PRIORITIZING LEARNING DURING COVID-19

The Most Effective Ways to Keep Children Learning During and Post-Pandemic

Recommendations of the Global Education Evidence Advisory Panel

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Advisory Panel

Launched in July 2020, the Global Education Evidence Advisory Panel is an independent, cross-disciplinary body composed of leading education experts from around the world. Its mandate is to provide succinct, usable, and policy-focused recommendations to support policymakers' decision-making on education investments in low- and middle-income countries. It is convened jointly by the UK's Foreign, Commonwealth & Development Office (FCDO), the World Bank, and UNICEF Office of Research-Innocenti.

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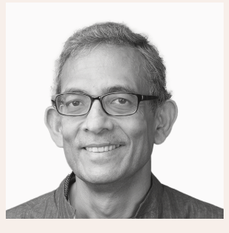

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Co-chair of the panel

Professor of Economics, MIT

Nobel prize-winning economist celebrated for experimental approach to alleviating global poverty.

Rukmini Banerji

CEO, Pratham Education Foundation. Award winner of the Yidam Prize for Educational Development

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Expert on assessing cost-effectiveness of alternative interventions to reduce poverty, including in education. Researcher and policy advisor.

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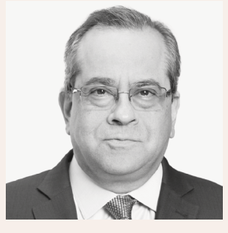

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Provost of Universidad Iberoamericana, Mexico City

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Community and developmental psychologist; has done extensive research across the US, LICs and MICs, with a particular focus on early childhood and inequality.

Executive Summary

The short- and long-term impact of the Covid-19 crisis on children's[1] education, wellbeing, and future productivity is profound. Almost two years after schools[2] began closing in most countries across the world, governments need to take urgent steps to limit the damage.

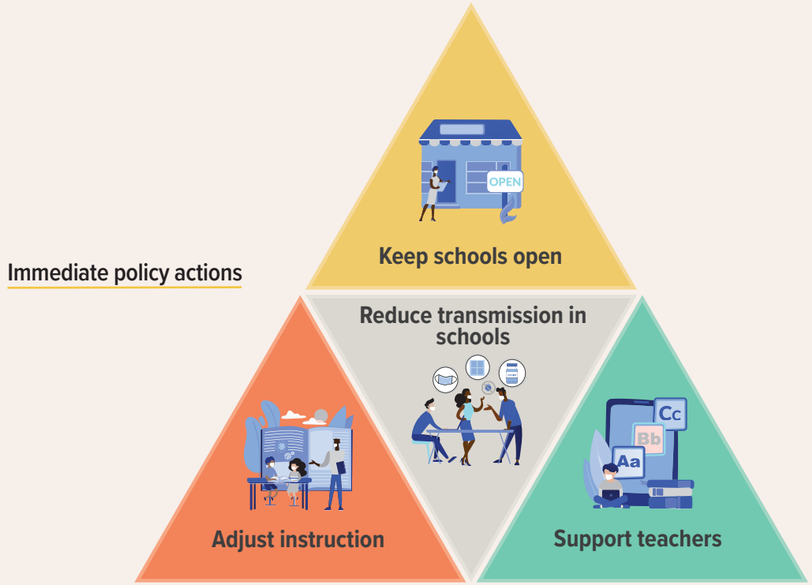
Credible estimates suggest the economic cost of lost learning from the crisis will be in the trillions of US dollars if corrective action is not urgently taken. While many other sectors have rebounded when lockdowns ease, the damage to children's education is likely to reduce children's wellbeing and productivity for decades, making education disruption one of the biggest threats to medium- and long-term recovery from Covid-19 unless governments act swiftly. In addition to necessitating urgent recovery efforts, the pandemic offers a rare opportunity to rethink and reset education provision so children across all identities, socioeconomic backgrounds and circumstances can learn and thrive.

Low- and middle-income countries (LICs and MICs) and children from lower socioeconomic backgrounds have been the hardest hit: schools have on average been closed for longer than in high-income countries, students have had less access to technology during school closures, and there has been less adaptation to the challenges of the crisis. Evidence is mounting of the low effectiveness of remote learning efforts. Hence, the loss of learning is in many cases larger than in OECD countries. The increase in education inequality that Covid-19 has brought, across and within countries, is not only a problem in its own right; varied learning levels in the classroom makes it more difficult for teachers[3] to help most students catch up, especially the most marginalized. Covid-19 is both exacerbating the learning crisis that existed pre-pandemic and increasing inequality.

This second Global Education Evidence Advisory Panel (GEEAP) report draws on insights from the latest research to document the impacts of and responses to Covid-19. It offers guidance on how education systems in LICs and MICs can respond to the damage caused by the pandemic and ensure that the learning needs, especially of marginalized and disadvantaged groups, are addressed. The report provides practical, focused advice for policymakers—advice that represents the consensus recommendations of an independent, interdisciplinary panel of global experts, based on the best evidence available during a rapidly changing crisis.

1 Throughout the report, we use the term children to refer both to children and youth.
2 Throughout the report, the term school is used to refer to education settings and learning spaces inclusively.
3 Throughout the report, the term teacher is used to refer to facilitators, community-based volunteer teachers, as well as certified and uncertified teachers.

Figure 1. GEEAP Recommendations



Key recommendations

Prioritize keeping schools and preschools fully open. At the end of 2021, some school systems are still fully closed, and many are only partially open, while the spread of the Omicron variant threatens further restrictions. As governments make tough decisions about what activity to restrict in the face of new variants, the evidence suggests education must be prioritized: general economic activity has often recovered rapidly as lockdowns ease, but school closures have caused large and persistent damage to children's education and future productivity which is hard to address. While school closures hurt all students, the costs are highest for already disadvantaged groups including poor students while adolescent girls face particular challenges. School closures also harm children by negatively affecting their mental health and in many countries their nutrition, again disproportionately affecting disadvantaged groups. Preventing these costs to children motivates keeping schools fully open. Moreover, there is accumulating evidence that children, especially younger children, are very unlikely to get severely ill from Covid, and teachers have low risk of catching Covid from their students if mitigating action is taken. Even in the case of new outbreaks, schools should be the last institution to close and the first to reopen, given the relatively low risk of transmission and the high cost to youth.

Reduce transmission in schools. The risk of transmission in schools can be sharply reduced with measures that can be adopted, even in LICs. The risks will never be zero, so teachers must be prioritized for vaccination. There is strong evidence that masks reduce community transmission and that surgical masks are substantially more effective than cloth masks. Ventilation - including simply opening lots of windows - provides protection. While handwashing is important, transmission through the air is dominant, hence the use of ventilation and masks must be prioritized.

Adjust instruction to reflect the new reality and focus on important foundational skills. Children have lost substantial school and learning time due to school disruption and the minimal effectiveness of most remote instruction. Failure to recognize and respond to learning loss is one of the reasons previous temporary school closures led to permanent damage. Governments should start by understanding where students are: how much has learning, enrolment, and attendance fallen? They must then design a response that allows teachers to teach to the actual learning level of the child, not where we hope they are. This could include catch-up programs focused on foundational skills, use of adaptive software for schools that have computers, additional instruction time, and remedial tutors.

