

## KEY POINTS

- School closures led to substantial learning losses that urgently need to be recovered to prevent lasting impacts on student progression, human capital formation, and livelihoods.
- A key first step after schools safely reopen is to test students to determine how much knowledge was lost or forgone and at what level to restart instruction, after which attention should focus on regularly tracking the progress of learning.
- Teaching based on the student's level, with the help of teaching assistants, tutors, or education technology (edtech), is crucial for learning recovery, as it has proven effective in improving learning outcomes.
- Prioritizing foundational skills, extending instruction time, and encouraging the re-enrollment of dropouts are also important for learning recovery.
- Quality in-service teacher training is needed to support changes in pedagogy.

## How to Recover Learning Losses from COVID-19 School Closures in Asia and the Pacific

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There is substantial evidence of extensive learning losses worldwide due to school closures during the coronavirus disease (COVID-19) pandemic. If left unaddressed, these losses threaten to create a generation of students with diminished lifetime economic prospects. In turn, future individual and national productivity will be lower. This brief outlines complementary strategies that ministries of education, local school boards, school administrators, and teachers can implement to recover learning losses (Figure 1).

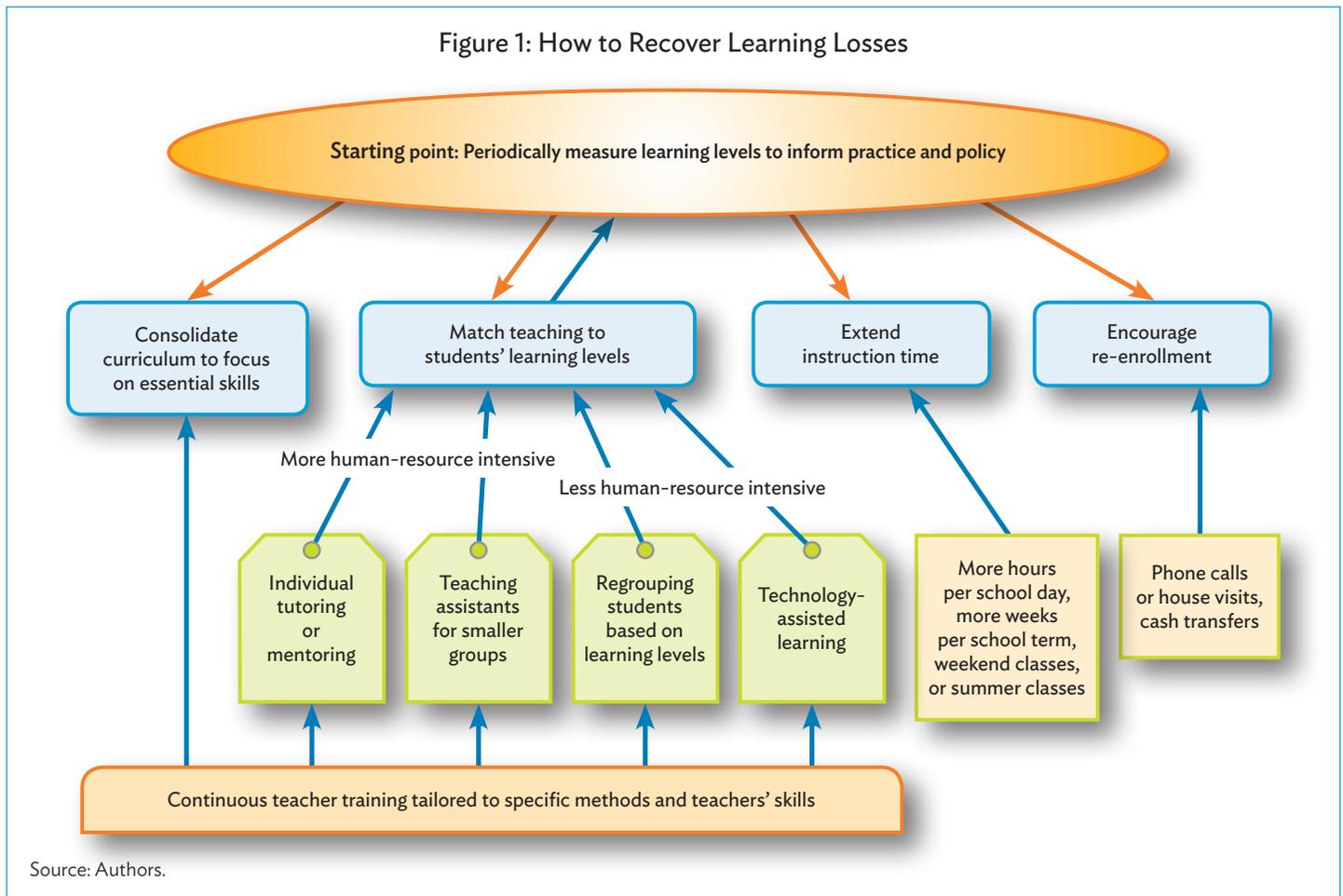
Recovery should start with testing students to inform teachers, schools, and education policy makers of the severity of learning loss. Knowing the degree of learning loss will guide teachers on where to restart lessons as schools reopen. It will also act as a baseline for policy makers to evaluate the impact of learning recovery policies. There are four basic strategies to recover learning loss. First, teaching should be tailored to the students' current learning level. Any classroom contains students at different learning levels. Following the prevailing practice in advanced economies, education systems in some developing economies had been experimenting with differentiated teaching approaches even before the pandemic. Adoption of this approach is essential after schools reopen, as the pandemic has widened disparities in learning levels. Second, the curriculum can be revised or consolidated to give

