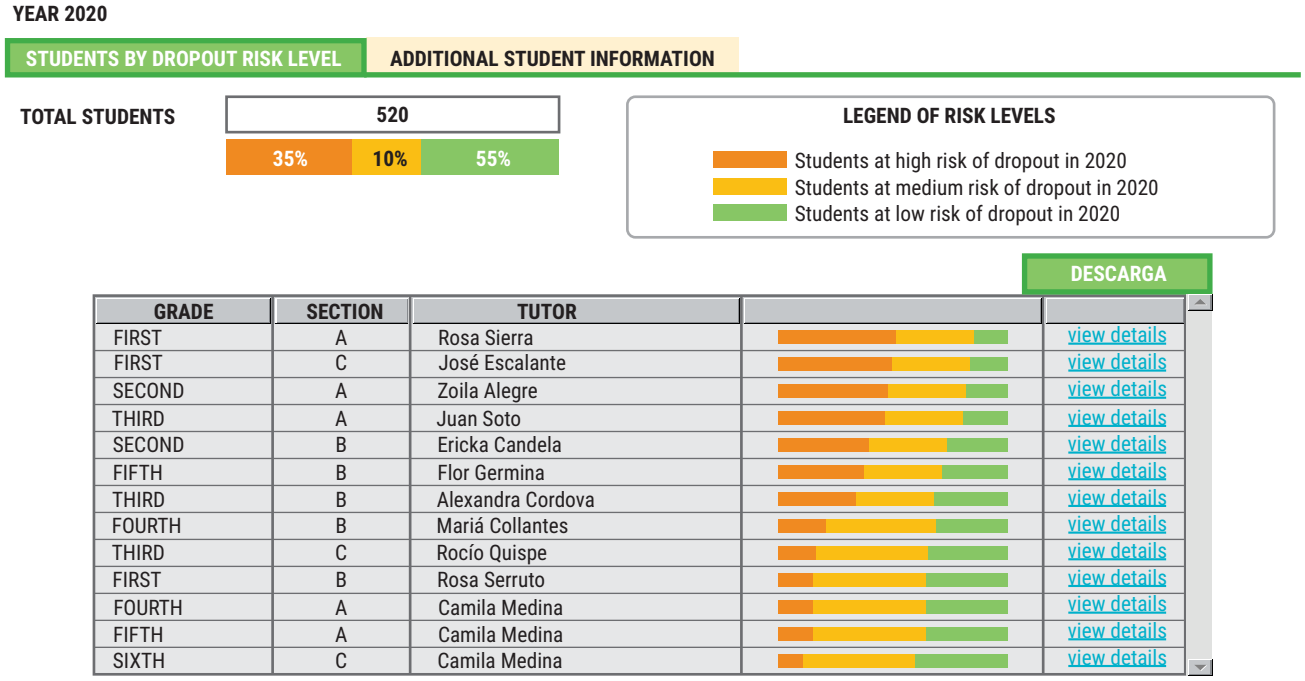


In 2017, the Government of Guatemala, supported by the World Bank, designed the Estrategia Nacional para la Transición Exitosa (ENTRE - National Strategy for Successful Transition), an early warning system aimed at reducing dropouts in the transition from primary to lower secondary schools. To assess the effectiveness of the early warning system approach, the ENTRE pilot program was implemented as a four-arm randomized experiment (three treatment and one control arms) in 4,000 schools (25 percent of public primary schools in the country), with 1,000 schools in each arm. In treatment arms, school directors and sixth grade teachers received a user-friendly guidance manual and half-day training on specific, evidence-based methods to help students make the transition to lower secondary school. In two of the treatment arms, schools also received a list of sixth-grade students at high risk of dropping out based on a prediction model using administrative data. One of these treatment arms built on the other two interventions and additionally included small behavioral nudges to keep dropout prevention top-of-mind for directors and teachers. The program reduced the probability of dropout of students in treated schools by 1.3 percentage points (ITT) and by 3.1 percentage points when considering the impact on compliers (LATE). Results suggest that the impact is driven by the basic intervention of providing guidance and training on how dropout can be prevented. The low cost of the program makes it highly cost-effective.

Source: Haimovich, F., Adelman, M. & Vázquez, E. (forthcoming). Scalable early warning systems for school dropout prevention: Evidence from a 4,000-school randomized controlled trial.

247 Gorgen and McAleavy (2020).
248 World Bank (2020m).
249 https://www.gob.pe/institucion/minedu/noticias/306531-minedu-implementa-alerta-escuela-un-sistema-de-alerta-temprana-para-identificar-estudiantes-con-riesgo-de-abandonar-el-sistema-educativo
250 Haimovich et al. (forthcoming).

Figure 25: Peru's Alerta Escuela – share of students by risk level



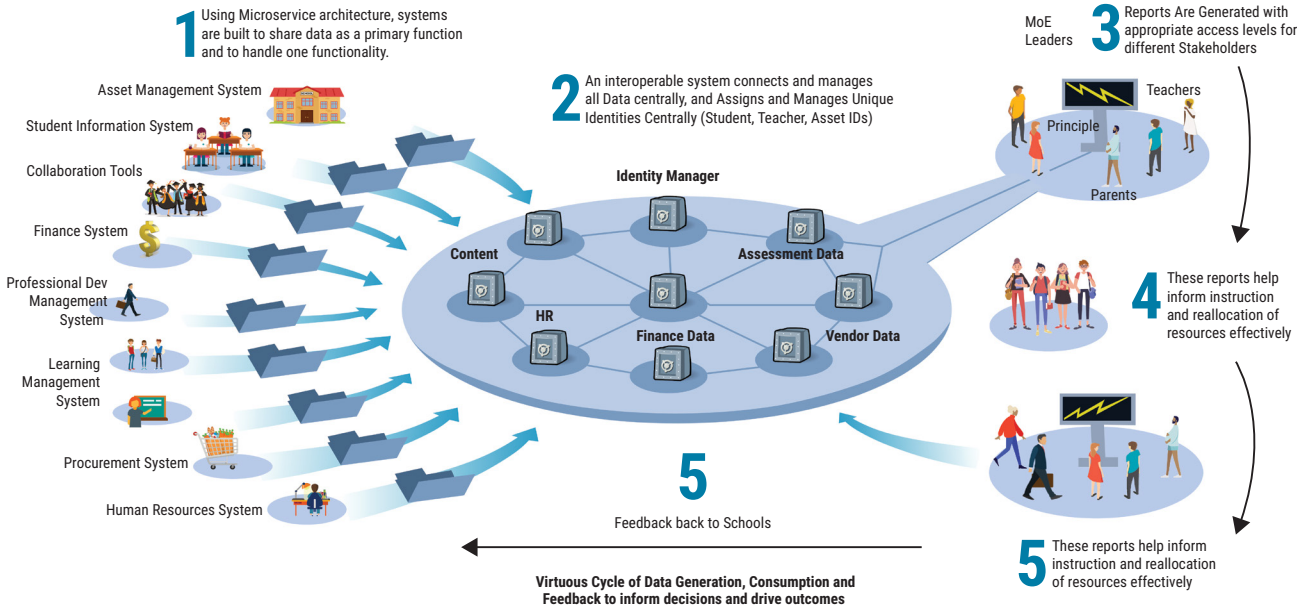
Source: Translation into English of snapshot from public YouTube tutorial by Ministry of Education of Peru.*
* Snapshot of the tutorial video of Alerta Escuela https://www.youtube.com/watch?v=W0ny_SxkhfA&feature=youtu.be

Additionally, schools with the best results in preventing drop-out received certificates as formal recognition. Box 6 summarizes a recent impact evaluation of the intervention supported by the World Bank. In Chile, the early warning system, initially implemented only in a few regions of the country, is being scaled up nation-wide as a response to mitigate students' dropout during school closure.[251] Early warning systems can and should continue to play an important role when schools have reopened and over the long-term help LAC countries target timely interventions to address dropouts.

Along this line, countries are making remarkable efforts to collect information about students and other dimensions of the education system; the challenge is to build efficient data systems for continuous improvement and decision-making. Education management and information systems (EMIS) can inform the planning and policies of education systems.[252] Evidence from Guatemala and Honduras show that administrative data can be used to correctly identify 80 percent of sixth grade students at risk of dropping out.[253] Considering the huge amount of data that education systems produce daily — and the potential of exploiting the data— countries should leverage technology to improve the quality and timeliness of data. As reviewed above, this could have multiple applications, from student monitoring, to allocation of human, physical and financial resources across areas and schools. In the case of Uruguay, for example, teachers record students' attendance in the web information system GURI, the core of the EMIS of pre-primary and primary education.[254] This, in turn, allows users including teachers, principals and other education officials, to instantly access updated dashboards that facilitate student monitoring and overall planning. Furthermore, GURI is integrated with other web information systems that mutually complement the information in an efficient manner.[255] The *Monitor Escolar*, supported by the World Bank, in Colombia, is a technological data platform that can collect real time data on schools' conditions and students' vulnerabilities (see Box 7). EMIS

251 Ministry of Education, Chile (2020c).
252 Abdul-Hamid (2014).
253 Adelman at al. (2018).
254 Arias Ortiz, Eusebio et al. (2019).
255 Uruguay is working in integrating GURI with the information systems of CEIBAL, the agency responsible of the learning platforms used nation-wide.