Have adequate support to help children learn. Providing teachers with simple teaching guides combined with strong monitoring and feedback systems can help them structure their pedagogical approach and ensure that children learn effectively. Additional tutoring can also help children catch-up.

Lessons learned during school disruption. Many innovations were introduced while schools were closed or partially closed. This experience provides important lessons for future school closures and potentially for improving education more generally, especially if attendance continues to be disrupted even when schools are open.

a. Leverage existing technology. Remote online education was not available to most students in LICs and MICs and was not as effective as in-person learning even for those who could access it. However, technology will be part of the solution in all education systems. In some cases, technology can be used to expand support to teachers and reach them with support material and training at scale; in other cases, it can be used as a classroom tool to improve teaching effectiveness. Moreover, simple steps to keep in touch with students via the phone proved effective in several countries and their use could be further explored.

b. Encourage parental engagement. Parents are always important in education but too often they are ignored by policymakers. During Covid-19, they were often forced to take on a larger role. While this level of involvement is not sustainable, parents have been shown to be protagonists of their children's education. Studies prior to the pandemic demonstrate how some parental involvement approaches can increase children's learning at low cost to the parent. These include direct communication from schools to parents, engaging more with young children in educational activities, reading books to a child (where the parent is literate), or sharing simple exercises for the parent to use with their child by text or phone call. Supporting the role of parents must be part of public policy in the medium term.

Without large-scale, effective, and swift government action, the impact of the Covid-19 crisis on education will be catastrophic for children in LICs and MICs. This report is designed to provide practical steps and policy options to guide governments' investments and protect children's futures.

Introduction

The short- and long-run impact of the Covid-19 crisis on children's education will be profound. There is an urgent need for education systems to recover. In addition, the pandemic offers a rare opportunity to rethink and reset education provision so all children, irrespective of their socioeconomic background and circumstances, can learn and thrive.

Making education a central part of the Covid-19 recovery requires strong political commitment but has high returns. While the costs of school closures are not seen immediately, a large body of evidence suggests that the long-term costs of school closures may dwarf the short-term costs of reduced economic activity. Economic recovery in the medium to long term requires addressing both the education losses caused by the pandemic and the education system failures it exposed. Nearly every aspect of education was impacted by the pandemic: access to schooling fell, nutrition was hampered, learning losses occurred, learning inequality increased, logistics became more complex, teachers' jobs became harder, and child mental health and sometimes sexual health deteriorated. The poorest and most marginalized suffer most during crises: they are less likely to be able to access remote learning or have parental support to keep learning at home (e.g., Bacher-Hicks et al., 2021); they are more likely to permanently drop out of school (e.g., Bandiera et al., 2020) and have lower learning outcomes (Wolf et al., 2021; The World Bank, UNESCO & UNICEF, 2021).

This report seeks to provide practical guidance to education policymakers around the world to respond to these complex challenges. We do not attempt to provide a single recipe for responding to the educational impacts of Covid-19–every policymaker faces different constraints. Rather, we set out the evidence on the extent of the damage to education in different contexts, what the evidence suggests the long-term impacts will be if this damage is not addressed, how the response has varied in different contexts, and what are effective strategies for repairing the damage and mitigating the impact of future waves. Policymakers can then choose the strategy that best addresses their context by formulating an evidence-based learning recovery program (The World Bank, UNESCO & UNICEF, 2021).

Across the world, one of the greatest obstacles to effectively tackling the challenges of the pandemic has been systemic misalignments between national policies and the reality on the ground, such as wide disparities in internet access by region. The Covid-19 crisis has raised the importance of making sure policies reflect local realities and of having platforms to exchange ideas and experiences so that policymakers can rapidly respond to emerging challenges and evidence. Tackling the education crisis caused by Covid-19 therefore requires both decentralised input as well as national coordination (e.g., Heaner et al., 2021). Education must also be at the forefront of discussion on how to regenerate economies: if education is not at the heart of countries' recovery plans, economic recovery will be much weaker.

Selection criteria for evidence

Throughout the Covid-19 crisis, researchers have focused on studying Covid's effects on learning loss and opportunities to continue learning in the context of the pandemic. Emerging evidence provides a picture of how the pandemic is affecting children, including vulnerable and disadvantaged groups. The long-term impact of the Covid-19 crisis on education will take many more years to fully understand but evidence from past school closures suggests the impacts will be large and long-lasting.

In arriving at recommendations, this second GEEAP report puts the most weight on research that is published and peer-reviewed, although given the recent nature of the crisis we also draw on working papers and presentations. Studies were sourced by reviewing the academic literature, the grey literature, and policy reports and by seeking expert guidance across disciplines (including education, economics, psychology and public health), building on the panel's broad expertise.[4] In addition, a structured search of some of the largest research databases was conducted.[5] Descriptive evidence forms an important part of the report, especially on the extent of the learning loss from the pandemic and the different contextual responses to it. When judging the effectiveness of different interventions, we gave greater weight to quasi-experimental and randomized research studies. The paper emphasises evidence with an equity focus to promote learning for all. Where relevant, we have also included insights from studies outside education, to illuminate the appropriate education responses to the crisis.

4 Because of the recent nature of the crisis, new literature was constantly emerging as we wrote this report and more of the relevant literature was in the form of reports and unpublished papers than for our previous report. We therefore did not follow a formal systematic review process. We did however carefully screen papers for rigour and quality. Descriptive data needed to have large and representative samples, and evidence of effectiveness of impact needed credible causal identification.

5 We conducted a structured search of multiple scientific databases. We searched for "COVID", "school" and "closures" (in articles' titles), as well as "COVID", "school", "closures" (in articles' titles) and "low and middle income" (in titles or abstracts) in PubMed. We also used the Education Resource Information Center's Covid-19 descriptor and searched for "low income" and "middle income", "covid 19" and "school closures", and we selected peer reviewed articles only. We also used ECONLIT, searching for the following combinations: "covid", "school closures"; "covid", "schools"; "covid", "education"; "covid impacts"; "parental engagement", "covid" "education"; "school accountability", "covid"; "parent school participation", "covid"; and "parent education delivery" and included "randomized controlled trial". In most cases we determined whether an article was relevant for our report a priori by reading their titles and if in doubt by reading their abstracts too. In The Lancet we searched for "school closures" "covid" in the articles' title. Additionally, we searched for publications by national and international organizations such as ECDC, CDC, SAGE, IDB, ADB, NORAD, UNICEF, UNESCO and the World Bank. For example, we searched for "COVID-19 school closures learning loss" in UNESCO's publications; "COVID-19 education learning loss", "WorkingPaper" or "Article" as content types, and "Quality Education" in Sustainable Development Goals in the UN's iLIBRARY; "learning loss", "RCT" and "experimental" in IEEP's Database, Innocenti's publications, USAID DEC, and the World Bank publications data. We searched for "COVID LEARNING LOSS", "Covid experimental" and "COVID schools" in IDB's library. We used the terms "Covid learning loss", "COVID RCT" focusing on projects and case studies, and "COVID experimental" in ADB's library, narrowing the results to include publications from 2020 to 2022. For the case of NORAD we used the terms "Covid school learning loss", "Covid schools experimental" and "Covid schools RCT". Furthermore, we sent out a call for research using an online formulaire. This call for research was shared with members of the BE^2 working group and UKFIET.