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Notes: In this document, "\$" refers to United States dollars. ADB recognizes "China" as the People's Republic of China.

Figure 1: How to Recover Learning Losses



more time to core or foundational competencies, notably in literacy and mathematics. Third, learning hours—within the day, the week, or the year—can be increased. This can involve supplementary classes, a longer school week, or a reduced break between academic terms. Fourth, re-enrollment campaigns can encourage the return of students who dropped out during the pandemic and are at risk of not returning.

To be effective, these approaches will require that teacher competencies be improved through new courses and in-service training programs. Such support is needed to introduce methods for teaching to the student’s level and knowing how to deliver revised curricula. In addition, these approaches can be applied in economies where a learning crisis existed before the pandemic. Innovations that have been tested to address the learning crisis can be adapted to learning recovery and to strengthen education systems in the longer term.

Large and unequal learning losses caused by school closures, as well as evidence that schools have not been major transmission sites for COVID-19 (Viner et al. 2022), also underscore the importance of keeping schools open unless major unprecedented

risks emerge. In-person classes are essential for avoiding further losses. For children who have already experienced substantial learning loss, assessing these losses and supporting learning loss recovery must be urgent priorities. The following sections provide further details on the learning loss challenge, assessment, remedial strategies, and teacher training requirements.

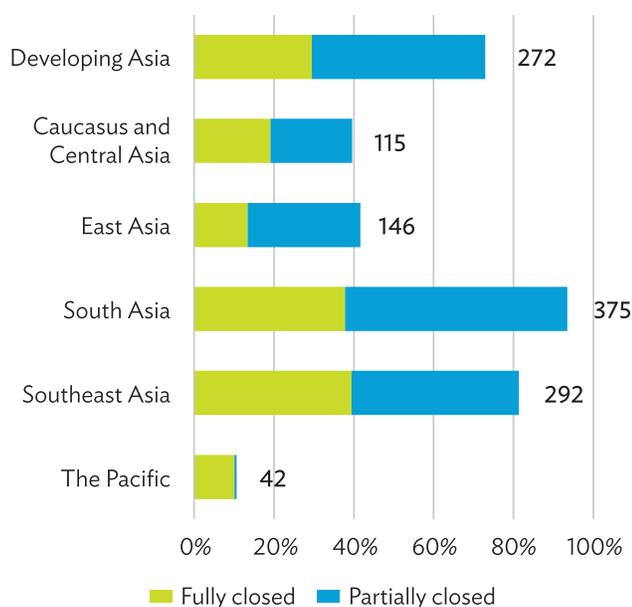
## THE LEARNING LOSS CHALLENGE

The pandemic caused the longest and most widespread school closure in recent history. Schools in developing Asia were closed for a total of 272 instruction days on average, or 73% of the instruction days between February 2020 and October 2021 (Figure 2). The average length of school closures was particularly long in South Asia (375 days) and shorter in other regions such as the Pacific (42 days).

As a result, students in developing Asia are estimated to have lost what they would typically learn in nine-tenths of a school year (Asian Development Bank 2022).<sup>1</sup> A recent review of studies

<sup>1</sup> Asian Development Bank (2022) estimates that students in developing Asia lost on average 0.57 learning-adjusted years of schooling (LAYS). Based on the 2020 ratio of developing Asia’s average LAYS to expected years of schooling (EYS), this learning loss is equivalent to 0.86 EYS.

**Figure 2: Instruction Days Closed (% and number), February 2020 to October 2021**



Note: Average number of instruction days partially or fully closed is indicated beside each bar. Each day of partial closure is counted as one day. Data refer to closures of educational institutions for students enrolled from pre-primary to upper secondary levels [International Standard Classification of Education levels 0 to 3].

