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School Closures and Regional Policies to Mitigate Learning Loss due to COVID-19: A Focus on the Asia-Pacific

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Tel: +1 514-343-6880
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Cover design: büro svenja

Short Summary

Progress to SDG 4 at risk

Global school closures as a result of COVID-19 have caused learning losses for millions of children despite efforts to deploy remote learning options. Greater economic insecurity among families may also affect school enrolment as many struggle to pay school fees, or require children to work to supplement family income. Ultimately, this will lead to rising dropout rates, estimated to be as much as 4% in a region where 128 million children and young people were already out of school before COVID-19. The largest number of learners at risk reside in South and West Asia.

Together, the education and economic fallout from the pandemic threaten progress toward the Sustainable Development Goal for education (SDG 4). Even prior to the COVID-19 disruptions, progress towards SDG 4 was lagging in many countries in the Asia-Pacific and without significant contributions to education finance, the pandemic threatens to push the region even further behind.

This report breaks down the effects of school closures. It considers, for example, how many schools were closed, and when, across the Asia-Pacific, and the effects on different levels of education from early childhood education, through to primary and secondary school. The report analyses country efforts to implement remote learning, and strategies to mitigate learning losses as the proportion of students expected to fall below minimum proficiency levels is expected to rise.

To achieve SDG 4, all children and young people, and especially those in marginalized groups, need support to get the education they need and deserve.

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Foreword

The COVID-19 pandemic has complicated the path to achieving the Sustainable Development Goal for education (SDG 4) as school closures have led to significant learning losses for children around the world. This has been compounded by economic stresses which will likely set back progress in getting more children in school. The UNESCO Institute for Statistics (UIS) has been at the forefront of efforts to collect and produce data to help policymakers and education stakeholders better understand the impact of the pandemic on education. With funding from the Global Partnership for Education and UNESCO's Education Response to COVID-19, the UIS has produced joint quarterly surveys with UNESCO, the World Bank and UNICEF on the national responses to the pandemic. This UIS has also produced a survey on the impact of COVID-19 on data production and a survey to measure inequality in education.

School Closures and Regional Policies to Mitigate Learning Losses: A Focus on the Asia-Pacific, jointly prepared by the UIS and the UNESCO Regional Office for Education in Asia-Pacific (UNESCO Bangkok), specifically considers school disruptions due to the pandemic and the impact on education in the Asia-Pacific and its subregions. It also looks at how countries in the region can get back on track to meet national SDG 4 commitments, providing detailed analyses of school closures by subregion and education level.

The report then segues to government efforts to deploy remote learning modalities, the strategy for each subregion, the development and effectiveness of each remote learning option, and teacher readiness. Also considered are the national responses to re-opening and, crucially for SDG 4, learning losses sustained as a result of school closures.

On this last point, to meet the SDG 4 Indicator 4.1.1 on learning outcomes, children must meet specific minimum proficiency levels in reading and math. Our analysis considers current research in this area as well as different trajectories for learning based on catch up strategies deployed at the national level.

As part of efforts to ensure progress in SDG 4, the UIS has been working with national, regional and international partners to develop interim regional and national benchmarks for seven key SDG 4 Indicators. These benchmarks are intended to create more achievable, realistic goals for countries, creating a path to success for SDG 4. It is clear that COVID-19 has set up extra challenges for meeting SDG 4 learning objectives. This report lays out where we are while suggesting a way forward.

We would like to thank Roshan Bajracharya from the UIS regional office in Bangkok for leading this report as well as Christian Dohrmann, Nyi Nyi Thaung and Ren Meng (intern) from the UNESCO Bangkok Office for their support in data/information compilation, professional inputs, and reviews. Daniel Philip Calderbank and Tanya Guyatt provided editorial assistance.

Silvia Montoya
Director, UNESCO Institute for Statistics

Shigeru Aoyagi
Director, UNESCO Asia and Pacific Regional Bureau for Education

Lockdown and school closures. Indian school kids watching online education classes at home.

1. The global pandemic and school closures in the Asia-Pacific region

1.1. Global and regional socioeconomic impacts of COVID-19

The COVID-19 pandemic has had an unprecedented impact across the world. Following the first case detected in Wuhan, China, the virus forced countries to lock down their societies in an effort to contain the spread of the contagion.[1]

By July 2021, the World Health Organization reported nearly 190 million confirmed cases, globally, with more than 40 million in the Asia-Pacific region.[2] By then, the virus had claimed over 4 million lives, globally, and over 592,000 lives in the Asia-Pacific region.