Structure of the paper

Section 1 provides a description of "The State of the Problem" by drawing both from prior evidence on the impact of school closures on learning and other outcomes as well as synthesizing early estimations of the impact of Covid-19. In addition, we touch upon the pandemic's impact on children's and teachers' mental health. A persistent finding is that the pandemic has widened prevailing inequalities, primarily affecting the most vulnerable members of our societies. We then review the pandemic's estimated aggregate economic impacts in terms of the loss of human capital.

Section 2 summarizes government policies adopted across the world as a response to Covid-19 during school closures and after reopening in the school year of 2020-2021. We identify key patterns in these responses.

In **Section 3**, we leverage rigorous empirical evidence and the trends identified in the previous section to formulate a series of recommendations that we believe countries should adopt as they reopen schools. We divide our recommendations into two broad categories: immediate policy actions, and other measures to mitigate learning losses when schools are disrupted. For each of these recommendations, we provide an overview of the evidence base, pointing out areas where there is a strong consensus of what works best and where more evidence is needed.

Many possible policies can help education systems recover from the Covid-19 pandemic. In this paper, we focus on a subset of areas that should be prioritized for action because they can help recover learning loss or mitigate learning loss where schooling continues to be disrupted. The recommendations for teaching and learning support in this report apply to both government and private schools.[6] We do not attempt to cover all policies that can help improve learning outcomes in general, as these were covered in our previous report,[7] but they will continue to be important in the recovery. It is important to note that no single policy is a panacea–a suite of complementary policies will be necessary for education systems to recover from Covid-19. Finally, the pandemic exposed how fragile education systems are to large-scale shocks. As governments respond and recover from Covid-19, there should be a concerted effort to build resilience that can withstand future shocks.

6 A large number of disadvantaged children in LICs and MICs go to low cost private schools (e.g., Kingdon, 2020), which have also suffered from school closures. These students and schools have received little support to adjust to the shock induced by Covid during the pandemic.

7 Our previous report classified interventions depending on their cost-effectiveness into Great Buys, Good Buys, Promising but low evidence, and Bad Buys. Giving information on the benefits, costs and quality of education was classified as a Great Buy, while the Good Buys included having structured lesson plans with linked materials and ongoing teacher monitoring and training, targeting teaching instruction by learning level, reducing travel times to schools, giving merit-based scholarships to disadvantaged children and youth, using software that adapts to the children's learning levels where hardware is already implemented, and expanding pre-primary education.

Section 1

The state of the problem

Covid-19 shuttered schools for over 1.6 billion children at the height of the pandemic (UNESCO, 2021). These Covid school closures threaten to exacerbate a pre-existing "learning crisis" where many students were in school but learning very little even before the pandemic (World Bank, 2018; Angrist et al., 2021b). Analysis of past school closures shows large, and potentially permanent, learning losses: poorer students lose up to a month of a school year during summer breaks (Cooper et al., 1996; Kuhfeld, 2019; Slade et al., 2017), teacher strikes have resulted in long-term reductions in learning and earnings (Belot & Webbink, 2010; Jaume & Willén, 2019), natural disasters reduced learning by 1.5 grades after they occurred (Andrabi et al., 2021; Marcotte & Hemelt, 2008), and civil war have had similarly long-term impacts on learning (Galdo, 2013; Islam et al., 2016).

Short-term school closures due to Covid-19 can have potentially detrimental impacts on students' educational attainment far into the future.[8] For example, in Sierra Leone in the aftermath of Ebola, 17 percent of girls never re-enrolled in school once schools reopened (Bandiera et al., 2020), turning a short-term shock into a potentially permanent one. Short-term shocks create long-run deficits if students who fall behind stay behind, even as schools reopen. One estimate suggests an average child in grade 3 who loses 1 year of learning during Covid-19, could lose up to 2.8 years' worth of schooling in the long-run if they re-enter school far behind grade-level expectations (Angrist et al., 2021a).

These results consider two primary sources of learning loss:[9] deterioration in learning levels as well as the opportunity costs of the learning foregone while schools were closed.

Emerging data show large learning losses due to Covid-19. Some of the earliest estimates include Maldonado and De Witte (2021), finding that students in the "Covid cohort" that suffered from school closures in Belgium had 0.19 standard deviations (SD) lower scores in mathematics than prior cohorts of students on standardized tests. Learning losses appear to be even larger in LICs and MICs.[10] In South Africa, post-pandemic cohorts in Grade 4 are estimated to have reading losses of between 62% and 81% of a year of learning compared to pre-pandemic cohorts, using three longitudinal studies (Ardington, Wills & Kotze, 2021). A study in Karnataka, India, showed decreases in both literacy and numeracy at the primary level, equivalent to one year of schooling (ASER Centre, 2021).[11] Losses in Mexico have been estimated to be 0.34 SD and 0.62 SD in reading and numeracy respectively (Hevia et al., 2022). In Brazil, a natural experiment in which some students received in-person classes and others remote classes, showed that students in remote classes learned nearly 75% less[12] and had a 2.5 higher risk of dropout (Lichand et al., 2021). Early evidence from Ethiopia (Kim et al., 2021), India (Banerji, 2020) and Pakistan (Akmal et al., 2020) suggests a slowdown in learning progress relative to pre-Covid cohorts. The World Bank, UNESCO, and UNICEF (2021) estimate that school closures of one year map on average to one year of lost learning.

Moreover, the pandemic has widened education inequalities. While higher-income families have the resources to access alternative means of instruction that can compensate for the losses associated with school closures, such as online classes, families with lower incomes have far fewer instructional opportunities (Andrew et al., 2020; Bacher-Hicks et al., 2021; Bansak & Starr, 2021; Chetty et al., 2020; Dietrich et al., 2020; Engzell et al., 2021; Smetackova & Stech, 2021). In the Netherlands, an 8-week shutdown led to a 3-percentage-point (0.08 SD) learning loss, equivalent to ⅛ of a school year, but 55% of the loss was concentrated in just 8% of families with less educated family members (Engzell et al., 2021). Data from 2020 and 2021 are showing that inequality is increasing along several dimensions in LICs and MICs, including gender, geography, socioeconomic background, public-private school status and age-grade (The World Bank, UNESCO & UNICEF, 2021; Azevedo, Gutierrez, de Hoyos & Saavedra, 2021). This is worrisome, given that these education systems were already unequal before the pandemic.

Inequality has also been exacerbated through food insecurity, which is critical in its own right and can have knock-on effects on education (Nguyen et al., 2021; Fore et al., 2020). About 388 million children across the world received school meals daily prior to the pandemic (WFP, 2021). School meal programs can increase school enrolment, attendance and retention, while providing a safety net during crises to reduce food insecurity (Fore et al., 2020). However, school closures disrupted this link. At the height of school closures in April 2020, 370 million children across the world were missing out on school meals (WFP, 2020),[13] at a time when the pandemic had already increased poverty and food security. Several programs have attempted to distribute food to homes with varying success (e.g., Colón-Ramos et al., 2021), and international agencies recommended continuing to provide nutritious food for vulnerable children through other channels such as home delivery, take-home rations, or vouchers (Fore et al., 2020).