Figure 26: End State Target Capabilities in new generation EMIS 2.0



Source: Gikunda (2021). World Bank Group.

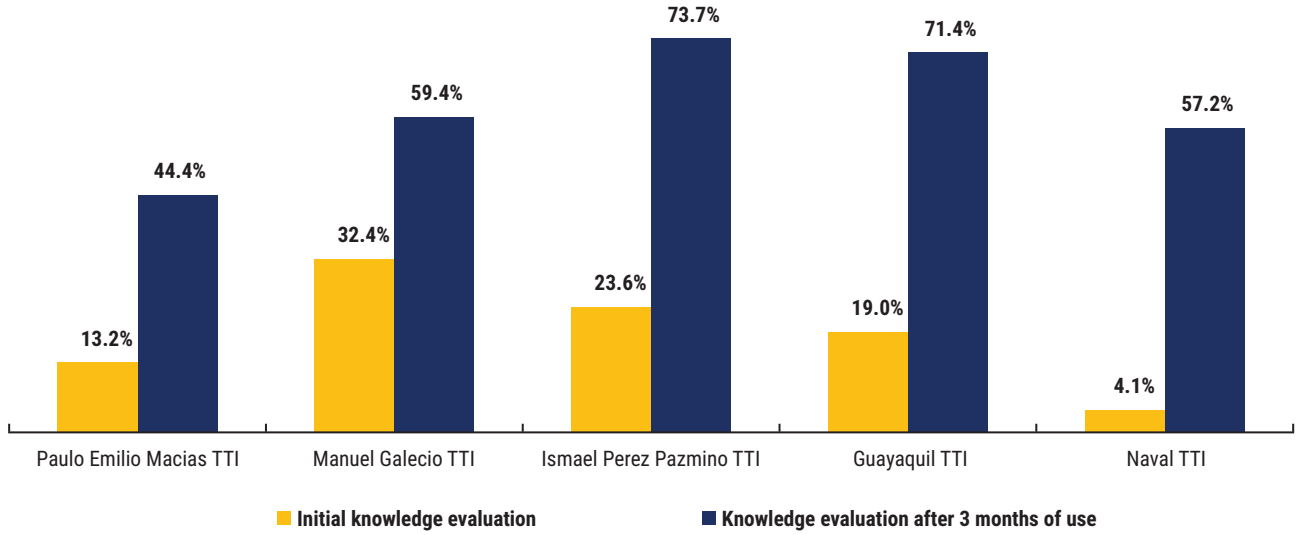
should be based on individual-level data of at least students,[256] teachers and schools.

For the longer term, countries should plan to accelerate the digital transformation of EMIS, integrating the different data and using learning analytics to translate data into useful information to improve education systems. In this regard, the World Bank is supporting education agencies in a new generation of EMIS based on an enterprise architecture focusing on learning data, through a set of best practices, tools and blueprints that enable education agencies to deploy technology-enabled solutions to drive educational objectives with cost-efficiency, reducing duplicative expenditures and achieving better return on investments. In EMIS 2.0, a virtuous cycle of data production and data usage drives informed decision-making in education agencies (e.g. ministries of education) (see Figure 26). Change management strategies play an important role in the adoption of new technologies, especially when the digital transformation process starts from low- or no-tech EMIS (i.e. paper-based).

Teaching-at-the-right level, including through adaptive learning technologies, has the potential to improve learning in the longer-run and could benefit students needing more support. Pedagogical interventions that tailor instruction to students' learning levels and reinforce content depending on individual needs — either teacher-led or facilitated by adaptive learning systems — are effective at improving student test scores[257] and have shown renewed relevance during the crisis. Countries have an opportunity to scale-up these interventions. When enabling conditions are met, adaptive learning systems can be particularly promising. In the Dominican Republic, the use of an adaptive learning platform for the sixth-grade math curriculum is associated with learning gains for pre-intervention lower-performance students.[258] In Ecuador, students in technical and technological institutes that used an adaptive computer-assisted remediation program increased the proportion of curricular content mastered by students in mathematics from 20 percent to 61.2 percent after three months (approximately 90 minutes per week), equivalent to the learning of a full school year.[259] Figure 27 summarizes results by technical and technological institute. The cost of this type of programs oscillates between 10 and 20 dollars per student per year, significantly lower than other comparable interventions,

256 UNESCO (2019).
257 Evans and Popova (2016), in World Bank (2020h).
258 Baron et al. (2018).
259 Angel-Urdinola (2020).

Figure 27: Percentage of curricula mastering, by technical and technological institute, in Ecuador



Source: Angel-Urdinola (2020).

which makes them particularly attractive in the current environment, and is consistent with recent findings showing that instruction targeted to student levels (adaptive software) through pedagogical interventions, grouping, and technology is one of the most cost-effective interventions to increase LAYS.[260] Over time, adaptive learning systems should enhance equity and allow teachers to focus on higher-order, applied skills.[261] Adaptive learning systems can also be useful to provide pre-class content, post-class remedial instruction and continuous monitoring of student progress, freeing up teachers to provide targeted support, and do more project- and inquiry-based in-class learning. As in China, computer-aided learning can also help connect teachers with students in remote areas. Adaptive learning software is also supported by the World Bank in Guyana (see Box 7). Table 4 below summarizes some selected examples of innovations.

Digital divides, extensive in LAC, limit the potential of technology to improve the teaching-learning experience, and the equitable and efficient management of the education process, which need to be addressed. Barriers to effective access to digital technologies are usually related to socioeconomic status, geography, age, gender and disability.[262] As seen in section 4, digital infrastructure divides by socioeconomic status and geographic area are extensive in LAC. These divides are also reflected at the school level, with less than 43 percent of primary schools and 62 percent of secondary schools having access to Internet for pedagogical purposes.[263] Digital divides are also evident among higher education institutions. Closing the gap in access to digital infrastructure is essential to effectively utilize strategies introduced in response to the pandemic to build back better, and the earliest the better to also potentially benefit countries at the school closing and reopening stages. Major efforts are underway to provide affordable and meaningful connectivity for all in LAC. The estimated cost to achieve universal access to the Internet in the region by 2030 is $47 billion;[264] albeit relatively small compared to other regions, significant investments are needed. Providing digital infrastructure goes beyond ensuring equitable and affordable access to broadband Internet; in education, this must be accompanied with platforms and content fit for teaching and learning as well as devices (see Box 5 for some World Bank-led efforts).[265]

260 Angrist et al. (2020).
261 World Bank. (2020h).
262 International Telecommunication Union (ITU) (2019) "Digital inclusion of all"
263 Education Statistics: UNESCO Institute for Statistics (UIS).
264 World Bank (2020a)
265 World Bank (2020i)

Table 4: Improving and accelerating for the longer term: Selected regional examples of promising innovations and strategies to address the digital divides

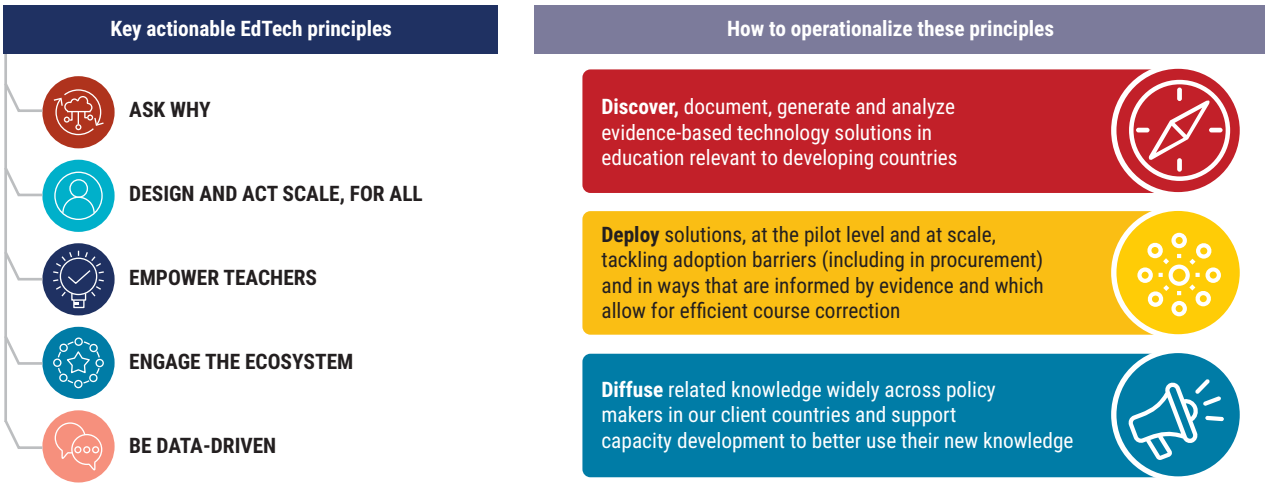
MAINSTREAM INNOVATIONS
• **Early warning systems.** Peru recently launched *Alerta Escuela* (School Alert), a tool targeting school principals and teachers that uses machine learning and student-level data to identify students at risk of dropping out. Principals and teachers are provided with pedagogic and management strategies to support those students at risk. • **Education Management and Information System.** In Uruguay, teachers record students' attendance in the web information system GURI, the core of the EMIS of pre-primary and primary education. This, in turn, allows users such as teachers, principals and other education officials to instantly access updated dashboards that facilitate students' monitoring and overall planning (Arias Ortiz et al., 2019). Pernambuco (Brazil) developed a cost information system at the school level that helps identify inefficiencies in the distribution of resources by socioeconomic status (Al-Samarrai et al., 2020). • **Adaptive learning technology.** In Ecuador, an adaptive computer-assisted remediation program, supported by the World Bank, has been used to support students in technical and technological institutes (Angel-Urdinola, 2020). The program increased the proportion of curricular content mastered by students in mathematics.
CONTINUE TO REDUCE THE DIGITAL DIVIDES
• **Zero-rating.** In Colombia, a zero-rating initiative was combined with the use of mobile phones to access education resources. The national authorities mandated mobile operators to provide zero-rating conditions to the education community (Cerdán-Infantes at al., 2020). Additionally, a mobile navigation tool was created to mirror the main site used during school closures. • **Mobile digital classrooms.** In Nicaragua, the World Bank is supporting the design and implementation of an updated Mobile Digital Classrooms strategy (*Aulas Digitales Móviles*) to increase access to digital learning contents for vulnerable students in 80 primary rural schools with limited or no connectivity. (World Bank, 2020c) • **Digital skills:** The Dominican Republic is investing in developing digital skills programs and content and the policy framework associated with the investment in providing digital infrastructure for all during the 2021-2024 period (World Bank, 2020b).