But the COVID-19 pandemic has been far more than a health crisis – it has had a catastrophic effect on the very core of societies across the world. The necessary and immediate public health response, such as shutting down, or curtailing, economic operations caused economic output to plummet in 2020, destroying jobs and livelihoods and causing poverty to rise, especially among those who were already vulnerable.[3] The crisis continues to overwhelm health care systems and government responses. Policy measures and interventions will determine the human toll of the virus; as well as progress towards the Sustainable Development Goals (SDGs), placing a huge responsibility on policymakers.

According to the International Monetary Fund (IMF),[4] the global economy shrank by 3% in 2020, and while growth is expected to rise by around 6% in 2021, it will be uneven and largely driven by fiscal stimulus in the United States and a stronger performance in China. Income losses in the Asia-Pacific are expected to be large. The International Labour Organization (ILO) estimates a 12.1% loss in working hours globally in the third quarter of 2020, equivalent to 345 million full-time jobs – 185 million of which are resident in the Asia-Pacific.[5] The impact of the pandemic will vary from country to country and region to region, but it will increase poverty and inequality, making achievement of all the SDGs more problematic. In particular, SDG 4 for education will be affected as economic hardship reduces both the demand for and the supply of quality education even once schools have re-opened.

This prognosis necessitates the implementation of socio-economic responses in order to minimize global suffering and reduce the highly negative impact on individuals and livelihoods for years to come. Immediate development responses must be undertaken in order to achieve a better future.

Education is fundamental to development, growth and intervention activities to combat the pandemic-induced crisis. The steady and sustainable development of various developmental concerns, from health advances and agricultural innovations, to efficient public administration and private sector growth, all depend on the quality of a nation's human capital formation.

1 Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is the virus that causes Coronavirus Disease 2019 (COVID-19).
2 WHO (2021). WHO Coronavirus Disease (COVID-19) Dashboard https://covid19.who.int/ Accessed on 18th May 2021.
3 UNDP (2020). The Social and Economic Impact of COVID-19 in the Asia-Pacific Region.
4 IMF (2021). World Economic Outlook.
5 ILO (2020). ILO Monitor: COVID-19 and the world of work.

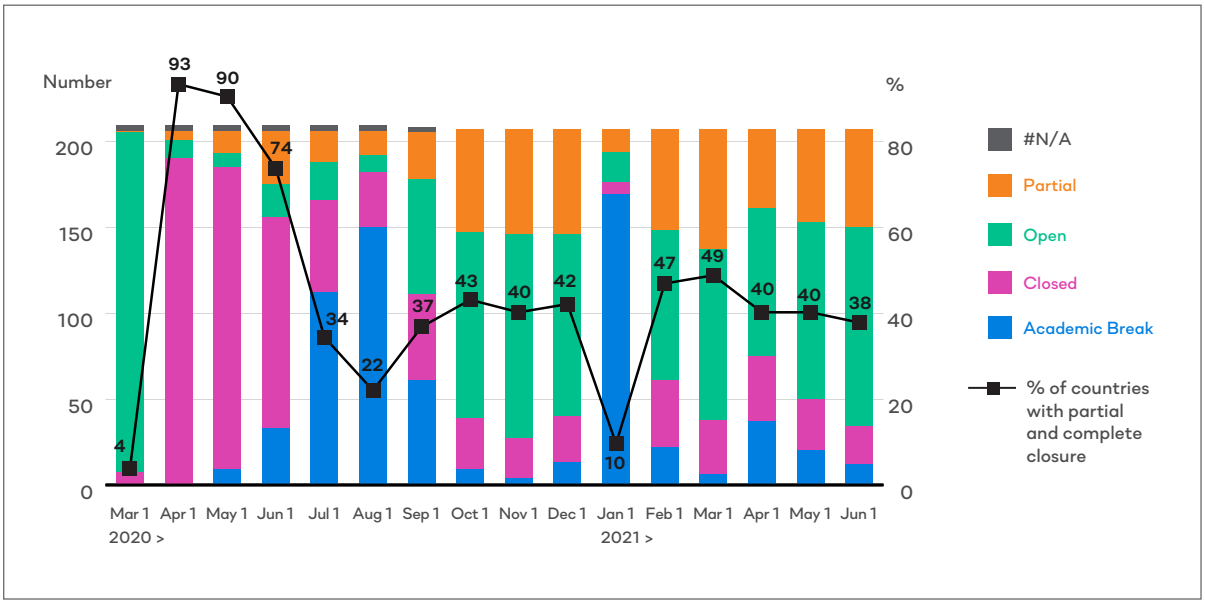
To develop such potential, one of the most vital and effective tools is education. However, to keep track of education delivery, timely and reliable data and information are needed to assess the impact of school closures during the pandemic. This intelligence can then be used to help countries develop strategies and response plans so they can alleviate the negative effects more successfully.