Childhood malnutrition is predicted to increase as a consequence of this disruption, especially in children under 5 years. This increase in malnutrition will have long term consequences for children's cognition and future school achievement (Fore et al., 2020).

The pandemic has also affected students' and teachers' mental health.[14] Recent studies (e.g., Browning et al., 2021; USAID, 2021) identify significant psychological impacts that can be directly attributed to the pandemic. These impacts include worry, fear, sadness, stress, irritability and even guilt. These impacts were higher among specific groups: women, those with poor general health status, those from a lower socioeconomic status, and those from a disadvantaged ethnic minority.

Although the evidence is still weak, a key area in which the pandemic might have exacerbated pre-existing inequalities is gender. For example, a survey in Kenya found that twice as many girls (16%) failed to return to school in January 2021 compared to boys (8%) and adolescent girls noted that school closures disrupted their access to menstrual products (Presidential Policy and Strategic Unit & Population Council, 2021). In Sierra Leone as a result of the Ebola crisis, access to reproductive health care fell (Sochas et al., 2017), teenage pregnancies rose, and school enrolment of adolescent girls fell 17 percentage points (Bandiera et al., 2020). Using projections based on pre-pandemic data, it is estimated that a 10% decline in access to contraception would lead to 48 million women with unmet need for contraception and 15 million unintentional pregnancies (Riley et al., 2020). In Ethiopia, over 20,000 women had an unmet need for contraception and over 8,000 additional unintended pregnancies resulted from the pandemic in 2020 alone (Seme et al., 2021). However, pre-existing gender inequalities vary substantially by country, with girls disadvantaged in most of Africa and South Asia and boys disadvantaged in some Latin American countries. Similarly, the gendered impact of the pandemic is likely to vary by country; for example, in Ghana, school dropout during the pandemic was higher for boys than girls (Abreh et al., 2021).

Simulations suggest the long-run economic costs of Covid-19-induced school closures could be very large. Combining estimates of learning loss during the pandemic with estimates of the economic return of additional learning suggests today's children could earn US$17 trillion less as a result of the pandemic over their lifetime (Azevedo et al., 2021c) if catch up efforts are not successful. There is strong evidence that past school closures have led to the long run education and earnings losses these simulations forecast

8 Of note, it is difficult to isolate losses exclusively from being out of school to alternative learning trajectories caused by different social contexts such as natural disasters or wars.

9 Throughout the report, we use the term "learning loss" to specifically refer to school-based learning losses, since children continue learning wherever they are through contact with people and their environment.

10 Donnelly and Patrinos (2021) provide a systematic review that focuses on the extent of learning losses in Belgium, the Netherlands, Spain, the United States, Switzerland, Australia and Germany. They found that the majority of these studies reported finding learning losses that ranged from null estimates (and even learning gains among some university students) to 0.29 SD. Some studies also found increases in pre-existing inequalities. In the context of LICs and MICs, these estimates can be considered a lower bound of the extent of learning losses. Similarly, Thorn and Vincent-Lancrin (2021) document that the available evidence suggests that school closures should not be assumed to have had an overall negative impact in student learning in HICs.

11 A similar study across 5 states of India found that over 80% of children lost a specific language or mathematical ability from their previous academic year (Azim Premji Foundation, 2021).

12 These results average math and Portuguese scores of a quarterly standardised test.

13 The severity of this crisis led to the creation of the School Meals Coalition in April 2020.

14 Maternal depression and anxiety also increased during Covid-19 (Hamadani et al., 2020; McCoy et al., 2021). See Sherr et al. (2021) for a review of past crises and their impact on children's mental health.

(Jaume & Willen 2019; Andrabi et al., 2021). This suggests the human capital costs of the pandemic could persist longer than the economic shocks. Estimates from Norway deem as substantial even the immediate loss of parental productivity from school closure (Andresen, Bensnes & Løkken, 2020). Assuming an additional year of education provides 8% higher earnings, currently enrolled students in low-income countries will forgo US$168-US$364 billion in lifetime earnings from school closures in 2020/21 (Psacharopolous et al., 2021). Using similar methodology for preschools, McCoy et al., (2021) forecast losses of US$308 billion in adult earnings for 167 million pre-primary children across 196 countries. Further closures in 2022 would increase these estimates.

Early data shows that projections of the cost of school closures informed by past crises and simulations are being realized, and in some cases, outcomes are even worse than predicted [15](The World Bank, UNESCO & UNICEF, 2021).

Covid-19 school closures are unprecedented in length and global scale, affecting over 174 countries and with average school closures lasting over 100 days in lower middle-income countries (UNESCO, 2021). Covid-19 is both exacerbating the learning crisis that existed pre-pandemic and increasing inequality.

15 Early estimates suggested a loss in lifetime earnings under a pessimistic scenario of US$16 trillion (Azevedo et al., 2021b). As mentioned above, more recent estimates updated this figure to US$17 trillion (Azevedo et al., 2021c).

Section 2

How are education systems responding to the Covid-19 crisis?

Given the stakes of potential human capital losses, governments have responded with a historic suite of education policies designed to mitigate the impact of school closures, although the types of policies adopted have varied substantially. Figure 1 shows how widespread school closures have been.

Across the world at the height of the pandemic, 1.6 billion children were out of school. Even at the time of writing this report, dozens of countries still haven't fully reopened schools.

We quantify and summarize government responses by income category using data from a global survey of ministries of education.[16] Tables 1 and 2 in the Appendix [17] show these policies in detail, but a few key trends emerge:

Learning loss is rarely being measured in low- and middle-income countries. To understand and address learning loss, it must first be measured, yet less than half of countries reported having plans to measure learning loss at the primary level, and only a third of LICs reported planning to measure losses at a secondary level. Measuring learning loss (at least in a random sample of schools) is a critical action many education systems should prioritize.

There is striking heterogeneity in types of technology adoption, with many low and middle-income countries adopting radio- and television-led solutions. With schools closed, many countries turned to remote learning enabled by technology. However, the type of technology varied widely by income level. For instance, 96% of HICs reported adopting online platforms, compared to 16% of LICs. In contrast, radio and television were the most popular education delivery technologies among LICs, with only 18% of HICs reporting using radio to deliver education. Similarly 75% of HICs reported using take-home packages, compared to only 25% of LICs.[18] While over 80% of households in LICs and MICs own mobile phones (Carvalho & Crawfurd, 2020), only 17% of LICs reported using this technology to reach households, suggesting untapped potential for this high-access, low-cost medium to reach households.[19]

There is great heterogeneity in types of support that teachers received during school closures of 2020. Teachers in HICs and MICs countries received substantially more support to tackle the crisis than those in low-income countries, including in the use of Information and Communications Technology (ICT) tools, instruction on distance learning, and teaching content. For example, in more than 85% of HICs and MICs, teachers received teaching content support, while this was the case only for less than a third of LICs. Teachers in HICs and MICs also received substantially more professional, psychosocial, and emotional support, and professional development. More than 80% of these countries implemented these measures, but less than half of LICs did.