Further, human capacity is critical in order to bridge the digital divides in education in the long run. Teachers (and faculty) must receive training in digital and pedagogical skills to effectively use education technology as part of the learning process. Teachers should be enabled to deliver individualized instruction that responds to each child's level. Employers have identified skill gaps as a major constraint to their ability to compete in the global digital economy. [266] Ensuring that all students have relevant digital skills is also needed for them to take full advantage of education technology to improve learning outcomes and, in the medium and long term, to live and work in the digital economy. The digital transformation also requires enhanced policy makers' understanding of what works best in education technology. In more flexible learning models that enable blended and continuous learning, the support of parents will continue to play an important role in students' learning and supporting their digital skills will also be important. A case study for the Dominican Republic estimated at $9.9 million the cost to support the development of digital skills programs and content and the policy framework associated with the investment in providing digital infrastructure for all during the 2021-2024 period.[267]

Additionally, digital infrastructure and human capacity need to be accompanied with effective logistical and administrative systems. This includes systems and structures that allow to collect, process, analyze and use data for evidence-based decision-making and implementation. Administrative and logistical platforms should support the deployment, maintenance and usage monitoring of digital tools. Logistical aspects include also the engagement of the ecosystem by mobilizing stakeholders from different sectors to support on digital learning objectives for every child and youth. Stakeholders include students, parents, teachers and principals, but

266 Ibid.
267 World Bank (2020b)

Figure 28: World Bank approach to education technology (EdTech)



Source: Hawkins et al. (2020).

also researchers, non-governmental organizations, and private sector companies, among others.[268] The engagement of the ecosystem has been defined as one the key principles for investing in education technology (see Figure 28). Hawkins et al. (2020) expand on these principles and the World Bank's approach to leverage education technology to improve teaching and learning for all.

268 Hawkins et al. (2020).

Box 7: World Bank Support to Technological Solutions

The World Bank team has been working with governments on innovative digital solutions for the long term to improve teaching, learning and education management, solutions which are highly relevant to the current context. The focus has been on digital platforms to "teach at the right level" and improve sector management, including, but not limited to, the management of information and monitoring of youth at risk. A more recent focus has been on enhancing the learning experience through virtual reality platforms, with potential to support cost-effective virtual and/or hybrid technical and vocational education, and blockchain technology to incentivize behavioral changes to improve skills cost-effectively. Examples of on-going support include:

Guyana's learning software:

In Guyana, a new project will support technology-assisted learning in mathematical and language skills using tablets equipped with a learning software that provides access to Khan Academy Lite (and other learning platforms) to primary students in selected schools. Tablets will have on and offline capabilities. Master trainers will be trained, who will in turn train mathematics/language teachers in each school in the use of the tablets and software, from a pedagogical and technical perspective. Hotlines will be established to provide support for teachers and students. Similar interventions are also comprised in the secondary education project.

Colombia's "Monitor Escolar":

In Colombia, the education team is supporting the Monitor Escolar, a technological data platform highly adaptable to local needs and conditions developed by the World Bank, which can collect real-time data, among other elements, on schools' conditions for the implementation of health protocols and combined in-person/distance education, students' vulnerabilities and risk of dropping out, conditions for home learning, and effectiveness of remedial education programs.

Ecuador's ActiVar program:

Ecuador, with the support of the Korea-World Bank Partnership Facility, recently introduced the ActiVaR program in higher education. The program supports the design, implementation, and evaluation of virtual labs1 using Virtual Reality (VR) technology, to be delivered by Ecuador's state system of technical and technological institutes. The training curriculum will combine traditional in-class and VR methodologies. VR technologies are showing that it is possible to develop the technical and practical skills of students without large capital investments.

Blockchain technology in Colombia:

In Colombia, the Bank is exploring a new model for education service delivery using emerging technology. The aim is to improve the process by which students are incentivized and rewarded for learning and developing innovative solutions to local challenges through the implementation of blockchain technology and crypto-tokens as a means of transparent and traceable value exchange between funders, students, and teachers in an education system. The pilot aspires to bring results-based financing directly to students and teachers in a cost-effective and transparent way.

Source: World Bank (2020o), Guyana Secondary Education Improvement Project.

1 A virtual lab is an interactive simulation of a real laboratory. Virtual labs are essentially an interactive computer simulation of a real or hands-on laboratory. They provide students and teachers with a standardized, reproducible environment for repeated and optimized training. Yet another advantage of VR labs is the capacity to embed performance metrics and collaborative features (using avatars) within the software, thereby enabling continuous peer-to-peer interaction, active learning, and performance feedback, all of which enhance proficiency-based training.

Building back better

At a broader level, the COVID-19 crisis could be the opportunity to transform the entire education system to prioritize and support student learning and develop a new vision where learning happens for everyone, everywhere. The pandemic has laid bare the urgency for LAC countries to ensure that their systems are geared towards student learning.[269] This was a huge challenge already before the crisis which has exacerbated the impact of the crisis, and made it clear that "recovering learning" is simply not sufficient for the region, especially in certain countries where most students were already not mastering basic concepts. At the same time, the pandemic has also shown the importance of ensuring learning continuity beyond school walls, offering important lessons about the need to close the digital divides for schools and households, and about the critical

269 Saavedra (2021b).

Box 8: Pillars for the Future of Learning

Countries can chart their own path with a political commitment to carry out investments and reforms in five pillars that ensure that:

1. ***Learners are prepared and motivated to learn***—with a stronger emphasis on whole-child development and support to learning continuity beyond the school.
2. ***Teachers are effective and valued***—and ready to take on an increasingly complex role of facilitators of learning at and beyond the school with use of education technology.
3. ***Learning resources, including curricula, are diverse and high-quality***—to support good pedagogical practices and personalized learning.
4. ***Schools are safe and inclusive spaces***—with a whole-and-beyond-the-school approach to prevent and address violence and leave no child behind.
5. ***Education systems are well-managed***—with school leaders who spur more effective pedagogy and a competent educational bureaucracy adept at using technology, data, and evidence.

Source: Saavedra, Aedo and Arias Diaz (2020)

role of teachers and parents. In this context, a recent publication of the World Bank[270] highlights five pillars (Box 8) that could guide countries' reforms and investments moving forward, as they chart their own path towards improved learning for all.