1.2. The global pandemic and school closures

Soaring COVID-19 infection rates caused school closures around the world. By April 2020, over 1.5 billion students across all education levels were affected, and over 1.2 billion of them were in the Asia-Pacific region.[6]

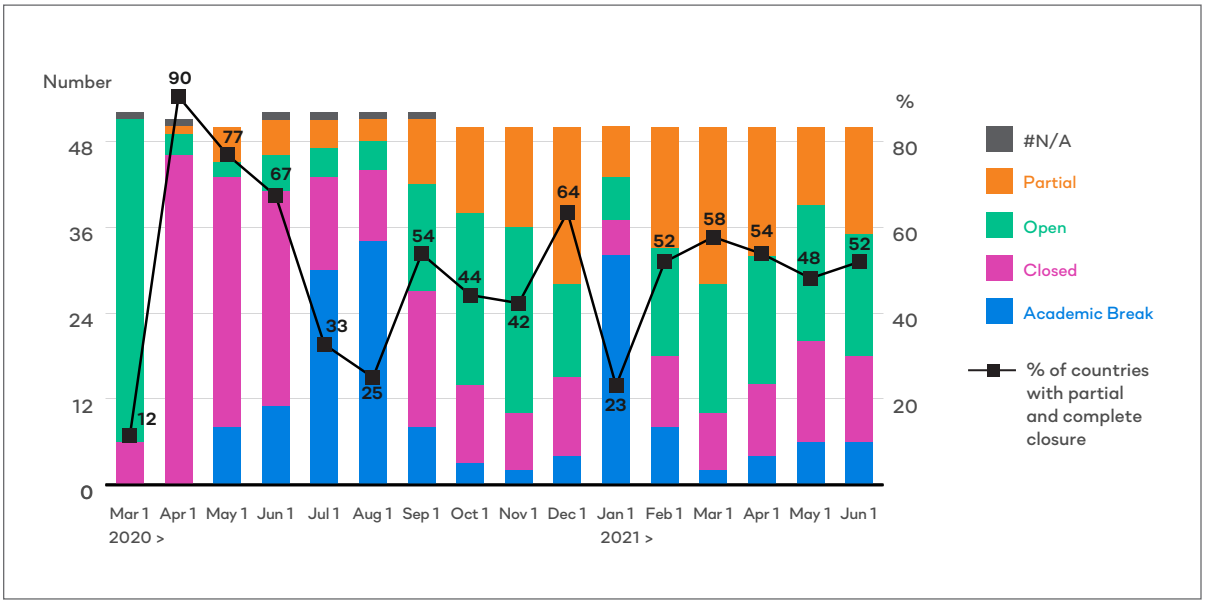
Overall, 93% of countries across the world, and 90% of countries in the Asia-Pacific, closed their schools fully or partially (**Figures 1a and b**). In July and August 2020, when about two-thirds of schools were on academic break (**Figure 2**), the proportion of school closures was lower (26% in August). Similarly, in January 2021, when more than 55% of schools were on academic break, 20% of schools were closed. Once the academic break was over, however, the proportion of school closure started increasing (**Figure 2**). As of June 2021, 42.5% of the schools were closed, and around 38% of countries kept schools either fully or partially closed.

Figure 1a: Number/percentage of countries that closed schools worldwide



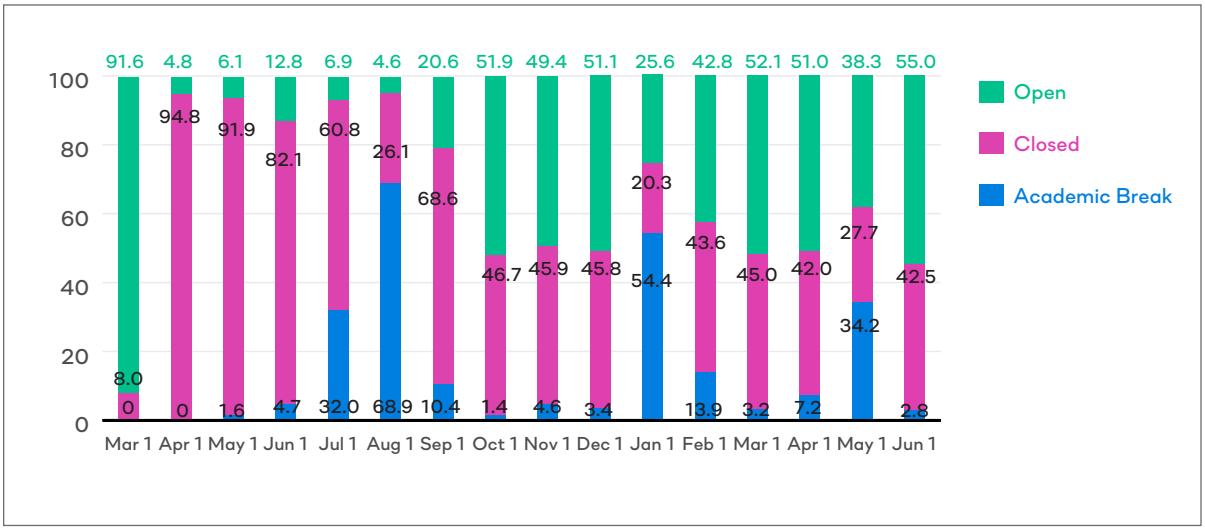
Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