Source: Authors' calculations using data from the United Nations Educational, Scientific and Cultural Organization (UNESCO) Global Monitoring of School Closures, <https://en.unesco.org/covid19/educationresponse> (accessed 27 June 2022); for Hong Kong, China and Taipei, China, Oxford COVID-19 Government Response Tracker, [www.bsg.ox.ac.uk/covidtracker](http://www.bsg.ox.ac.uk/covidtracker) (accessed 27 June 2022).

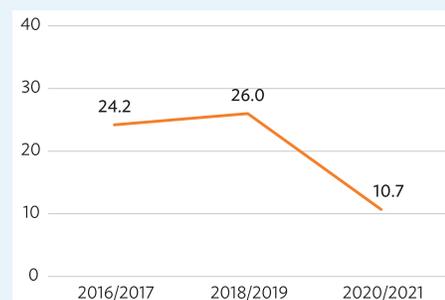
**Box 1: Evidence of Learning Losses from Student Assessments in 2021**

Prior to the coronavirus disease (COVID-19) pandemic, the share of students in rural Karnataka, India who could read a Grade 2 level text increased by 25.1 percentage points (pp) from Grade 2 to Grade 4. But this increase slowed to 10.7 pp for students tested during the pandemic (in 2020/2021)—a 60% decline in learning progress. Panel (a) shows the 2-year pp increase in the share of cohorts in rural Karnataka who can read at a Grade 2 level and are in Grade 4 at the end of 2 years.

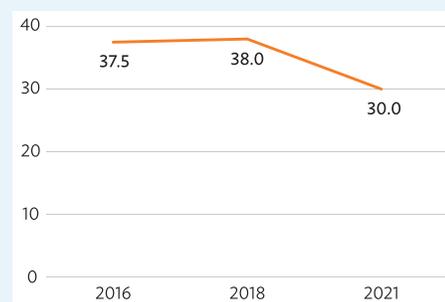
In rural Chhattisgarh, India, the reading and math levels that children achieved within 2 years in the pre-pandemic period required 3 years in the period that included the pandemic. This suggests a learning loss of about 1 year.<sup>a</sup>

Prior to the pandemic, the percentage of students in rural Pakistan who could do 2-digit arithmetic division increased by 38 pp over 2 years. That gain slowed to 30 pp for the cohort of students tested during the pandemic. Panel (b) shows the 2-year pp increase in the share of cohorts in rural Pakistan who can do 2-digit division and are in Grade 5 at the end of 2 years.

**(a) Increase in share of students able to read Grade 2 text in rural Karnataka (pp)**



**(b) Increase in share of students capable of 2-digit arithmetic division in rural Pakistan (pp)**



<sup>a</sup> ASER Centre. 2022. Status of Learning During the Pandemic: Evidence from 3 States in 2021. New Delhi. [http://img.asercentre.org/docs/statusoflearning\\_22.04.pdf](http://img.asercentre.org/docs/statusoflearning_22.04.pdf).

Sources: Authors' calculations using data from the Annual Status of Education Report (ASER) Centre 2022 for panel (a) and the ASER-Pakistan Secretariat reports from 2014, 2016, 2018, 2019, and 2021 for panel (b).

worldwide found that, on average, students lost half a year's worth of learning (Patrinos, Vegas, and Carter-Rau 2022). In India and Pakistan, students learned significantly less during the pandemic than before it started (Box 1). In Riau Province, Indonesia, 40% fewer students in Grades 2 and 3 could read and comprehend text in 2021 than in 2018.<sup>2</sup> Extended time out of school combined with negative shocks to household income during the pandemic also led to higher dropout rates. Surveys conducted in half of Bangladesh's 64 districts revealed that 13% of primary-level students in 2021 were planning to drop out of school (Li, Sharma, and Matin 2021). These learning losses set back efforts in addressing the learning crisis before the pandemic. Recent estimates suggest that in low- and middle-income economies, learning poverty—defined as the percentage of children who are unable to read and understand a simple text by age 10—increased from 57% in 2019 to 70% in 2022 (World Bank 2022).

<sup>2</sup> *The Jakarta Post*. 2022. Tackling Learning Loss, Improving Literacy. Inforial. 18 May. <https://www.thejakartapost.com/adv/2022/05/18/tackling-learning-loss-improving-literacy.html>.

A common finding of studies that analyze student assessments in developing economies is that learning losses have been highly unequal (Moscoviz and Evans 2022), affecting students from poor families more severely due to larger negative shocks to family income, inferior internet access, and lower ability of parents to support learning. This has led to students returning to school with widened gaps in learning levels.

The impact of learning losses can escalate over time if not promptly remediated. For example, the 2005 earthquake in Pakistan closed schools for just 3 months, but affected children continued to fall farther behind their unaffected peers in subsequent years. Four years after the disaster, affected children were 1.5 grades behind cohorts who were not exposed to the earthquake (Andrabi, Daniels, and Das 2021).