The COVID-19 pandemic can also provide an opportunity to pursue new reforms for specific education levels. For instance, to revamp and rethink Early Childhood Education (ECE), not only as part of re-enrollment campaigns once schools re-open. This will be essential to avoid major coverage shrinkage, but also as a truly high priority sub-sector throughout, given its large payoffs for school readiness and success, and its strong equalizing effects. Ensuring quality early childhood education options will also be critical to recover, protect and enhance female participation in the labor force. Even as schools re-open, this crisis has also evidenced the importance of parents in their children's education. This therefore provides an opportunity to step-up support to parents, with ideas, information, materials and options to aid them in supporting their children's learning, including learning through play/early stimulation via multi-modal strategies.[271] Finally, there is also an opportunity to spearhead whole-child-development in their early years and collaborate with other sectors to roll out this approach.[272]

Conditions brought through COVID-19 could also be a good opportunity to develop and strengthen education programs, both at the secondary and tertiary levels, that are more responsive to labor market needs. Given that the economic implications of the pandemic will surely continue affecting the capacity of young students, especially from disadvantaged backgrounds, to complete high-school and to purse higher education, education systems should adapt their academic offer to prevent such cohorts from stagnating or depleting their human capital development. One way of doing so is by adjusting the academic offer at the secondary and tertiary levels to a more competency-based, flexible, and affordable format that better addresses labor market needs. For instance, in tertiary education, among other reforms to be discussed in a forthcoming World Bank paper on COVID-19 and higher education,[273] the crisis could be the opportunity to rebalance higher education degrees towards short cycle higher education programs, generally 2-3 years long, that are more practical and labor market-oriented. At present, these account for only nine percent of enrollment in LAC versus 24 percent worldwide. These programs are shown, on average, to yield high rates of return, be cost-effective, and have good employability outcomes.[274] International evidence indicates that, overall, well designed technical and technological programs, whatever the education level, are associated with high returns to human capital in the short and medium term and with improvements in aggregate workers' productivity. Well-designed programs should provide students with meaningful certification of vocational skills that helps graduates secure high-quality jobs, as well as information and services that facilitate their school to work transition. Effective technical programs should also focus on the development of students' core transversal competencies, such as analytical thinking, problem resolution, communication, and digital literacy, which are fundamental for young graduates to adapt to

270 Saavedra, Aedo and Arias Diaz (2020).
271 World Bank 2020l.
272 This would include coordinating with cash transfer programs, home visiting or community health worker programs to ensure early stimulation, parent engagement and other efforts to help families support young children's growth and development (World Bank 2020l).
273 World Bank (forthcoming, c).
274 Ferreyra et al. (forthcoming).

FOTOGRAFÍA DE: © GORKHE1980/SHUTTERSTOCK.COM

Figure 29: Areas of emphasis for World Bank support

1. Enhancing the reach, use and effectiveness of technology for education

- Digital divides
- Remote and blended learning
- Long-term data and technological solutions (adaptive learning, EWS, EMIS, among others)

2. Supporting pedagogical and management reforms for recovery and resilience

- Assessment, remediation policies, and socio-emotional support
- Personalized instruction
- Principal and teacher training, standards and support
- System management and financing reforms

3. Supporting safe schools

- Health and hygiene protocols
- Safety
- WASH investments
- Connectivity

4. Developing skills for the post-COVID-19 context

- Skills in the early years
- Competency-based, flexible, and affordable secondary and tertiary programs
- Core transversal skills
- School-to-work transition

in a dynamic and rapidly changing labor market. Technology innovations, such as virtual laboratories (see Box 7), and computer assisted learning and remediation, also show great promise for technical training, with potential to optimize students' graduation time and skills development, and eventually even decrease educational costs.

Going forward, the Bank is committed to continue supporting countries in their pandemic recovery efforts, while accelerating efforts for education reform in the hope of helping countries build back better. The World Bank's agenda for LAC aims at supporting countries in their teaching and learning process to adapt faster to the new normal and prepare adequately for the learning of the future. In doing so, within its broader strategic pillars, the Bank will put particular emphasis on a few, over-lapping, areas relevant to both the short and longer-term (see Figure 29).

PHOTO BY: © FERNANDO MACIAS ROMO/SHUTTERSTOCK.COM

Conclusion

While LAC countries had made some progress in human capital outcomes over the last decades, the region was already experiencing a learning crisis before COVID-19 hit the region in full force at the beginning of 2020, with staggering consequences on education and human capital outcomes. The learning crisis was evident through a combination of low average quality of learning and inequitable outcomes across education systems. As we take stock of the almost twelve months since the outbreak which led to the massive closure of school systems across the region, it is now clear that this situation may jeopardize the aforementioned human capital gains and, most importantly, exacerbate the loss in human capital accumulation of millions of children and impact future productivity levels. In terms of education and learning, even with the tremendous efforts made under an exceptional situation, it is also clear by now that mitigation strategies will only be able to compensate, at best, for a fraction of learning losses during this period.

This short document attempted to portray emerging trends of the educational crisis and response to the crisis to date, and, most importantly, to make a strong Call for Action. Its three key takeaways are:

- **Initial estimates of the school closure effects in LAC are staggering.** Continuing to improve reach, take-up and quality will be critical to make it more effective, but remote learning cannot replace in-school learning. All learning metrics are worsening dramatically, and the effects of the pandemic also permeate many other areas of students' lives. Students from lower-income groups are the most effected.

- **Education systems should get ready for country-wide reopening, and invest the necessary resources to make this happen, to start recovery from the dramatic learning losses and other negative effects of the pandemic.** Countries can leverage many emerging lessons and evidence on how to do this safely and effectively. To enable this process, public funding for education needs is to be prioritized and well targeted. Countries need to start exploring efficiency gains, especially in the longer run.

- **There is a window of opportunity to build back education systems that are more effective, equitable and resilient.** Notable examples of innovations are available which could be mainstreamed.

LAC countries have made commendable efforts on many fronts, but we may witness an educational tragedy as never seen before in the coming years if countries do not act faster and more comprehensively. The important human capital gains of the last decades could be wiped out. But what is worse: these losses could become permanent, eventually eroding the opportunities of a LAC generation. The time is now.

References

Abdul-Hamid, H. 2014. "What Matters Most for Education Management Information Systems: A Framework Paper". SABER Working Paper Series; No. 7. World Bank Group, Washington, DC. https://openknowledge.worldbank.org/handle/10986/21586

Adelman, M. and Lemos, R. (forthcoming). "Managing for learning: Measuring and strengthening education management in Latin America and the Caribbean." International Development in Focus. Washington, DC: World Bank.

Adelman, M., Baron, J., and Lemos, R. 2020. "Managing Shocks in Education: Evidence from Hurricane Matthew in Haiti." Unpublished manuscript.

Adelman, M., Haimovich, F., Ham, A. and Vazquez, E. 2018. "Predicting school dropout with administrative data: New evidence from Guatemala and Honduras". Education Economics, 26:4, 356-372. http://hdl.handle.net/10986/30146

Aedo, C., Nahata, V. and Sabarwal, S. 2020. "The remote learning paradox: How governments can truly minimize COVID-related learning losses". https://blogs.worldbank.org/education/remote-learning-paradox-how-governments-can-truly-minimize-covid-related-learning-losses

Alarcón, A. and Méndez, G. 2020. "Early opening of schools in Uruguay during the covid-19 pandemic: Overview and lessons learnt". https://www.unicef.org/uruguay/en/reports/early-opening-schools-uruguay-during-covid-19-pandemic.

Al-Samarrai, S.; Gangwar, M. and Gala, P. 2020. "The Impact of the COVID-19 Pandemic on Education Financing. Economic Impact of COVID-19". World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/33739

Álvarez Marinelli, H., Arias Ortiz, E., Bergamaschi, A., López Sánchez, Á., Noli, A., Ortiz Guerrero, M., Pérez Alfaro, M., Rieble-Aubourg, S., Rivera, M., Scannone, R., Vásquez, M. and Viteri, A. 2020. "Education in times of coronavirus: Latin America and the Caribbean's education systems in the face of COVID-19". http://dx.doi.org/10.18235/0002337

Álvarez Marinelli, H.; Berlinski, S. and Busso, M. 2019. "Remedial Education: Evidence from a Sequence of Experiments in Colombia". IDB WORKING PAPER SERIES Nº IDB-WP-1067. http://dx.doi.org/10.18235/0002075

Anderson, D., Huston, A., Schmitt, K., Nichols, D., and Wright, J. 2001. "Early childhood television viewing and adolescent behavior: The Recontact Study". Monographs of the Society for Research in Child Development, 66, I–VIII, 1. https://doi.org/10.1111/1540-5834.00120

Angel-Urdinola, D. 2020. "Use of Adaptive Computer Assisted Remediation Programs to Prevent Student Dropout in the Context of COVID-19." https://blogs.worldbank.org/education/use-adaptive-computer-assisted-remediation-programs-prevent-student-dropout-context-covid.

Angrist, N.; Evans, D. K.; Filmer, D.; Glennerster, R.; Rogers, F. H. and Sabarwal, S. 2020. "How to Improve Education Outcomes Most Efficiently? A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric". Policy Research Working Paper; No. 9450. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34658

Arias Ortiz, E., Brechner, M., Pérez Alfaro, M., and Vásquez, M. 2020. "Let's talk about education policy in Latin America and the Caribbean # 2: From distance to hybrid learning: 4 key elements to make it a reality". Inter-American Development Bank. https://doi.org/10.18235/0002756

Arias Ortiz, E., Escamilla, J., López, A. and Peña, L. 2020. "Brief 21: COVID-19 digital technologies in higher education, what do professors think?" Washington, DC: Inter-American Development Bank. http://dx.doi.org/10.18235/0002431

Arias Ortiz, E., Eusebio, J., Pérez Alfaro, M., Vásquez, M., and Zoido, P. 2019. From Paper to the Cloud: Guiding the Digital Transformation of Education Management and Information Systems (SIGEDs). https://publications.iadb.org/publications/english/document/From_Paper_to_the_Cloud_Guiding_the_Digital_Transformation_of_Education_Management_and_Information_Systems_SIGEDs.pdf

Avitabile, C. (forthcoming). Education Policy Note for Peru. Financing and provision of educational services. World Bank Group Education Global Practice.