Figure 1b: Number/percentage of countries that closed schools in the Asia-Pacific



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

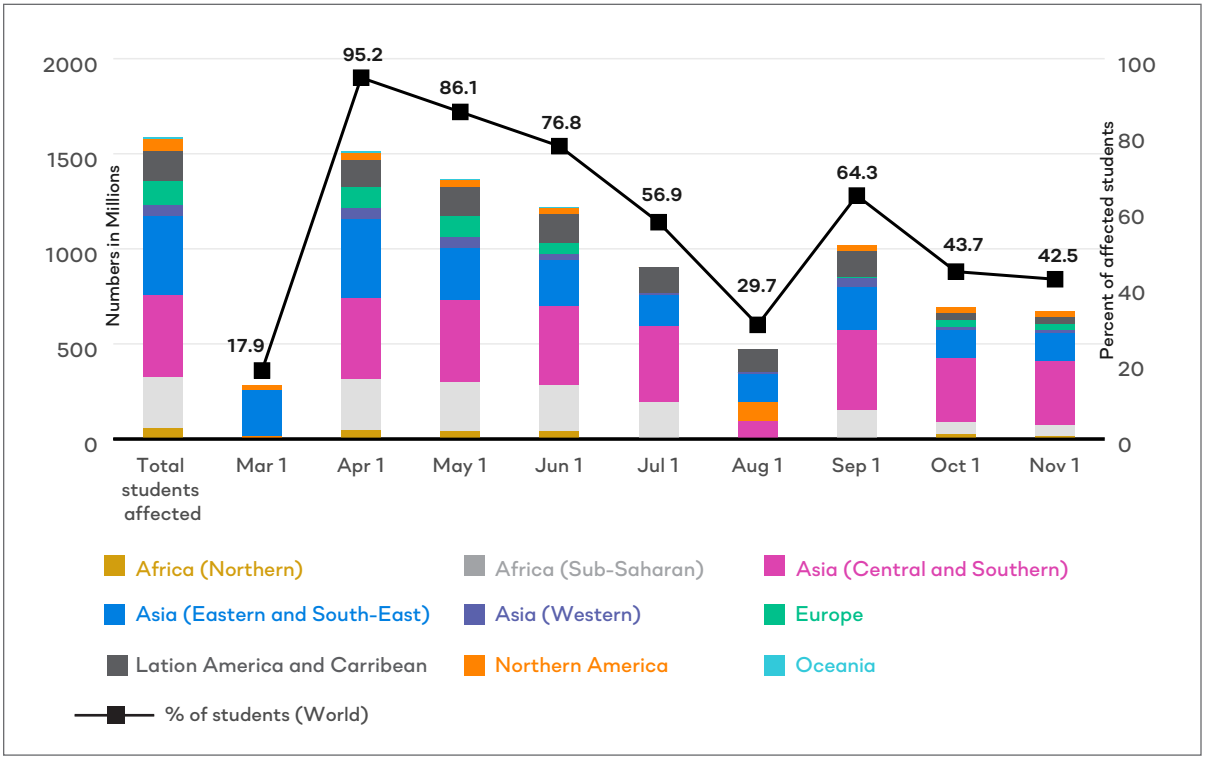
Figure 2: Percentage of schools closed around the world



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

However, the pandemic-related disruptions affected different regions of the world at different times. For example, **Figure 3** shows that the impact of school closures in East and South East Asia began in March, whereas in Central and South Asia school closures began in April.