Setting aside the potential for learning losses to worsen over time, the lost learning of students in developing Asia due solely to periods of school closure during the COVID-19 pandemic is projected to reduce lifetime earnings by \$3.2 trillion (at constant 2020 prices) (Asian Development Bank 2022). Children whose education was disrupted by other major events such as World War II or the Cultural Revolution in the People's Republic of China had significantly lower earnings over their lifetimes (Ichino and Winter-Ebmer 2004; Giles, Park, and Wang 2019). If left unaddressed, learning losses during the pandemic will limit students' economic prospects. Lost learning will affect their progression to higher levels of education, their future productivity and earnings, and national productivity.

## IMPROVE TESTING TO MEASURE LEARNING LEVELS AND TRACK RECOVERY

As in-person learning restarts, it is important to know the current level of students' knowledge. Economies should administer student assessments at two levels. The first is a nationally representative learning survey using a standardized test to inform policy makers.<sup>3</sup> The second is conducted at the school level to inform teachers and school administrators.

The standardized test should be representative at both the national and subnational levels, including other feasible levels of disaggregation, including public versus private schools, between grades, and rural versus urban areas. The information obtained

will be useful for policy makers to determine the starting point regarding the average learning level, the extent of disparities, and the subject areas where policy makers need to focus. Ideally, the survey should be administered to households, to capture students who are absent from class or who have dropped out of school.<sup>4</sup>

The assessments should focus on measuring foundational literacy and numeracy. To better understand the impacts of the pandemic on learning levels, it is advantageous to use test questions that were also administered prior to the pandemic. The assessment should then be repeated at least annually to evaluate progress. Such follow-up assessments can play an invaluable role in assessing and adjusting approaches taken to recover learning loss (as well as other educational reforms). Policy makers can use the results to target and tailor support to schools, teachers, and households. One useful publicly available test instrument for foundational reading and mathematics is the United Nations Children's Fund (UNICEF) Multiple Indicator Cluster Survey (MICS), which was introduced in 2017 and has been implemented in 19 Asian economies.<sup>5</sup>

To better identify the types of households, schools, and communities where students were at greatest risk of learning losses, the survey can include specific questions about the experience of children during the pandemic: their enrollment status, grade level, duration of school closure, remote forms of education offered and used, adult supervision while studying at home, learning progress, and internet connection at home. A useful reference for designing appropriate survey questions is the education module of the World Bank's High-Frequency Phone Surveys conducted during the pandemic.<sup>6</sup>

The second type of assessment is a periodic formative assessment of individual students' learning levels for the purpose of creating and implementing a plan for learning recovery. Teachers should conduct these formative assessments at school reopening and continue at regular intervals thereafter to track student learning, adjust their teaching, offer further support to lagging students, and determine whether catch-up strategies are effective.

Continuous formative assessment is essential for tailoring teaching to the level of individual students. Here, too, foundational knowledge and concepts should be emphasized. Technology can be used to rapidly equip teachers to conduct these assessments and plan teaching appropriately. For example, the Indonesian

<sup>3</sup> While most economies implement national standardized examinations, these are limited to specific grades (usually at the end of a particular education level, i.e., primary education, secondary education), only for those enrolled in school, and summative in nature. Also, while snapshots of literacy or numeracy skills can be estimated for most economies using various international surveys (Angrist et al. 2021; Le Nestour, Moscoviz, and Sandefur 2022), in many economies these surveys are done only every 3 to 5 years or cover only specific grades.

<sup>4</sup> Since school-based tests are usually perceived as high-stakes examinations, there are issues with cheating, teaching to the test, or other issues that compromise the accuracy of the results (Berkhout et al. 2020; Singh 2020). A household-based survey automatically alleviates concerns that students' performance will be used to measure the performance of school personnel.

If dropout rates are low and class attendance rates are high, particularly for younger children, the representativeness of the survey will depend less on whether it is conducted in school or at home. There is little evidence of dropout among children in the early primary school years (Moscoviz and Evans 2022).

<sup>5</sup> Available at <https://mics.unicef.org/tools?round=mics6>.

<sup>6</sup> Questionnaires are available at <https://microdata.worldbank.org/index.php/catalog/hfps/?page=1&ps=15&repo=hfps>. The education module is contained inside the full questionnaire.

Ministry of Education created a mobile phone app and a web platform to assist teachers.<sup>7</sup>

These assessments should be administered in a language that both teachers and students are familiar with. Oral tests can be administered in addition to paper-and-pencil tests as many students may not be able to pass the written test simply due to difficulty with reading.