Avitabile, C; Dinarte, L and Lemos, R. (forthcoming). "Strengthening School Management in a School Reopening Context."

Azevedo, J. P. 2020a. "Learning Poverty in the Time of COVID-19: A Crisis within a Crisis." World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34850

Azevedo, J. P. 2020b. "Learning Poverty: Measures and Simulations." Policy Research Working Paper; No. 9446. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34654

Azevedo, J. P., and Goldemberg, D. 2020a. "Learning for all: Beyond an average score". https://blogs.worldbank.org/education/learning-all-beyond-average-score

Azevedo, J. P., and Goldemberg, D. 2020b. "Learning for all: Within-country learning inequality". https://blogs.worldbank.org/education/learning-all-within-country-learning-inequality

Azevedo, J. P., Hasan, A., Goldemberg, D., Geven, K. M., and Iqbal, S. A. (forthcoming). "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates".

Azevedo, J. P., Hasan, A., Goldemberg, D., Iqbal, S. A., and Geven, K. M. 2020. "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates" (No. 9284; Policy Research Working Paper Series). The World Bank. http://pubdocs.worldbank.org/en/798061592482682799/covid-and-education-June17-r6.pdf

Baron, J., Taveras, C. M. and Cuevas Zúñiga, J. 2018. "Adaptive Technology to Help Improve Math Learning in the Dominican Republic." https://blogs.worldbank.org/education/adaptive-technology-help-improve-math-learning-dominican-republic.

Becerra, M., Alonso, J. D. and Frias M. 2020. "COVID-19 Impact on Tertiary Education in Latin America and the Caribbean." http://documents1.worldbank.org/curated/en/720271590700883381/COVID-19-Impact-on-Tertiary-Education-in-Latin-America-and-the-Caribbean.pdf

Berlanga, C.; Morduchowicz, A; Scasso, M.; and Vera, A. 2020. "Reopening schools in Latin America and the Caribbean: Key aspects, challenges, and dilemmas for planning a safe return to classroom clases (Reabrir las escuelas en América Latina y el Caribe: Claves, desafíos y dilemas para planificar el retorno seguro a las clases presenciales)". IDB Technical Note. http://dx.doi.org/10.18235/0002906

Bianchi, N; Song, H. and Lun, Y. 2020. "The effect of computer-assisted learning on long-term development". NBER Working Papers 28180. https://www.ipr.northwestern.edu/documents/working-papers/2020/wp-20-53.pdf

Bobonis, G., Gonzalez-Navarro, M., Scur, D., and Wagner, J. 2020. "Management Practices and Coordination of Responses to COVID-19 in Public Schools: Evidence from Puerto Rico." Unpublished manuscript.

Borzekowski, D. L. G., and Henry, H. K. 2010. "The impact of Jalan Sesama on the educational and healthy development of Indonesian preschool children: An experimental study: International Journal of Behavioral Development". https://doi.org/10.1177/0165025410380983

Carlana, M. and La Ferrara, E. 2021. "Apart but Connected: Online Tutoring and Student Outcomes during the COVID-19 Pandemic." HKS Faculty Research Working Paper Series RWP21-001. https://research.hks.harvard.edu/publications/getFile.aspx?Id=5021

Carretero Gomez, S., Napierala, J., Bessios, A., Mägi, E., Pugacewicz, A., Ranieri, M., Triquet, K., Lombaerts, K., Robledo Bottcher, N., Montanari, M. and Gonzalez Vazquez, I. 2021. "What did we learn from schooling practices during the COVID-19 lockdown". Publications Office of the European Union, Luxembourg. ISBN 978-92-76-28418-5. JRC123654. http://dx.doi.org/10.2760/135208

Cerdán-Infantes, P., Zavala García, F., Suárez Gómez, J. C., Guallar,S., Márquez de Arboleda, A., De La Cadena Becerra, S., and Vergara Rojas, S. 2020. "The impact of the COVID-19 crisis in education and policy response in Colombia (Impactos de la Crisis del Covid-19 en la Educación y Respuestas de Política en Colombia.)". World Bank. https://documentos.bancomundial.org/es/publication/documents-reports/documentdetail

Cevik, M., Tate, M., Lloyd, O., Maraolo, A. E., Schafers, J., and Ho, A. 2020. "SARS-CoV-2, SARS-CoV, and MERS-CoV viral load dynamics, duration of viral shedding, and infectiousness: a systematic review and meta-analysis". The Lancet Microbe, 0(0). https://doi.org/10.1016/S2666-5247(20)30172-5

Cetic.br (Regional Center for Studies for the Development of the Information Society). 2020. "Survey on the Use of Information and Communication Technologies in Brazilian Households - ICT Households 2019 (Pesquisa sobre o Uso das Tecnologias de Informação e Comunicação nos Domicílios Brasileiros –TIC Domicílios 2019)". https://cetic.br/media/analises/tic_domicilios_2019_coletiva_imprensa.pdf

CIMA (Information Center for the Improvement of Learning). 2020. Education data for Latin America and the Caribbean. Inter-American Development Bank. Retrieved November 22, 2020, from https://cima.iadb.org/es/regional-overview/learning/PISA

Coady, D., Parry, I. W.; Sears, L. and Shang, B. 2015. How large are global energy subsidies?, International Monetary Fund. https://www.imf.org/en/Publications/WP/Issues/2016/12/31/How-Large-Are-Global-Energy-Subsidies-42940

ComexPerú. 2020. "230,000 students dropped out of school in 2020 (230,000 estudiantes dejaron de ir al colegio en 2020)". https://www.comexperu.org.pe/articulo/230000-estudiantes-dejaron-de-ir-al-colegio-en-2020

Curtiss, M. 2020. "Adapting to learning needs in the wake of COVID-19 using data and evidence". https://www.brookings.edu/blog/education-plus-development/2020/08/11/adapting-to-learning-needs-in-the-wake-of-covid-19-using-data-and-evidence/

Di Gropello, E. 2020. "The Costs of COVID-19 in Education in Latin America. Acting Now to Protect the Future of Our Children." https://blogs.worldbank.org/education/costs-covid-19-education-latin-america-acting-now-protect-future-our-children.

Di Gropello, E., Vargas, M. J. and Yáñez-Pagans, M. 2019. "What Are the Main Lessons from the Latest Results from PISA 2018 for Latin America?" https://blogs.worldbank.org/latinamerica/what-are-the-main-results-pisa-2018-latin-america.

ECDC. 2020. "COVID-19 situation update worldwide", as of February, 2021. https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases

ECLAC-UNESCO. 2020. "Education in the time of COVID-19". COVID-19 Report. https://repositorio.cepal.org/bitstream/handle/11362/45905/1/S2000509_en.pdf

Elacqua, G., Marotta, L., Bertoni, E., Méndez, C., Westh Olsen, A. S., Román, A., and Soares, S. 2020. Is school funding unequal in Latin America? Inter-American Development Bank. https://doi.org/10.18235/0002620

Escueta, M., Nickow, A., Oreopoulos, P., and Quan, V. 2020. "Upgrading Education with Technology: Insights from Experimental Research." Journal of Economic Literature, 58 (4): 897-996. http://doi.org/10.1257/jel.20191507

Evans, D. K., and Popova, A. 2016. "What Really Works to Improve Learning in Developing Countries?: An Analysis of Divergent Findings in Systematic Reviews". Published by Oxford University Press on behalf of the World Bank. https://openknowledge.worldbank.org/handle/10986/29308

FAO. 2020. "FAO warns of the impact of COVID-19 on school feeding in Latin America and the Caribbean" http://www.fao.org/americas/noticias/ver/en/c/1266855/

Fernández Aráuz, A. 2020. "Effects of COVID-19 on the Costa Rican Educational System (Part I) (Efectos De La COVID-19 Sobre El Sistema Educativo Costarricense (I Parte)". https://delfino.cr/2020/08/efectos-de-la-covid-19-sobre-el-sistema-educativo-costarricense-i-parte

Ferreyra, M.M., Dinarte, L., Urzua, S., and Bassi, M. (forthcoming). "Realizing the Promise: Short-Cycle Higher Education Programs in Latin America and the Caribbean". Regional Latin America Flagship. World Bank.