Many countries have not adjusted what and how they teach, or established curricula priorities to

16 Survey of National Education Responses to Covid-19 School Closures, a joint effort from the World Bank, UNESCO, UNICEF and the OECD. Specifically, we use data from the 3rd iteration that compiles responses from education ministries focusing on school closures and the subsequent reopenings during 2021.

17 Table 1 in the Appendix shows the share of respondent countries classified by income that adopted specific responses during school closures. Table 2 covers policies after school reopenings.

18 Heterogeneity in adoption rates directly responds to a great heterogeneity in initial conditions in these countries. For instance, data from the International Telecommunications Union (ITU) shows that in 2019 50% of the population in low- and middle-income countries had access to the internet. This share is 89% in high-income countries. Similar data shows that in high-income countries individuals had up to 128 mobile phone subscriptions per 100 people. In low-income countries however, this number averages 60. Another source of heterogeneity is the cost of mobile data, for instance. The ITU estimates that the average cost of 1.5 GB of mobile broadband was 115 PPP$ in Asia and the Pacific, and 9 PPP$ in Europe in 2019. In contrast, the cost averaged 21 PPP$ in Africa and 26 PPP$ in the Americas during the same year.

19 Note that many of these remote technology-based interventions were not tested. Technology-based solutions have the inherent risk of exacerbating prevailing levels of inequality. A technology-based intervention should be adopted when the appropriate hardware is already in place and as a complement to in-person teaching. This is explained in more detail in the following section of the paper.

reflect the new realities. Less than half of all countries reported having adjusted the expected curricula to be covered following school reopenings. Among HICs, this percentage is 20%. Among those that implemented changes, there was a consensus on the subjects that were prioritized. Nearly all countries placed a greater emphasis on reading, writing, and mathematics. This focus on foundational skills might ensure these competencies receive increased attention post-pandemic. At the same time, the minimal curriculum adaptation to date suggests a missed opportunity to adjust teaching to children's learning levels, rather than continuing with curricula which even before the pandemic were often not well matched to students' learning levels.[20]

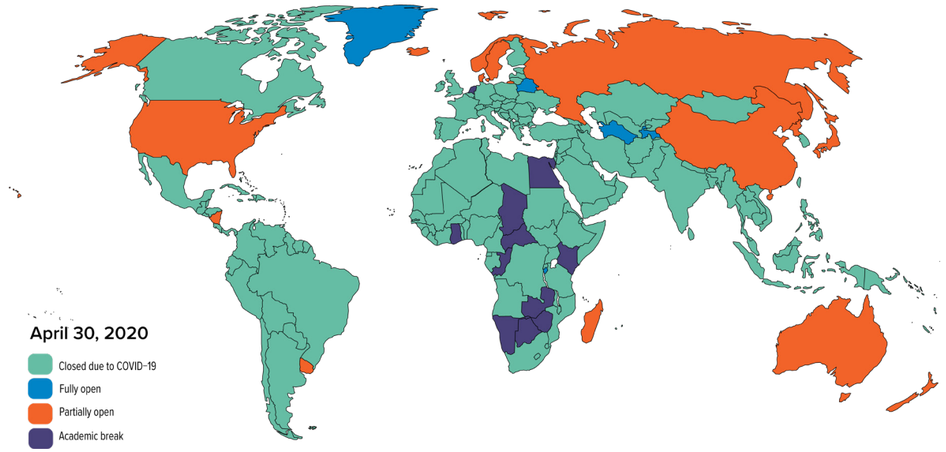
Education budgets have grown in some countries, creating a historic opportunity to rebuild education systems for more equitable access and improved quality. An initial concern was that Covid-19 would reduce budgets across government ministries and education ministries would face cuts as governments prioritized other economic sectors. However, more than 1/3 of the countries reported increasing their education budgets during 2021. This might be due to the increased salience and political pressure to prioritize education as citizens were more intimately involved and affected by the Covid-19 education shock; it may also be because costs rose due to mitigation measures such as sanitation and social distancing. In contexts where budgets have decreased, it is even more important that governments focus their resources on cost-effective solutions. In countries where budgets are increasing, the pandemic presents an opportunity to enact new reforms and improve on business as usual. Using these additional resources to best effect requires close attention to cost effectiveness. In both cases, addressing learning loss and improving education delivery which meets the needs of the most marginalised and disadvantaged should be a priority.

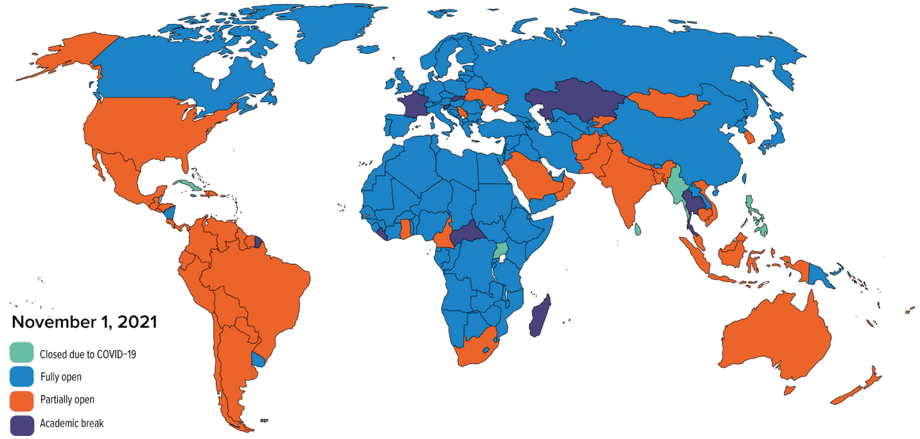
Although many new approaches were introduced by necessity during the pandemic, few are being evaluated, highlighting an urgent need for evidence. Few of the innovations adopted as a consequence of the 2020 school closures have been evaluated. While radio and television were the most popular solutions adopted in low-income countries, only about a third of the countries reported having assessed their effectiveness in any way, with the likelihood that only a small proportion of these will be rigorous enough to produce robust causal evidence on impact. This highlights the need to increase the evidence base of cost-effective responses to learning loss and inequalities in education.

In Section 3, we draw on existing and emerging evidence on the cost-effectiveness of responses to the challenges raised by Covid-19 for education to provide governments and donors with practical, evidence-based guidance they can use.

20 While the importance of curriculum reform is acknowledged, we recognize that it is a complex process with great systemic repercussions. For this reason, this report focuses on adjusting teaching to match students' levels. For more detail, see the discussion in the following section.

Figure 2. Status of Schools Across the World





Source: UNESCO

Section 3

Recommendations for governments to address Covid-19's impact on education

In this section, we make recommendations on the most effective ways to address the specific challenges to education caused by Covid-19 drawing on rigorous evidence generated during the pandemic and relevant pre-pandemic evidence. For each recommendation, we provide supporting evidence, including information on the contexts in which these approaches have been tested. We also discuss ways in which the recommendations can be modified to fit the resources and needs of different country contexts.