Figure 3: Number of students globally affected by school closures (ECE to secondary level)



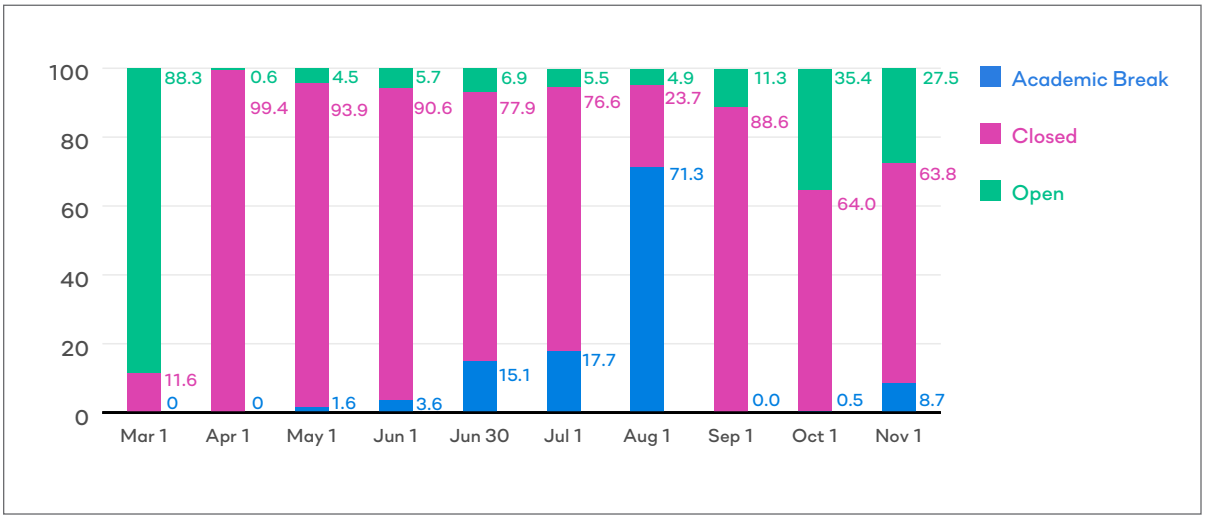
Source: UIS (2020). Education: From disruption to recovery. Access: https://en.unesco.org/covid19/educationresponse.

Overall, the largest effect of school closures on students can be seen in Central and South Asia due to the sheer number of students in these subregions. About 43 million students from Central and South Asia, from early childhood to secondary education, were required to stay at home. Similarly, in East and South-East Asia, around 41 million students stayed away from schools in April 2020.

1.3. School closures and re-openings in the region

Almost all schools in the Asia-Pacific (99%) shut down in April 2020, corresponding to about 3.1 million institutions (**Figure 4**). A slight decrease in school closures was noticeable from May to the end of June 2020, primarily in countries in East and South-East Asia. However, all schools in South and West Asia remained fully closed until the end of June 2020. Academic holidays in June, July and August caused a decrease in the number of schools closed due to COVID-19 mitigation efforts. In August, more than 71% of schools in the region were on academic break and the proportion of school closures fell to around 24%. When school resumed in September, a sharp increase in closures was observed through to November 2020. School closures indiscriminately affected all primary, lower secondary and upper secondary levels. As there are more primary schools, this sector was more adversely affected.