Freire, G., Diaz-Bonilla, C.; Schwartz Orellana, S.; Soler Lopez, J. and Carbonari, F. 2018. "Afro-descendants in Latin America: Toward a Framework of Inclusion". World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/30201

García Jaramillo, S. 2020. "COVID-19 and primary and secondary education: repercussions of the crisis and public policy implications for Latin America and the Caribbean (COVID-19 y educación primaria y secundaria: repercusiones de la crisis e implicaciones de política pública para América Latina y el Caribe)" UNDP. https://www.latinamerica.undp.org/content/rblac/es/home/library/crisis_prevention_and_recovery/covid-19-y-educacion-primaria-y-secundaria--repercusiones-de-la-.html

Gikunda, A. 2021. "EMIS2.0 Knowledge Pack". Education Global Practice EdTech team. World Bank Group Internal Document

Gorgen, K. and McAleavy, T. 2020. "Report for EdTech Hub: An international review of plans for school reopening". https://edtechhub.org/wp-content/uploads/2020/09/School-Reopening-Report-EdTech-Hub-1.pdf

Government of Chile. 2020. "Let's Continue Learning (Sigamos Aprendiendo)" https://sigamosaprendiendo.mineduc.cl/retorno-a-clases-presenciales/.

Government of El Salvador. (n.d.) "Household Survey 2018 (Encuesta de Hogares de Propósitos Múltiples 2018)". https://www.transparencia.gob.sv/institutions/minec/documents/estadisticas

Government of Peru. 2020. "Minedu implements 'School Alert', an early warning system to identify students at risk of dropping out from the education system (Minedu implementa 'Alerta escuela', un sistema de alerta temprana para identificar estudiantes con riesgo de abandonar el sistema educativo)." https://www.gob.pe/institucion/minedu/noticias/306531-minedu-implementa-alerta-escuela-un-sistema-de-alerta-temprana-para-identificar-estudiantes-con-riesgo-de-abandonar-el-sistema-educativo.

Guerrero, G. 2021. "Measuring the impact of COVID-19 on children under six in Latin America – Mapping surveys in progress and systematizing lessons learned". Inter-American Dialogue, Regional Network for Measuring Early Childhood Development (REMDI) and UNICEF. https://www.thedialogue.org/wp-content/uploads/2021/01/Midiendo-el-impacto-de-la-Covid-19-en-los-ninos-y-ninas-menores-de-seis-anos-en-America-Latina-2.pdf

Gutiérrez Bernal, M.; Cerdán-Infantes, P.; Ochoa Foschini, L. C.; García Rodríguez, J. F. 2020. "Colombia –My Hands Teach You (Colombia-Mis Manos te Enseñan)". Education Continuity Stories. World Bank Group. http://documents.worldbank.org/curated/en/687211598345115273/Colombia-Mis-Manos-te-Enseñan-My-Hands-Teach-You

Haimovich, F., Adelman, M. and Vázquez, E. (forthcoming). Scalable early warning systems for school dropout prevention: Evidence from a 4.000-school randomized controlled trial.

Hawkins, R. J.; Trucano, M.; Cobo Romani, J. C.; Twinomugisha, A.; Sanchez Ciarrusta, I. A. 2020. "Reimagining Human Connections: Technology and Innovation in Education at the World Bank". World Bank Group. http://documents.worldbank.org/curated/en/829491606860379513/Reimagining-Human-Connections-Technology-and-Innovation-in-Education-at-the-World-Bank

International Telecommunication Union (ITU). 2019. "Digital inclusion of all". https://www.itu.int/en/mediacentre/backgrounders/Pages/digital-inclusion-of-all.aspx#:~:text=%E2%80%8BSubstantial%20digital%20divides%20persist,are%20also%20evident%20within%20countries

Lavado, P. 2020. "Estimation of the impact of the COVID-19 pandemic in school drop-out rate in Peru". Unpublished manuscript.

Lemann Foundation. 2020. "Remote Learning in Brazil during the Pandemic." News - Lemann Foundation. https://fundacaolemann.org.br/en/news/remote-learning-in-brazil-during-the-pandemic.

Lichand, G. and Christen, J. 2020. "Using Nudges to Prevent Student Dropouts in the Pandemic". University of Zurich, Department of Economics, Working Paper No. 363 (2020), Available at SSRN: https://ssrn.com/abstract=3724386 or http://dx.doi.org/10.2139/ssrn.3724386

Loureiro, A., Cruz, L., Lautharte, I., and Evans, D. 2020. "The State of Ceara in Brazil is a Role Model for Reducing Learning Poverty". World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34156

Luna-Bazaldúa, D.; Levin, D. and Liberman, J. 2020. "Guidance note on using learning assessment in the process of school reopening". http://documents1.worldbank.org/curated/en/856951606239586214/pdf/Guidance-Note-on-Using-Learning-Assessment-in-the-Process-of-School-Reopening.pdf

McKinsey. 2020. "COVID-19 and learning loss—disparities grow and students need help". https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help

Ministry of Education, Chile. 2020a. "Guidelines for the Implementation of the Comprehensive Diagnostic Evaluation and Reassessment of Special Educational Needs (Orientaciones para la Implementación de la Evaluación Diagnóstica Integral y Revaluación de Necesidades Educativas Especiales (NEE))". https://sigamosaprendiendo.mineduc.cl/wp-content/uploads/2020/11/Orientaciones-NEE.pdf

Ministry of Education, Chile. 2020b. "Orientation for the 2020 school year: Preparing to return (Orientaciones para el año escolar 2020: Preparando el regreso)". https://www.colegiodeprofesores.cl/wp-content/uploads/2020/07/PlanRetornoAClases-08.06.pdf

Ministry of Education, Chile. 2020c. "Technical Proposals for the Prevention of School Dropout. For timely detection of risk of dropping out and construction of positive school trajectories for all children and young people (Propuestas Mesa Técnica para la prevención de la Deserción Escolar. Por la detección oportuna del riesgo de exclusión escolar y la construcción de trayectorias escolares positivas de todos los niños, niñas y jóvenes)". https://www.mineduc.cl/wp-content/uploads/sites/19/2020/07/propuestas_desercionescolar.pdf

Ministry of Education, Chile. 2020d. "The COVID-19 impact on Learning and Schooling Outcomes in Chile: Analysis Based on a Simulation Tool Provided by the World Bank (Impacto del COVID-19 en los Resultados de Aprendizaje y Escolaridad en Chile : Analisis con Base en Herramienta de Simulacion Proporcionada por el Banco Mundial)." World Bank Group. http://documents.worldbank.org/curated/en/112721598898527225/Impacto-del-COVID-19-en-los-Resultados-de-Aprendizaje-y-Escolaridad-en-Chile-Analisis-con-Base-en-Herramienta-de-Simulacion-Proporcionada-por-el-Banco-Mundial

Ministry of Education, Peru. 2020. Monitoring dashboard by Microsoft Power BI. https://app.powerbi.com/view?r=eyJrIjoiMDhkNzIxMjEtNDIwYi00ZDU5LWExNzUtOWVlMTM4MjM1ZTU1IiwidCI6IjE3OWJkZGE4LWQ5NjQtNDNmZi1hZDNiLTY3NDE4NmEyZmEyOCIsImMiOjR9

Morris, E.; Farrell, A. and Venetis, E. 2021. "A roadmap for measuring distance learning: A review of evidence and emerging practices". USAID. https://www.edu-links.org/resources/roadmap-measuring-distance-learning

Mostafavi, B. 2020. "Why the Relationship between Kids and the Spread of COVID Remains Unclear." https://healthblog.uofmhealth.org/childrens-health/why-relationship-between-kids-and-spread-of-covid-remains-unclear

Navarro-Sola. L. 2019. "Secondary School Expansion through Televised Lessons: The Labor Market Returns of the Mexican Telesecundaria". http://conference.iza.org/conference_files/edu_2020/navarro-sola_l30328.pdf

Neidhoefer, G.; Lustig, N. and Tommasi, M. 2021. "Intergenerational transmission of lockdown consequences: Prognosis of the longer-run persistence of COVID-19 in Latin America". Working Papers 571, ECINEQ, Society for the Study of Economic Inequality. https://ideas.repec.org/p/inq/inqwps/ecineq2021-571.html

Olsen, A. S. 2020. "COVID-19 and the transition from private to public education in Ecuador (COVID-19 y la transición de la educación privada a la pública en Ecuador)". Enfoque Educación. https://blogs.iadb.org/educacion/es/covid-19-y-la-transicion-de-la-educacion-privada-a-la-publica-en-ecuador/

Paffhausen, A. L. 2021. "Access to schooling in Brazil during the COVID-19 Pandemic". PNAD COVID-19 Education note – update November 2020. Washington, D.C.: World Bank Group. Internal document.

Piedra, N.P.; and Reimers, F. M. 2020. Brazil - Early Childhood Education in Maranhao (Educaçao Infantil no Maranhao). Education Continuity Stories. Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/277301599119523264/Brazil-Educacao-Infantil-no-Maranhao-Early-Learning-in-Maranhao

Progressing with Solidarity (*Progresando con Solidaridad*). 2020. "What you should know about the Estudio Contigo voucher (Lo que debes saber sobre el bono Estudio Contigo)". https://progresandoconsolidaridad.gob.do/noticias/lo-que-debes-saber-sobre-el-bono-estudio-contigo/.