Both types of assessments are likely to reveal variation in the impact of the pandemic by education level (pre-primary, primary, or secondary), or even early grades versus later grades at the primary level. Variation is likely for the overall extent of learning loss, the specific types of skills or knowledge lost, and dropout rates. Furthermore, there may be differences in the extent of loss between public and private schools, and depending on measures deployed to stem losses during the pandemic and efforts to recover learning after school reopening. These variations call for different ways to recover lost learning.

### TEACH TO THE STUDENT'S LEVEL

Differences in the learning levels of students in the same class appear to have increased as a result of the pandemic (Moscoviz and Evans 2022). In many economies, these differences were already considerable prior to the pandemic and were a key cause of the learning crisis and high levels of learning poverty (Prichett 2013). In a classroom of disparate abilities, weaker students are not able to grasp new material and tend to fall farther behind. The problem can be addressed by implementing a method that tailors teaching to the level of each student or each ability group of students. In this section, we describe different ways to teach to the student's level that have been found effective in a developing economy context.

A common method to teach at the student's level is to divide the classroom into groups based on students' level of knowledge and provide customized lessons to each group. One teacher will be hard-pressed to manage this alone, so additional personnel will be required, notably teaching assistants. Deployment of teaching assistants to provide such support boosted student test scores in randomized control trials of primary school students in Ghana, India, and Kenya (Banerjee et al. 2007; Duflo, Dupas, and Kremer 2011; Duflo, Kiessel, and Lucas 2021).

The strength of this method is that it improves the rate of learning without increasing students' classroom time. The challenge is that it requires teaching assistants to be recruited and trained quickly in time for school opening. Nevertheless, hiring teaching assistants for remedial purposes is more cost-effective than hiring new teachers altogether (Banerjee et al. 2007).

If funds are inadequate to hire teaching assistants, students may still be regrouped according to learning levels and existing teachers may be reassigned to these groups. Students in each grade can be assigned to different sections according to initial test scores and instruction can be tailored to each section. A randomized experiment in Kenya revealed that students in both the top and bottom sections benefited from this type of assignment (Duflo, Dupas, and Kremer 2011). Concerns about students being assigned and subsequently stuck in lower- or higher-performing tracks can be addressed with regular reassessment and reassignment so students can consistently be in a group with students at a similar learning level, even if they learn faster than other students in a given group.

Education technology (edtech) programs can also support teaching at the student's level. Feedback loops, incorporated into edtech programs, can assess a student's individual learning level and then provide lessons appropriate for that level. This approach can be especially effective for learning loss recovery because disparities among students have increased. In addition, edtech can play a critical role in formative assessment during the school year, after in-person classes have resumed. Such assessment not only gauges student progress but can help determine whether learning recovery strategies in the classroom are effective.

Prior to the pandemic, various edtech programs had been developed and tested. For example, a doubling of gains in math test scores was detected as a result of using the Mindspark software in Delhi, India (Muralidharan, Singh, and Ganimian 2019), and positive effects persisted even when the software was used at a larger scale in the state of Rajasthan, India (Muralidharan and Singh 2021). It is important to monitor whether devices are being used for learning purposes and not merely for leisure activities, and to watch out for other learning activities that edtech could be replacing (Malamud and Pop-Eleches 2011). The magnitude of gains from edtech can differ when it is used as an after-school supplement compared with when it is used to replace part of in-school instruction (Muralidharan and Singh 2021).

Along with in-class assistants and edtech programs, tutoring (or mentoring) can also provide individualized attention to each student. One low-cost method adopted during the pandemic delivers 15- to 30-minute tutorials weekly through mobile phone calls by teachers or volunteer tutors. This method improved the foundational numeracy of primary-level students by 30% in Nepal (Radhakrishnan et al. 2021) and 32% in Bangladesh, along with a 55% improvement in English literacy in the latter (Hassan et al. 2021). Part of these gains can be attributed to guidance that mothers received over the phone, showing that parental involvement can make a difference in children's learning outcomes.<sup>8</sup> This approach was first introduced in Botswana, where it brought about substantial learning gains and reduced innumeracy by 31% (Angrist, Bergman, and Matsheng 2022).

<sup>7</sup> Available at <https://guru.kemdikbud.go.id> (in Indonesian).

<sup>8</sup> There are also cases in which telementoring has not been effective, notably in randomized control trials conducted in Kenya (Schueler and Rodriguez-Segura 2021) and Sierra Leone (Crawford et al. 2021). What sets these telementoring experiences apart from those that resulted in learning gains is the latter's effective combination of this method with pedagogy that teaches to the students' level.

Staffing a tutoring program or providing teaching assistants on a national scale can be made feasible by tapping human resources from existing teacher aide programs or using higher grade students in a tiered structure. High school students can help teach primary-level students, and college or university students can tutor high school students. In both cases, the assistant or tutor can receive credit in their program of study (Kraft and Falken 2020). Peer and cross-age tutoring has been found to benefit both tutees and tutors (Robinson, Schofield, and Steers-Wentzell 2005).