We start with policy recommendations for immediate action. Many schools are not yet fully open, and, with Covid-19 cases rising again, it is essential that education is protected as a priority through keeping schools fully open and supporting children to return. We discuss the evidence on strategies to mitigate the spread of Covid-19 in schools. We also discuss a range of practical measures to enable children to catch-up the losses caused by the pandemic. Finally, we discuss the accumulating evidence on innovations introduced during school closures and whether any of those innovations can be leveraged to build more effective and resilient education systems going forward. This is important as school attendance might be low if infections increase.

Immediate policy actions

Prioritize keeping schools fully open for all students across all grades, including preschool

Supporting evidence

The large educational, economic, social, and mental health costs of school closures (discussed above) and the inadequacy of remote learning strategies to substitute for in-person learning, suggest full or partial school closure should be a last resort in government Covid-19 mitigation strategies. The evidence suggests these costs fall particularly heavily on disadvantaged groups[21] and girls, including through increased risk of teen pregnancy, underscoring the need to keep schools open. Health advisory bodies concur.

Because losses in human capital reduce income and productivity throughout a child's life, the impacts of school closures will last longer than disruptions in many other sectors. This suggests that keeping preschools, primary, and secondary schools fully open should be prioritized over keeping open non-education sectors where disruptions cause only shorter-term losses. This includes reestablishing school meals immediately as they can play a key role in getting children back to school, and increasing attendance as well as improving food security.

Of note, while many countries have started to reopen schools, this is often partial, with only some grades returning to school, for example, and new Covid-19 waves threaten to induce new school closures. Full reopening is a priority.

> **Moreover, ensuring students consistently attend school is critical. Various strategies to ensure attendance include information campaigns targeting parents, reducing the cost of school, conditional cash transfers, and providing school meals.**

21 This is not exclusive to socioeconomic factors, but also applies to health such as having mental illnesses or any forms of disabilities. For example, adolescents prone to depression are particularly vulnerable given the unique combination of a public health crisis, social isolation and economic recession that the pandemic represents. In situations where in-person attention is not feasible, online single-session interventions have recently been found to be effective in reducing depression symptoms, hopelessness, and restrictive eating, and in increasing agency.

Reduce transmission in schools:
prioritize teachers for the Covid-19 vaccination, provide and use masks where assessed as appropriate, and improve ventilation

Supporting evidence

The evidence suggests that transmission of Covid-19 within schools is sharply reduced when mitigating action is taken, such as using masks and ventilation,[22] even when transmission rates in the community are high. Children, especially younger children, are less likely to suffer severe illness or die from Covid-19, although recent evidence has found they have similar infection rates to adults. Recent CDC guidance[23] concludes: "The evidence to date suggests that staff-to-student and student-to-student transmission are not the primary means of exposure to SARS-CoV-2 among infected children." This is particularly the case for pre-primary and primary settings. Given the high cost in human capital, the extended closure of pre-primary and primary schools across the globe should be a last resort as a response to Covid-19. Risks to teachers have declined as vaccination rates and other mitigation measures have increased, and even in contexts without teacher vaccination, transmission from children to teachers is relatively low with appropriate mitigation.[24] Even though most of this evidence is pre-Omicron, masking, ventilation and vaccinations continue to be effective in reducing risk. Schools should be last-closed and first-opened as governments attempt to control transmission of future waves.

Many studies show that a combined set of mitigation measures are effective in reducing in-school transmission. Studies that separate the impact of individual measures in schools are rare but suggest ventilation and masking are particularly effective. There is also literature showing that handwashing is highly effective in reducing transmission of cold and flu viruses although relatively few cases of Covid-19 transmission can be linked to surface transmission. Even when schools cannot afford a full range of mitigation measures, relatively cheap and simple steps can have substantial payoff; for example, masking is estimated to reduce transmission in schools by 37% in one study and natural ventilation (e.g., keeping doors and windows open) can also help reduce transmission of the virus. Outside of the school context, there is very strong evidence of the effectiveness of Covid-19 vaccination at preventing severe illness and death. Given the large economic costs of school disruption, teachers should therefore be prioritized for vaccination.

> **The strongest evidence for the benefits of masking comes from outside of school contexts: even imperfect masking substantially reduced community transmission (a 30 percentage point increase in mask wearing reduced transmission by 11% for surgical masks and 5% for the cloth masks often used in schools). While many schools in LICs cannot afford high-quality filters, The low proportion of infections from outdoor contact suggests the natural ventilation in many LIC classrooms provides some protection.**

22 This has been observed in countries such as Austria, Germany and the United States.
23 Updated on December 17, 2021.
24 When schools were opened in North Carolina in the fall of 2020 (i.e., pre-vaccination), over 9 weeks with 90,000 students only 3 cases of child-to-adult transmission were documented (Zimmerman et al., 2021).

Provide additional instructional support to teachers:
provide structured pedagogical support, and engage additional instructors (e.g., tutors)

Supporting evidence

Teachers have faced unprecedented challenges during Covid-19, with the need to adapt to new remote-learning methods, cope with students who have fallen behind, and handle a much wider distribution of learning in their class. Most HICs have provided substantial support to teachers in response (80% provided adapted teaching content), but this is less common in LICs and MICs (e.g., only 10% of LICs report having provided specific teacher guidelines).

Interventions that provide teachers with carefully structured pedagogy programs have been found to cost-effectively increase literacy and numeracy, particularly when simple and structured (and not overly scripted). Simple guides give teachers room to make use of their own professional skills when instructing children, while providing frameworks to deliver material most effectively. When implemented along with accountability, feedback, and monitoring mechanisms, this type of intervention has been successfully scaled up at a national level. In contrast, general-skills training programs, which might be considered a natural response to events such as the pandemic, have largely not been found to have impacts on learning.

The data suggest that teachers in low- and middle-income countries have been largely under-supported during the Covid-19 pandemic when it comes to receiving teaching guidelines, training for using ICT tools, professional development activities, and teaching content. In this context, structured pedagogy and guidance–an intervention shown before the pandemic to cost-effectively improve learning–is likely to be needed during and after the pandemic more than ever.

> **Further support can also include allocating additional resources for hiring teaching assistants and tutors, which has been found to cost-effectively improve literacy and numeracy in high-income settings pre Covid-19 across dozens of studies and during Covid-19 in high-income and lower-middle-income settings, such as Botswana and South Africa.**

Adjust instruction to reflect the new reality:
assess students' learning and target instruction, focus on the foundations, and implement catch-up programs

Supporting evidence

The learning losses described in Section 1 mean that many more children than usual will have fallen behind the curricula, with the gaps between the marginalized and the better off expanding sharply during the pandemic.

Evidence prior to Covid-19 and from previous school interruptions shows that it is hard for children who have fallen behind to catch-up. In many low- and middle-income countries, primary school children were behind grade-level proficiency, and a learning crisis had already been identified even before the pandemic. Moreover, the high inequality in learning levels in classrooms, coupled with overly complicated curricula, had made instruction inefficient. One-size-fits-all curricula were not well matched to each student's level of learning, and students who did not master basic skills would fall behind and stay behind. Covid-19 has made this situation much worse with many more children falling behind the curricula and a wider range of learning levels within a classroom.