Figure 4: Percentage of closed schools in the Asia-Pacific

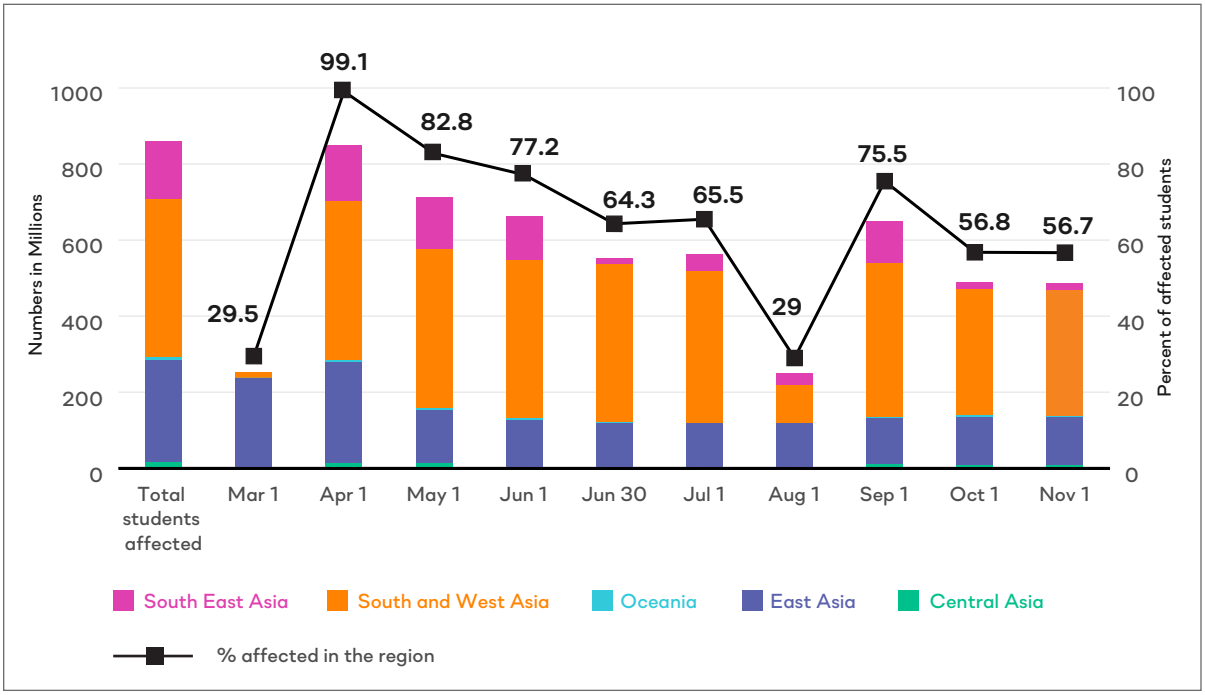


Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

1.4. Number and proportion of students affected by school closures, by subregion

In early March 2020, almost 30% of students, spanning early childhood, primary and secondary education levels, were unable to attend school in the Asia-Pacific (**Figure 5**). By April 2020, the percentage of students who could not attend school rose steeply to 99%, or 850 million students in total. The bulk of the population was in South and West Asia, with 420 million – nearly half of the Asia-Pacific's school population – not able to return to school. Similar percentages were found in East and South East Asia, where virtually every student (99.7% and 99.6%, respectively) was prohibited from going to school. In Central Asia and Oceania, 80% and 71% of students, respectively, were unable to attend school because of measures implemented to curtail the pandemic.

Figure 5: Estimated number of students affected by school closures, by subregion (ECE to secondary level)