Rieble-Aubourg, S. and Viteri, A. 2020. "Nota CIMA # 20 COVID-19: Are we ready for online learning? (Nota CIMA # 20 COVID-19: ¿Estamos Preparados Para El Aprendizaje En Línea?)" Inter-American Development Bank, 2020. https://doi.org/10.18235/0002303.

Ripani, M. F. 2020. "Uruguay: Ceibal at Home (Ceibal en casa)". Education Continuity Stories Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/751561594144552848/Uruguay-Ceibal-en-Casa-Ceibal-at-Home

Ripani, M. F. and Zucchetti, A. 2020. "Mexico: Learning at Home (Mexico: Aprende en Casa)". Education Continuity Stories. Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/773341594143472118/Mexico-Aprende-en-Casa-Learning-at-Home

Saavedra, J. 2021a. "Realizing the promise of effective teachers for every child – a global platform for successful teachers". https://blogs.worldbank.org/education/realizing-promise-effective-teachers-every-child-global-platform-successful-teachers

Saavedra, J. 2021b. "The urgency and opportunity to return to learning". https://blogs.worldbank.org/education/urgency-and-opportunity-return-learning

Saavedra, J.; Aedo Inostroza, M. C.; and Arias Diaz, O. S. 2020. "Realizing the Future of Learning: From Learning Poverty to Learning for Everyone, Everywhere". Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/250981606928190510/Realizing-the-Future-of-Learning-From-Learning-Poverty-to-Learning-for-Everyone-Everywhere

Sánchez Ciarrusta, I. A. 2020. "Colombia: Colombia Aprende Móvil (Colombia Learns Mobile)". Education Continuity Stories. Washington, D.C.: World Bank Group. http://documents1.worldbank.org/curated/en/146571594141279582/pdf/Colombia-Colombia-Aprende-Movil-Colombia-Learns-Mobile.pdf

Schleicher, A. 2020. "The impact of COVID-19 on education - Insights from Education at a Glance 2020 – OECD". https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf

Sondergaard, L. 2020. "In Ceará, Brazil, mayors have to improve education outcomes to receive more funds". https://blogs.worldbank.org/latinamerica/ceara-brazil-mayors-have-improve-education-outcomes-receive-more-funds

Telia Company. 2020. "Children's experiences with digital learning during covid-19 period – findings from the children's advisory panel". https://digitark.ee/wp-content/uploads/Telia-CAP-Digital-Learning-Report_2020-June.pdf

The Harvard Gazette. 2020. "Children's Role in Spread of Virus Bigger than Thought". https://news.harvard.edu/gazette/story/2020/08/looking-at-children-as-the-silent-spreaders-of-sars-cov-2/.

TV Perú. 2020. "Learning at home: regional radio broadcast content in native languages (Aprendo en casa: radios regionales transmiten contenidos en lenguas originarias)". https://www.tvperu.gob.pe/noticias/nacionales/aprendo-en-casa-radios-regionales-transmiten-contenidos-en-lenguas-originarias.

TV Perú. 2020. "Minedu: More than 174 thousand students dropped out of universities during 2020 (Minedu: Más de 174 mil estudiantes dejaron la universidad en lo que va del 2020)". Interview with Jorge Mori, Director of Higher Education – Universities, Ministry of Education. https://www.tvperu.gob.pe/noticias/nacionales/minedu-mas-de-174-mil-estudiantes-dejaron-la-universidad-en-lo-que-va-del-2020

UNESCO. 2020. "School reopening: ensuring learning continuity. UNESCO COVID-19 Education Response". Education Sector Issue Note n. 7.3. https://unesdoc.unesco.org/ark:/48223/pf0000373610/PDF/373610eng.pdf.multi

UNESCO. 2019. "The Use of UIS Data and EMIS to Monitor Inclusive Education – Open EMIS Results". https://results.openemis.org/The-Use-of-UIS-Data-and-EMIS-to-Monitor-Inclusive-Education

UNESCO, UNICEF and World Bank. 2020a. "Survey on National Education Responses to COVID-19 School Closures, round 2". Paris, New York, Washington D.C.: UNESCO, UNICEF, World Bank.

UNESCO, UNICEF and World Bank. 2020b. "What have we learnt? Overview of findings from a survey of ministries of education on national responses to COVID-19". https://openknowledge.worldbank.org/bitstream/handle/10986/34700/National-Education-Responses-to-COVID-19-WEB-final_EN.pdf?sequence=10&isAllowed=y

UNESCO, UNICEF, World Bank, and WFP. 2020. "Framework for reopening schools". Retrieved from https://www.unicef.org/media/68366/file/Framework-for-reopening-schools-2020.pdf

UNESCO, UNICEF, World Bank, WFP, and UNHCR. 2020. "Supplement to Framework for reopening schools: Emerging lessons from country experiences in managing the process of reopening schools". Retrieved from https://www.unicef.org/media/83026/file/Emerging-lessons-from-countries-experiences-of-reopening-schools-2020.pdf

UNESCO and McKinsey & Company. 2020a. "COVID-19 response – hybrid learning. Hybrid learning as a key element in ensuring continued learning". COVID-19 Education Response Toolkit. https://www.mckinsey.com/~/media/McKinsey/About%20Us/COVID%20Response%20Center/Overview/COVID-19%20Education%20Response%20Toolkit/202010_UNESCO-McKinsey%20Response%20Toolkit_Hybrid%20learning_VF.pdf

UNESCO and McKinsey & Company. 2020b. "COVID-19 response – remediation. Helping students catch up on lost learning, with a focus on closing equity gaps". COVID-19 Education Response Toolkit. https://www.mckinsey.com/~/media/McKinsey/About%20Us/COVID%20Response%20Center/Overview/COVID-19%20Education%20Response%20Toolkit/202010_UNESCO-McKinsey%20Response%20Toolkit_Remediation_VF.pdf

UNICEF and ECLAC. 2020. "Overview of the situation of Afro-descendant children and adolescents in Uruguay. (Panorama de la situación de los niños, niñas y adolescentes afrodescendientes en Uruguay)."

UNICEF. 2020a. "Education on hold. COVID-19: A generation of children in Latin America and the Caribbean are missing out on schooling". https://www.unicef.org/nicaragua/informes/educaci%C3%B3n-en-pausa.

UNICEF. 2020b. "Inclusion of vulnerable groups in school reopening plans. Framework for reopening school" –Webinar # 6. https://unesco.sharepoint.com/sites/EDTeam/Shared%20Documents/Forms/AllItems.aspx?originalPath=aHR0cHM6Ly91bmVzY28uc2hhcmVwb2ludC5jb20vOmY6L3MvRURUZWFtL0VvYW1fM3JNMTFwTXRMU3o5M1JLcXRJQnZUaGU5UUU4QlJ4aUM2SXhfR3ZXMFE%5FcnRpbWU9Tlg4WTQ3T1kyRWc&id=%2Fsites%2FEDTeam%2FShared%20Documents%2FFLI%20ERF%2FWebinar%20presentations%2FWebinar%206%5F2020%2D08%2D27%2DThe%20latest%20evidence%2FUNICEF%5FPresentation%20on%20Inclusion%20of%20vulnerable%20groups%5F27%20Aug%20webinar%2Epdf&parent=%2Fsites%2FEDTeam%2FShared%20Documents%2FFLI%20ERF%2FWebinar%20presentations%2FWebinar%206%5F2020%2D08%2D27%2DThe%20latest%20evidence

UNICEF. 2020c. "LACRO COVID-19 Education Response: Reaching the Most Vulnerable Children". https://www.unicef.org/lac/en/media/14531/file

UNICEF. 2020d. "LACRO COVID-19 Education Response: Schools Reopening." https://www.unicef.org/lac/en/media/16716/file

UNICEF. 2020e. "LACRO COVID-19 Education Response: Special Focus on the Provision of Wash Services in Schools". https://www.unicef.org/lac/en/media/17751/file

UNICEF. 2020f. "Latin America & the Caribbean COVID-19 Education Response". https://www.unicef.org/lac/en/media/14246/file

UNICEF. 2020g. "Results of the #ENCOVID19Childhood survey. May-July 2020". https://www.unicef.org/mexico/media/4496/file/Acumulado%20de%20mayo%20a%20julio.pdf

United Nations, SIUBEN, OIM, UNFPA, ONUSIDA, UNICEF and PNUD. 2020. "Second survey on the socioeconomic impact of COVID-19. Results report. Impact of COVID-19 on education (RED ACTÚA: Segunda encuesta sobre el impacto socioeconómico de la COVID-19. Informe de resultados. Impacto de la COVID-19 en educación). " https://dominicanrepublic.un.org/sites/default/files/2020-09/Infografia_Resultados_Educaci%C3%B3n_2da_Encuesta_REDACTUA_8.5X11_0.pdf

United Nations. 2020. "Policy Brief: Education during COVID-19 and beyond". https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf

USAID. 2021. "A roadmap for measuring distance learning: A review of the evidence and emerging practices".

https://www.edu-links.org/sites/default/files/media/file/Measuring%20Impact%20and%20Outcomes_Final_01.20.2021-508%20%281%29.pdf

Vasquez, M. and Baron, J. (forthcoming). Schooling and learning losses due to COVID-19 school closures: Simulations for the Dominican Republic.