> **How can these challenges be addressed? Targeting instruction to a child's learning level has been shown to be cost-effective at helping students catch up under multiple models, including: grouping children by level all day or part of the day; and using government teachers, volunteers, or teaching assistants to provide targeted instruction (e.g., in India and Ghana). Countries could also consider introducing out-of-school catch-up programs to work with smaller groups of students.**

To catch-up, it will be critical to assess students' learning levels as schools reopen. Unfortunately, less than half of countries report having plans to assess the learning losses associated with school closures, despite early evidence showing that learning losses amount to up to an entire schooling year in India, and up to 81% of a schooling year for Grade 4 students in South Africa. Given these losses, a concerted focus is needed on foundational skills and on the use of learning data to target instruction to each child's level.

An ambitious reform that could further enable catch-up and prevent students from falling behind in the first place includes reforming curricula to better match day-to-day instruction to children's level. Evidence from Tanzania suggests that changes to curricula can cost-effectively improve learning, although such changes are time-consuming and hard to do well.

The context created by Covid-19 opens the door for governments to rethink how to ensure greater priority is given to foundational skills among other reforms. As Table 2 shows, almost half of low-income countries have expressed plans to readjust curricula, overwhelmingly prioritizing literacy and numeracy, while the other half have notably not. This reform was classified as high-potential in our previous report. The evidence base around

the importance of a concerted focus on literacy and numeracy in LICs and MICs is clear. Rigorous evaluation could help countries learn what is needed to make the rollout of these curriculum reforms a success, following the assessment of student's learning levels upon school re-entry.

> **Some alternative policies that could help remedy learning gaps involve increasing the amount of time children spend in school. For example, a way to do this could be by continuing the academic year into the next—a policy that was adopted by the Kenyan government. Targeting instructional support for minority groups and at-risk populations will be crucial to ensure equity.**

Lessons learned during school disruption

Leverage existing technology:
avoid providing devices without support; make use of technology that is already available; and focus on good pedagogy (enabled by technology rather than replaced by it)

Supporting evidence

A common mitigating measure to reach students while schools were disrupted during Covid-19 was technology-enabled distance learning. As mentioned earlier in the report, the limited success of remote learning in most education systems suggests technology was often used ineffectively. In most LICs and MICs, access to the internet was limited when the pandemic began and proved difficult to expand quickly. In some cases, countries chose to expand access to devices, but a substantial pre-Covid literature suggests simply providing computer hardware had little impact on learning. However, cost-effective technology innovations can be deployed to support learning if the expansion has the right combination of hardware, software, capacity building and technology infrastructure support. Promising uses of technology have relied on adaptive software to help teach children "at their level" when existing technology and infrastructure is already in place. With in-person school suspended, technology was often required to reach students out of school. With over 80% of households having access to simple feature phones in low- and middle-income settings, this was a promising existing infrastructure to exploit, allowing education resources to be concentrated on content–not hardware.

Pre-pandemic evidence suggested text messages could be effective in improving learning[25] (with evidence from Niger and Chile). During the pandemic, text nudges were successfully used in Brazil to increase educational engagement. Another, newer approach was weekly one-on-one, targeted phone calls by teachers and mentors to parents or caregivers and/or students (in Botswana, Bangladesh, and Nepal), with cost-effective improvements in learning in most but not all cases (Sierra Leone). While mobile phone-based interventions have been highly cost-effective in some settings, the use of mobile phones by governments remained low among low-income countries (17% compared to 57% in middle-income countries, according to the Survey of National Education responses to Covid-19 School Closures explored in Section 2). Thus, the use of mobile phone-based interventions should be further tested and adopted, given its potential cost-effectiveness.

Access to radio is high in LICs. However, despite many countries using radio instruction during the pandemic, there is little evidence of these interventions' effectiveness in this context.[26] Generating this evidence should be prioritized, given that radios are a low-cost and effective medium for transmitting messages. This will be a crucial step in assessing the feasibility of scaling up interventions that rely on this technology.

> **Overall, phone-based programming through text messages and teachers calling students and/or caregivers is a highly promising approach, although it has not yet been tested at large scale. It is particularly useful in contexts where lack of computers makes computer remote learning impossible. Countries can draw on a number of successful programs for design details, but there is also scope for much more innovation in mobile phone programming.[27]**

Where computers already exist, leveraging this hardware by using adaptive learning software to ensure targeted instruction can be a cost-effective response to Covid-19 as students return to class. Finally, while some technology-enabled interventions hold promise, many also do not, necessitating the careful use, adaptation, and testing of technology where appropriate.

26 Prior to the pandemic, the effects of radio and television as means of education delivery had also been studied in a few cases. Some examples include Jamison et al. (1981) and more recently Watson et al. (2020).

27 Some examples include supplementing messages with videos, photos, links or other attachments; different group sizes in phone-based video interventions; directing content to caregivers or parents; and exploring the use of smartphones in regions with more widely available access to the internet.

Encourage parental engagement:

engage parents in education directly or by participating actively in the school

Supporting evidence

The Covid-19 pandemic led many parents to be more directly involved in their child's education. In low-income households, parents typically have fewer educational resources and devote less time than high-income parents to their children's education. Since education happens in the household, as well as at school, helping facilitate effective parent engagement in their child's education can be valuable. This engagement must be designed in a way that does not place an undue burden on parents.

Emerging evidence suggests positive effects in primary school in Botswana and Bangladesh from support to parents to engage in short, targeted learning exercises with their child. These results reinforce findings from a review in non-Covid-19 settings which revealed that interventions involving parents via phones, texts and emails have been successful in contexts where communications are two-way, personalised, and positive. Evidence during Covid-19 showed SMS text message support to parents in preschool boosted learning for their children in Costa Rica. In addition, evidence suggests parents reading to children can help reduce learning losses related to school closures in kindergarten and primary levels, but more evidence is needed to understand how this approach can be made to work in areas with high adult illiteracy (e.g., by bringing in older siblings).

Several interventions to support parental engagement in education prior to the pandemic included information and accountability interventions. These include nudging additional educational engagement (Chile) and sharing information about the child's education (Ghana, Malawi, Mexico, France, US). These interventions show promise, even in low-resource settings, but mostly when there is a clear path to influence the quality of instruction (e.g., as was the case in Indonesia and Kenya but not in India). However, more evidence is needed on the extent to which accountability interventions can improve schooling and learning during the Covid-19 school disruptions.

Parental engagement could also be leveraged to improve children's mental health. It has been documented that Covid-19 could worsen the mental health of children and caregivers who were already at risk, and lead to new cases of mental illnesses. Past interventions targeting children and caregivers suffering from humanitarian crises that focused on parenting and social skills have found a reduction in externalising problems and attention issues. More evidence is needed to conclude exactly what works and does not in the current context, but we believe this is an important avenue that should be explored further.

Altogether, the evidence suggests that interventions to promote parents' engagement in their children's education can improve student learning, either through supporting direct parental instruction or by increasing accountability of education systems when there is a path to influence the quality of instruction.