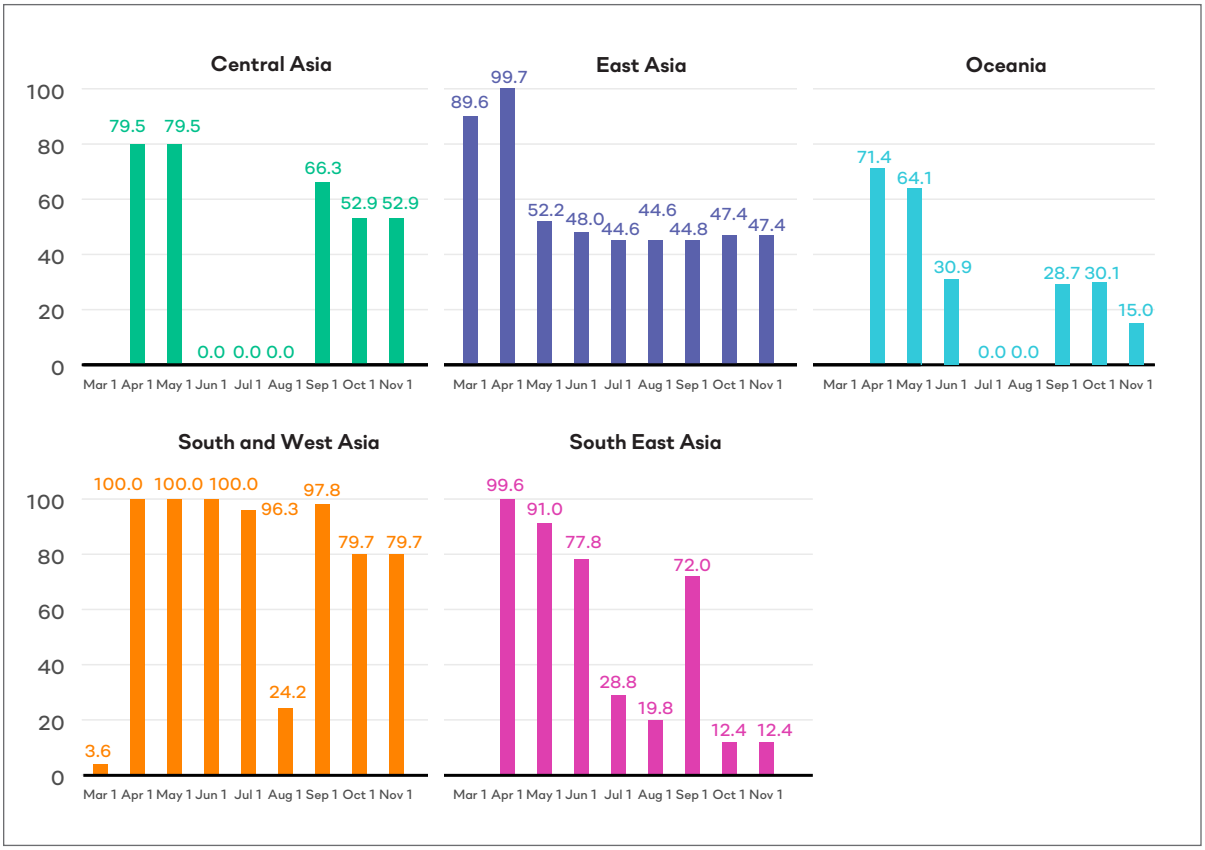


Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

However, a few countries, such as China, Lao PDR, Singapore and Viet Nam, in East and South-East Asia, and most of the Pacific nations, were able to contain the virus to some degree and start re-opening schools as of May 2020. This resulted in a 15-percentage point drop in the number of students required to stay away from school between April and May 2020 and an 18-percentage point drop between April and early June 2020.

Measures to re-open schools were noticeable around the end of June and beginning of July 2020 in Oceania, East Asia, South-East Asia, as the percentage of students who were affected due to school closures decreased (**Figure 6**). However, there was no relief for students in South and West Asian countries. The dip in students affected by school closures in July and particularly in August 2020, as mentioned previously, was due to scheduled academic breaks. After the academic holiday, the percentage of affected students rose again. In November 2020, 57% of students in the region were still not allowed to return to school.

Figure 6: Percentage of students affected by school closures, by subregion (ECE to secondary level)



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

A side-by-side comparison for each subregion highlights the proportion of the school population affected by school closures.

The impact of school closures in South and West Asia was the most profound in the Asia-Pacific region. Not only were all children in this subregion affected by measures to contain the spread of the pandemic, but school closures also had the longest duration. As a result, the impact of the pandemic in this subregion will have particularly stark consequences. The progress of South and West Asia towards SDG 4 was already lagging behind its regional peers. These deep and prolonged school closures will bring more challenges as countries attempt to meet SDG 4 commitments by 2030.

1.5. Proportion of students affected by school closures, by education level

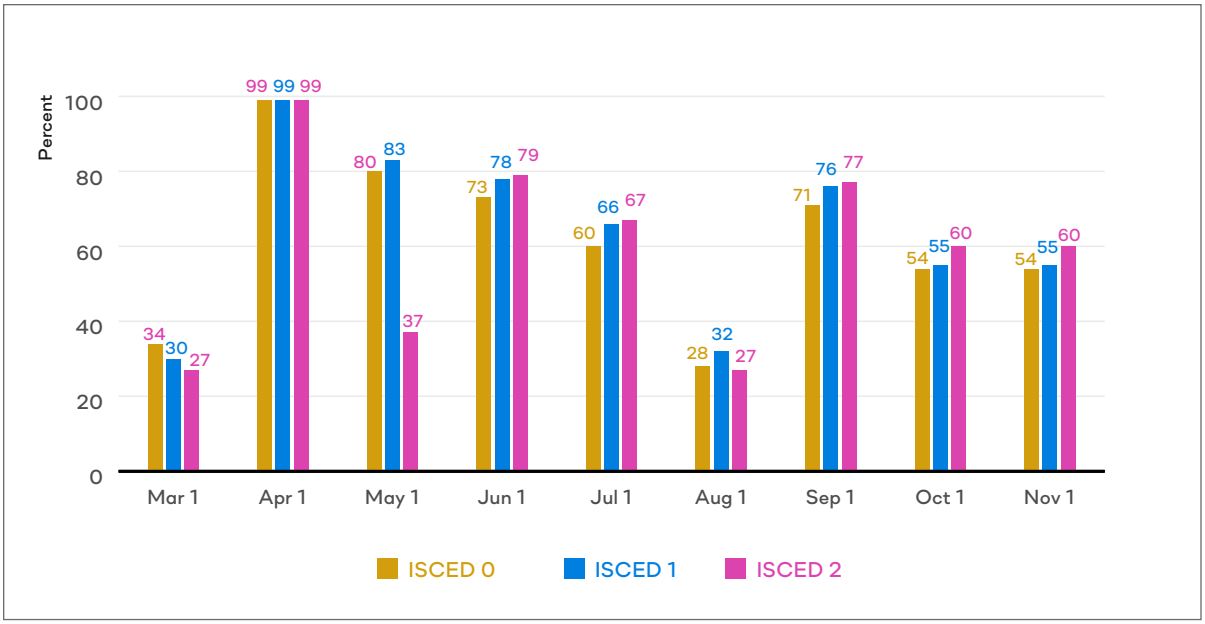
1.5.1. Early childhood education and development and pre-primary

Early childhood education (ECE) is a critical stage in a child's socio-emotional development. It is at this early instructional level that a child develops the foundation for lifelong learning – a one-time window of opportunity that every family and nation should prioritize. This process starts with preparation for primary school entry. ECE covers not only learning, but also physical, socio-emotional, cognitive and motoric development, the key elements for a healthy and productive life.