Voices of Education (*Vozes da Educação*). 2020. "International survey to resume face-to-face classes (Levantamento internacional de retomada das aulas presenciais)." August 2020. http://vozesdaeducacao.com.br/wp-content/uploads/2020/10/Levantamento-internacional_Retomada-presencial-das-aulas.pdf

WHO. 2020. "Coronavirus disease (COVID-19). Weekly update". Accessed November 23, 2020. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20201012-weekly-epi-update-9.pdf

Wilichowski, T. and Cobo, C. 2021. Considering an adaptive learning system? A roadmap for policymakers. World Bank blog post. https://blogs.worldbank.org/education/considering-adaptive-learning-system-roadmap-policymakers

Winthrop, R. and Vega, E. 2020. "Beyond reopening schools: How education can emerge stronger than before COVID-19. Brookings". https://www.brookings.edu/research/beyond-reopening-schools-how-education-can-emerge-stronger-than-before-covid-19/

World Bank (forthcoming, a). "Afro-descendant Inclusion in Education Systems of Latin America". World Bank Document.

World Bank (forthcoming, b). "Impact of COVID 19 in Higher Education in LAC". Education Global Practice.

World Bank (forthcoming, c). "Project paper of the Additional Financing to the Alliance for Education Quality Project for the Republic of Nicaragua." Internal document.

World Bank (forthcoming, d). "Study to Explore the Perceived Effectiveness of Remote Learning". Education Global Practice. The World Bank. Manuscript under preparation.

World Bank. 2019. "Ending Learning Poverty: What Will It Take?" World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/32553

World Bank. 2019. "Ending Learning Poverty: What Will It Take?" World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/32553

World Bank. 2020a. "Alliance for Affordable Internet: Towards Universal Access in LAC region." Education Global Practice. Internal Document

World Bank. 2020b. "Digital LAC." Education Global Practice. Internal Document

World Bank. 2020c. "Education in LAC: COVID-19 impact and Bank response". Education Global Practice. Internal dashboards (various editions).

World Bank. 2020d. "Education TV Knowledge Pack". (World Bank EdTech Team). Public Documents Profile Viewer. http://pubdocs.worldbank.org/en/267791593613610668/Education-TV-Knowledge-Pack-WorldBank-Edtech-Team

World Bank. 2020e. "Guidance Note on Remote Learning and COVID-19". http://documents1.worldbank.org/curated/en/531681585957264427/pdf/Guidance-Note-on-Remote-Learning-and-COVID-19.pdf

World Bank. 2020f. "Latin America and the Caribbean Education Practice. Mexico: Impact of COVID-19 in the early childhood years." Education Global Practice. Internal document.

World Bank. 2020g. "Learning Poverty." Text/HTML. https://www.worldbank.org/en/topic/education/brief/learning-poverty.

World Bank. 2020h. "Mobile Distance & Hybrid Education Solutions Knowledge Pack". Public Documents Profile Viewer. http://pubdocs.worldbank.org/en/685691598013656403/WorldBank-EdTech-Team-Knowledge-Pack-MobileDistance-HybridEducationSolutions-version2

World Bank. 2020i. "Operationalizing the EdTech approach closing the digital divide in education". Education Global Practice. Internal Document

World Bank. 2020j. "Panama Pandemic Response and Growth Recovery Development Policy Loan". http://documents1.worldbank.org/curated/en/899581607742064952/pdf/Panama-Pandemic-Response-and-Growth-Recovery-Development-Policy-Loan.pdf

World Bank. 2020k. "Public Health Perspective on School Reopening". Education Global Practice. Internal Document

World Bank. 2020l. "Systematization of the WB education operational response to COVID-19: A note for TTLs and teams". Education Global Practice. Internal document.

World Bank. 2020m. "The COVID-19 Pandemic : Shocks to Education and Policy Responses". World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/33696

World Bank. 2020n. "The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19." World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34432

World Bank. 2020o. "World Bank Support to Technology and Digital Innovation in Education." Education Global Practice. Internal Document

World Bank and UNESCO. 2021. "Education Finance Watch 2021." http://pubdocs.worldbank.org/en/507681613998942297/EFW-Report-2021-2-19.pdf

Wright, J.; Huston, A.; Murphy, K.; Peters, M.; Pinõn, M.; Scantlin, R. and Kotler, J. 2001. "The Relations of Early Television Viewing to School Readiness and Vocabulary of Children from Low-Income Families: The Early Window Project". Child Development. https://www.andrews.edu/~rbailey/Chapter%2014/5548963.pdf

Zoido, P., Székely, M., Flores, I., Castro, E., Acevedo, I., Pérez Alfaro, M., and Fernández-Coto, R. 2020. "The educational costs of the health crisis in Latin America and the Caribbean (Los costos educativos de la crisis sanitaria en América Latina y el Caribe)". The Inter-American Development Bank. https://doi.org/10.18235/0002838

Annex: Simulation Results in LAC by Country

The following tables provide a summary of the simulations, using the World Bank's Country Simulation Tool version 6, that were conducted for this paper. The results presented here use the same parameters as those used in the global simulations, based primarily on a country's income level. These are rough estimates which countries have individually built on by improving the accuracy of the parameters used. For the parameters used in previous global simulations by the World Bank or by individual countries referenced here, please refer to their original publications.

Table A1: Simulation Results for LAYS by Country

COUNTRY	BASELINE	7 MONTHS	10 MONTHS	13 MONTHS
Argentina	8.4	7.6	7.1	6.7
Brazil	7.9	7.1	6.6	6.2
Chile	9.4	8.5	7.9	7.4
Colombia	8.6	7.7	7.3	6.8
Costa Rica	9.0	8.1	7.6	7.2
Dominican Republic	6.6	5.8	5.4	5.0
Ecuador	8.7	7.8	7.3	6.9
El Salvador	7.6	6.8	6.4	6.1
Guatemala	6.3	5.5	5.1	4.8
Guyana	6.8	6.0	5.6	5.2
Haiti	6.1	5.5	5.3	5.0
Honduras	6.1	5.4	5.0	4.7
Jamaica	7.1	6.2	5.8	5.4
Mexico	8.8	7.9	7.4	7.0
Panama	6.5	5.6	5.2	4.7
Paraguay	7.0	6.2	5.8	5.4
Peru	8.6	7.8	7.3	6.9
Trinidad and Tobago	9.1	8.2	7.6	7.1
LAC Region	7.7	6.9	6.4	6.0

Table A2: Simulation Results for PISA Scores by Country

COUNTRY	BASELINE	7 MONTHS	10 MONTHS	13 MONTHS
Argentina	402	378	365	352
Brazil	413	389	376	363
Chile	452	426	408	391
Colombia	412	389	375	362
Costa Rica	426	403	390	377
Dominican Republic	342	318	305	292
Ecuador	409	385	372	359
Guatemala	369	345	332	319
Honduras	371	352	342	333
Mexico	420	397	384	371
Panama	377	350	333	316
Paraguay	370	346	333	320
Peru	401	377	364	351
Trinidad and Tobago	427	401	383	366
LAC Region	399	375	362	348

Table A3: Simulation Results for Share of Students BMP

COUNTRY	BASELINE	7 MONTHS	10 MONTHS	13 MONTHS
Argentina	52%	62%	68%	73%
Brazil	50%	59%	64%	70%
Chile	31%	41%	49%	57%
Colombia	49%	60%	66%	72%
Costa Rica	41%	53%	60%	67%
Dominican Republic	79%	86%	90%	93%
Ecuador	50%	62%	69%	75%
Guatemala	70%	81%	86%	90%
Honduras	70%	79%	83%	86%
Mexico	44%	56%	63%	70%
Panama	65%	76%	83%	88%
Paraguay	68%	78%	83%	88%
Peru	54%	65%	70%	76%
Trinidad and Tobago	42%	52%	59%	67%
LAC Region	55%	65%	71%	77%

PHOTO BY: © THE WORLD BANK

PHOTO BY: © THOMAS MICHAEL PERRY/THE WORLD BANK

The sanitary and economic shocks caused by the COVID-19 pandemic brought about the most significant disruption in the history of the education sector in Latin America and the Caribbean region, leading to school closures at all levels and affecting over 170 million students throughout the region. Despite the tremendous efforts made by countries to mitigate the lack of in-person education through remote learning, education is taking a serious hit and outcomes are plummeting in the region. Learning poverty by the end of primary education could increase by more than 20 percent. Over 2 in 3 lower secondary education students could fall below minimum proficiency levels, and learning losses will be substantially larger for the most disadvantaged students. There is no time to lose. All countries must act now to make sure schools are ready to reopen safely and effectively country-wide so as to speed up the recovery process from the dramatic effects of the pandemic. They can leverage many emerging lessons and evidence, and must protect public funding for education, to enable this reopening process. While education systems face a challenge like no other, this exceptionally difficult situation also opens a window of opportunity to build back better their education systems to become more effective, equitable and resilient.