Yet, while over 50% of HICs report trying to engage parents, few low-income countries in our sample report doing so. An effort to adopt effective parental engagement strategies, and test new ones, is salient following the pandemic and should be an area of focus in the near future.

Conclusion

Widespread school closures during the Covid-19 pandemic have led to the unprecedented loss of human capital due to learning losses and impacts on children's wellbeing.

This will have long-term costs for children's education and welfare as well as economic losses through reduced future productivity estimated to cost trillions of dollars. Relevant pre-pandemic evidence and evidence from innovations during the pandemic suggest practical ways countries can address these losses in a cost-effective way.

The most urgent need is to get all schools back to full in-person operation, offer additional instruction, and to make school and preschool closures the absolute last resort in Covid-19 mitigation. Prioritizing teacher vaccination, masking with surgical masks, and ventilation can keep transmission low within schools. This will help stem the damage being caused by the pandemic to children's education throughout the world. There are also a series of practical, cost-effective, evidenced approaches from prior school closures to facilitate children catching-up on learning foregone and to mitigate the fallout of ongoing school disruptions.[28]

The return to school is challenging for teachers and schools alike. As schools reopen, they need to address lower levels of students' learning, a larger heterogeneity of learning levels within the same classroom, and the socioemotional impacts of school closures. We encourage all countries to take stock of the losses to children's education that have occurred as a result of the pandemic and use this report as a resource to source specific cost-effective actions to address those losses.

28 Our conclusion complements those of the recent The State of the Global Education Crisis: A path to recovery report by the World Bank, UNESCO and UNICEF.

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Appendix

Table 1. Solutions Adopted During School Closures Across the World

Outline Categories	High-Income	Middle-Income	Low-Income
During School Closures			
Technology Adopted			
Online Platforms	96% (49)	81% (58)	16% (12)
Radio	18% (48)	56% (57)	66% (12)
Television	62% (49)	91% (57)	66% (12)
Mobile Phones	41% (46)	57% (57)	17% (12)
Take-Home Packages	75% (49)	62% (58)	25% (12)
Staying in Touch with Teachers			
Electronic Platforms	92% (37)	88% (35)	29% (7)
Emails	89% (37)	90% (32)	33% (6)
Conversations	88% (33)	84% (26)	17% (6)
Home Visits	24% (33)	53% (30)	14% (7)
Involving Parents	53% (32)	55% (29)	0% (5)
Phone Calls	97% (35)	94% (38)	63% (8)
Texts	91% (34)	97% (38)	83% (6)
Parental Surveys	58% (31)	78% (23)	0% (7)
Video Conferences	97% (34)	95% (39)	17% (6)
Teacher support programmes			
Guidelines	56% (43)	64% (39)	10% (10)
ICT Tools	72% (46)	56% (41)	10% (10)

Distant learning instruction	90%	94%	44%
	(49)	(50)	(9)
Teaching content	86%	84%	30%
	(48)	(46)	(10)
Professional, Psychosocial and Emotional Support	79%	87%	50%
	(47)	(44)	(10)
Professional Development Activities	81%	86%	27%
	(47)	(45)	(11)
Observations	52	62	16
Color code:	High Adoption (Over 65%)	Medium Adoption (30% - 65%)	Low Adoption (Under 30%)

Notes: Data is at the primary education level. Number of countries that answered the survey's question in parentheses.
Source: Survey of National Education Responses to Covid-19 School Closures.

Table 2. Solutions Adopted After Schools Reopening Across the World

Outline Categories	**High-Income**	**Middle-Income**	**Low-Income**
After School Reopening			
Strategies for Reopening			
Immediate Return	48%	49%	67%
	(23)	(45)	(12)
Progressive Return	48%	40%	17%
	(23)	(45)	(12)
Physical Adjustments to Classrooms	83%	69%	83%
	(23)	(45)	(12)
Adjustments to Feeding Programmes	44%	38%	25%
	(23)	(45)	(12)
No lunch at school	26%	29%	17%
	(23)	(45)	(12)
Hybrid Education	48%	51%	25%
	(23)	(45)	(12)
Attendance in Shifts	39%	69%	25%
	(23)	(45)	(12)
Return contingent on Covid tests	35%	16%	0%
	(23)	(45)	(12)
No extracurriculars	65%	68%	33%
	(23)	(45)	(12)
Curriculum Adjustments	20%	37%	43%
	(51)	(54)	(14)

Of all those who adjusted curricula...			
Reading, Writing and Literature	100%	96%	71%
	(10)	(24)	(7)
Mathematics	100%	100%	71%
	(10)	(24)	(7)
Natural Sciences	50%	75%	71%
	(10)	(24)	(7)
Social Studies	40%	54%	43%
	(10)	(24)	(7)
Second Languages	40%	33%	14%
	(10)	(24)	(7)
Catch-up programs			
For students unable to access distance learning	50%	39%	50%
	(47)	(51)	(10)
For disadvantaged students	46%	27%	40%
	(46)	(51)	(10)
Students at risk of dropping out	47%	22%	40%
	(47)	(51)	(10)
Immigrants or refugees	28%	16%	10%
	(46)	(50)	(10)
Extended Academic Year	8%	35%	71%
	(51)	(54)	(14)
Observations	52	62	16
Color code:	High Adoption (Over 65%)	Medium Adoption (30% - 65%)	Low Adoption (Under 30%)

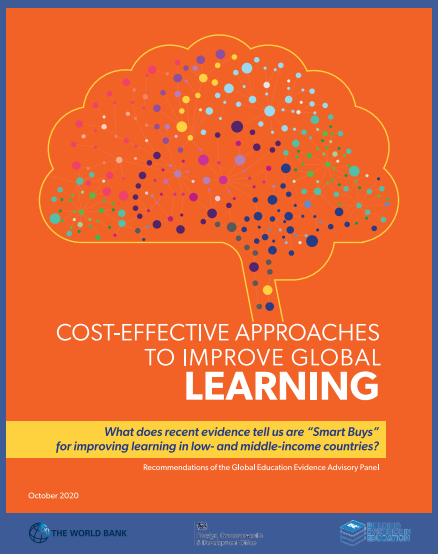
Notes: Data is at the primary education level. Number of countries that answered the survey's question in parentheses.
Source: Survey of National Education Responses to Covid-19 School Closures

This second Global Education Evidence Advisory Panel (GEEAP) report draws on insights from the latest research to document the impacts of and responses to Covid-19. It offers guidance on how education systems in LICs and MICs can respond to the damage caused by the pandemic and ensure that the learning needs, especially of marginalized and disadvantaged groups, are addressed. The report provides practical, focused advice for policymakers—advice that represents the consensus recommendations of an independent, interdisciplinary panel of global experts, based on the best evidence available during a rapidly changing crisis.

Previous GEEAP publication:

Cost-effective Approaches To Improve Global Learning: What does recent evidence tell us are "Smart Buys" for improving learning in low- and middle-income countries?

Even pre-pandemic, more than half of all children in low- and middle-income countries did not learn to read with comprehension by age 10, despite the ambitions of Sustainable Development Goal 4 for "inclusive and equitable quality education and lifelong opportunities for all."



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