Another low-cost solution allows learners to use a mobile phone to call a toll-free number and listen to prerecorded lessons and instructions. The technology gives learners a menu of options and allows them to select lessons, perform exercises, answer questions through voice response or keypad selection, and move forward based on their own rate of progress. A parent or guardian checks whether the learner is following instructions and the tasks are

accomplished. A randomized control trial of this method with out-of-school children in Bangladesh found strong, positive gains in learning (Islam, Wang, and Hassan 2022).

Although it is difficult to directly compare the cost-effectiveness of programs designed to support teaching to the students' level, Box 2 provides more details on the cost, impact, and specific design of different programs that have been rigorously evaluated.

Following successful experiments of teaching to the student's level, some economies have set out to implement the method at scale. Shortly before the pandemic, it was adopted by more than 20% of primary schools in Botswana. It has been adopted for over 60 million children worldwide and is currently being tested for adaptability and scalability in India, Nepal, the Philippines, Kenya, Uganda, and Zambia (Angrist 2022).

### Box 2: Costs and Benefits of Selected Programs Designed to Teach at the Student's Level

Policy makers need to know which programs to improve learning are most cost-effective. However, direct comparisons between programs are difficult to make because they vary in context, design, duration, and objective. It is thus hard to determine the cost per unit of learning when the unit of learning varies between programs. Nevertheless, rigorous evaluations of some programs provide an idea of the costs and benefits involved.

Mobile phone calls were used to deliver tailored, supplementary instruction to students in Bangladesh and Botswana while schools were closed to in-person instruction during the coronavirus disease (COVID-19) pandemic. Call duration, grade levels, test instruments, and local context differed between these two programs. In Botswana, the program was delivered to 1,518 children over 8 weeks and cost \$19 per child. It improved their numerical skills by 6% and reduced innumeracy by 31%, based on the assessment tool of the Annual Status of Education Report.<sup>a</sup> In Bangladesh, the program was delivered to 419 children over 13 weeks and cost \$19 per child. It improved their foundational numeracy by 32% and English literacy by 55%, based on a 1-page test designed specifically for the study.<sup>b</sup>

Also in Bangladesh, prerecorded lessons were delivered through mobile phone calls to 1,182 out-of-school children over 15 weeks.

The program cost \$27.50 per child. The children showed learning outcomes that were 32% higher than those of their counterparts, based on quick one-on-one assessments.<sup>c</sup>

In India, after-school learning centers that use the Mindspark edtech software charge a subscription fee of about \$15 per student per month. An experimental study that gave free access to 314 students showed that math scores improved by as much as 38% and Hindi scores by up to 17% after 4.5 months.<sup>d</sup>

In Ghana, two teaching innovation programs can be directly compared. The first program hired secondary school graduates through the National Youth Employment Program as teaching assistants for remedial learners. Assistance was provided either outside of school hours or during school hours in special groups for part of the day. It cost between \$18.77 and \$19.60 per student per year. The second program divided three grades of students by learning level instead of grade level for part of each day and reassigned existing teachers. It cost about half as much and improved student test scores by about half as much as the first program. These two programs demonstrated the same level of cost-effectiveness.<sup>e</sup>

Note: Benefits expressed in percentage terms are calculated by authors using treatment effects on unstandardized test scores reported in the studies.

<sup>a</sup> N. Angrist, P. Bergman, and M. Matsheng. 2022. Experimental Evidence on Learning Using Low-Tech when School is Out. *Nature Human Behaviour*. 13 June. <https://doi.org/10.1038/s41562-022-01381-z>.

<sup>b</sup> H. Hassan, A. Islam, A. Siddique, and L. C. Wang. 2021. Telementoring and Homeschooling during School Closures: A Randomized Experiment in Rural Bangladesh. *Munich Papers in Political Economy*. No. 13. TUM School of Governance at the Technical University of Munich.

<sup>c</sup> A. Islam, L. C. Wang, and H. Hassan. 2022. Delivering Remote Learning Using a Low-Tech Solution: Evidence from an RCT during the Covid-19 Pandemic. *EdTech Hub Working Paper*. No. 43. <https://docs.edtechhub.org/lib/FE3VBQQW>.

<sup>d</sup> K. Muralidharan, A. Singh, and A. J. Ganimian. 2019. Disrupting Education? Experimental Evidence on Technology-Aided Instruction in India. *American Economic Review*. 109 (4). pp. 1426–1460.

<sup>e</sup> A. Duflo, J. Kiessel, and A. Lucas. 2021. Experimental Evidence on Alternative Policies to Increase Learning at Scale. *NBER Working Paper*. No. 27298. <http://www.nber.org/papers/w27298>.

Sources: Authors and as indicated.

## CONSOLIDATE THE CURRICULUM

Teaching to the student's level depends on the ability of teachers to adjust the range of competencies to be covered in response to student assessments conducted when schools reopen. In many cases, to ensure that critical foundational competencies are mastered, curricula will need to be streamlined and prioritized. This is especially important during the catch-up process following COVID-19 closures, which needs to be accomplished as quickly as possible to prevent further delays to students' advancement.

In the past, accelerated learning programs were developed to cover material in about half the time it used to take. For example, the Government of Iraq implemented an accelerated learning program in 2005, in partnership with UNICEF, that helped out-of-school youth aged 12–18 complete the 6-year primary cycle in just 3 years (Page et al. 2021). In Tanzania, a 2015 reform that increased the amount of instruction time devoted to foundational literacy and numeracy significantly improved student skills within a year of implementation (Rodriguez-Segura and Mbiti 2022). The effects were even larger when coupled with well-timed teacher training. Indonesia's Ministry of Education launched an emergency curriculum reform during the pandemic, allowing teachers to focus on teaching at the level of their students rather than ensuring curriculum completion. The experiment was successful, and the flexible curriculum is now being rolled out as the new national curriculum.<sup>9</sup>

Consolidating the curriculum involves setting priorities and making decisions on which lessons are essential for each grade. It means identifying the skills, knowledge, and competencies that are important building blocks for later learning. Consolidation can be decided on and implemented through a curriculum committee, which should be given policy and expert technical support from the ministry of education (World Bank, UNESCO, and UNICEF 2021). In settings where such a committee already exists, it can refocus on learning recovery; whereas, in other settings, it may need to be established anew.

Teachers play a vital role in implementing the curriculum in the classroom. Thus, curriculum consolidation should be a collaborative and iterative process whereby teachers are involved as equal co-designers and each piece of the curriculum is piloted with real teachers in schools before implementation. Curriculum consolidation should be coupled with a shift in teacher/school monitoring priorities, from curriculum completion to student learning growth, to enable teachers to unreservedly implement the consolidated/simplified curriculum.

Streamlining the curriculum is a delicate balancing act. Selecting the skills to be prioritized means giving students more chance to master those skills, but it can also mean forgoing the chance to learn other important skills that are taken out of the consolidated curriculum.

## EXTEND LEARNING TIME

Additional classroom time can give students the opportunity to cover material missed because of school closures. This can take the form of hours added to the school day, weekend classes, and reducing the breaks between academic years and terms. Dedicating a clear time slot for remedial lessons is also important for effective implementation of targeted instruction.

Pre-pandemic studies on extending instruction time generally show improvements in student learning, though the results are context-specific. Notably, when the school day is short to begin with (e.g., half a day), students make considerable progress if the school day is extended to a full day (Bellei 2009; Orkin 2013; Radinger and Boeskens 2021). However, there are points of diminishing returns. Beyond a certain number of hours, boredom or fatigue can set in, students make less effort and are less able to concentrate, and absenteeism can rise (Rivkin and Schiman 2015).

Summer school programs designed to make up for learning deficiencies can also be effective, especially if instruction is tailored to individuals or small groups (Cooper et al. 2000). Organizing these programs in a boot-camp format and complementing learning with extracurricular activities can make them more engaging for students.

Many economies have opted to adjust the academic calendar and/or increase class hours since the return to in-person classes. In the first year of the pandemic, 46% of economies in Asia and the Pacific adjusted their calendars. Economies in the East Asia and Pacific region were particularly proactive, with 63% adjusting their calendars and 25% opting for longer class times (UNESCO 2021). In Japan, many schools reduced the length of the summer break. For example, in Nara City, the break was shortened from 34 to 16 calendar days. With this approach, coupled with the use of remote learning during school closures, learning losses were quickly recovered (Asakawa and Ohtake 2021). The Indian state of Odisha cut the break from 48 to 11 days.<sup>10</sup> In Thailand, losses from initial school closures were to be offset by a plan to extend the academic year, increase class hours, provide online self-learning resources, and provide additional take-home exercises (UNESCO 2021). In Nepal, constraints to the use of remote learning during the pandemic led authorities to extend the school year by 2 months (April to June) in 2021.<sup>11</sup>

<sup>9</sup> M. Heyward. 2022. COVID-19 and Education Reform in Indonesia. Devpolicy Blog. 25 May.

<sup>10</sup> M. Singha. 2022. Odisha: School Summer Break Down to 11 Days. *The Times of India*. 1 May.

<sup>11</sup> B. Ghimire. 2021. Ministry Decides to Extend School Year by 2 Months. *The Kathmandu Post*. 19 February.

## STRENGTHEN RE-ENROLLMENT CAMPAIGNS

Children who have been away from school for extended periods can lose interest and motivation. Economic adversity may cause parents to take their children out of school. Although administrative data indicate that COVID-induced dropout is often limited, it is significant in some economies, such as India and Pakistan (Moscoviz and Evans 2022). Where this is a problem, it is important to support re-enrollment with public information campaigns, community monitoring and mobilization efforts, and financial incentives. Campaigns can also publicize the instructional reforms that schools are implementing to help lagging students and dropouts reintegrate and catch up with their peers, thus making re-enrollment more attractive.

Class records can inform teachers and school administrators about students who dropped out during the pandemic. Once these students are identified, checking in on them through phone calls or house visits can help encourage them to re-enroll.

Financial incentives can also be provided to encourage parents to re-enroll their children or to keep them in school if they are vulnerable to dropping out. Prior to the pandemic, cash transfer programs, conditional on school attendance, usually increased enrollment rates (Glewwe and Muralidharan 2016). Such programs may be augmented with additional funds to encourage re-enrollment.

## TRAIN TEACHERS FOR LEARNING RECOVERY

Teachers must be equipped with the skills to implement a catch-up strategy to deal with learning recovery. Programs that improve learning outcomes need to be coupled with continuous training of teachers on these instruction methods. It is important to train teachers to conduct formative assessments and use them to identify students' learning levels and skill gaps, and to adapt instruction accordingly (World Bank 2018). These trainings can be customized for teachers, teaching assistants, and tutors, including students who will be tapped to tutor peers or younger students.

Effective training includes detailed support tailored to the skill levels of teachers and gives detailed guidance on what and how teachers should teach (Evans and Popova 2016). Low-quality teacher training, common in many developing economies, will not be effective even when provided at scale. Trainings that include follow-up with teachers in the classroom to ensure that new skills are employed as well as those that include incentives for career progression are found effective (Popova et al. 2022).

Training content can be digitized and used to complement in-person training. Digitized training resources mitigate quality dilution when rolling out the training program and offer reinforcement after the training sessions are conducted.

Teacher training can absorb a substantial portion of teachers' time, which is a limited resource. Education systems and school administrators need to work with teachers and help them organize their calendars to make room for regular upskilling. Identifying tasks that are better delegated to others can help make time for training. Here, too, digital technology can help. The administrative burden on teachers can be eased by automating tasks such as student grading, formation of student learning groups, and generating both child and skill-wise student reports.

Pairing experienced and new teachers can be a cost-effective approach to on-the-job upskilling and can also be part of a hybrid professional development program for teachers. A dedicated group of mentors can be recruited, ideally from within the system, to train teachers prior to the program launch and provide continued post-training support. Strategies to ensure a sufficient number of quality coaches are needed. In addition, policy makers may need to increase their investment to ensure all teachers can be adequately trained in a relatively short period of time.

## CONCLUSION

Learning losses due to school closures have been substantial in Asia and the Pacific. Efforts are urgently needed to recover those losses to avoid negative long-term impacts on student learning progression, well-being, future earnings, and economy-wide productivity. Young people's economic prospects are in jeopardy at this critical juncture, and students will not catch up by simply returning classrooms under the pre-pandemic status quo.

Ministries of education, local school boards, school administrators, and teachers can implement policies and programs to recover lost learning. This brief outlines several complementary methods: tailoring teaching to each student's level, consolidating the curriculum, extending instruction time, and encouraging dropouts to re-enroll.<sup>12</sup> These efforts will need to be supported by initial (diagnostic) and ongoing (formative) assessment to ensure that learning is restarted at the right level. Key reforms may also involve a new approach to teaching and learning that requires teachers be offered a chance to learn new pedagogies to use in the classroom. In other words, students need to recover lost learning, and can best do so if teachers learn effective techniques.

Even prior to the pandemic, many developing economies in Asia and the Pacific were suffering from a learning crisis, with high levels of learning poverty. Learning losses due to COVID-19 exacerbated this situation, and strategies adopted for the purpose of recovering pandemic losses can also address the preexisting learning crisis.

<sup>12</sup> These strategies are consistent with the key recommendations of the Global Education Evidence Advisory Panel (2022).

Key challenges for governments are finding effective ways to organize, coordinate, and scale up these strategies, while securing the necessary funding.

Each economy has had a unique experience since the pandemic began. The length of school closures has differed, and so too has the ability to use remote instruction effectively to stem losses. These differences have affected education systems that already varied widely in their learning effectiveness before schools were closed for extended periods. School reopening should be seen as an opportunity to take stock and ensure that education systems are reformed to address both learning losses that occurred when schools were closed and the causes of learning crises that predated the pandemic.

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