Most countries in the region have been making steady progress in their delivery of ECE, as well as pre-primary education. However, due to the pandemic, 141 million ECE pupils (99%) missed out on early instruction in April 2020. By November 2020, 54% of children could not attend learning centres. This could reverse progress made in the region.

Another concern is that in most countries in the Asia-Pacific, ECE is provided by private schools. According to the UNESCO Institute for Statistics (UIS) (2020), over 55% of students in the East Asia and Asia-Pacific subregion attend private pre-primary schools, as well as over 58% in South and West Asia. In some countries, nine out of ten ECE schools are private. Due to the private status of these schools, governments do not invest in them; their main source of income is tuition fees. A growing risk is that economic hardship will limit parents' ability to pay, causing private schools to close. If this happens, children will lose access to ECE.

Figure 7: Percentage of students affected by school closures, by education level



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

1.5.2. Primary and secondary education

Universal access, participation and completion of primary and secondary education are at the heart of SDG Target 4.1 which calls on countries to ensure that ***"all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes,"*** by 2030.

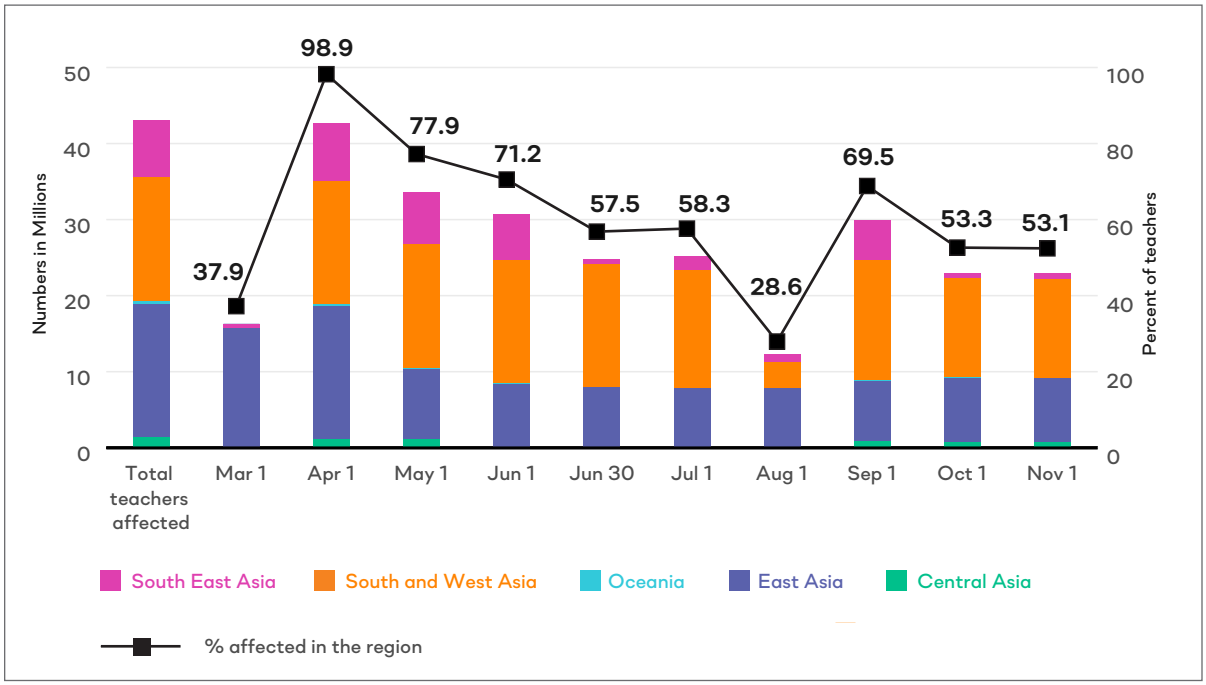
Primary and secondary education are critical stages in education and future career development. Countries in the Asia-Pacific region have been working towards increasing access, participation and quality in primary and secondary education by developing appropriate policies, strategies and programmes. As a result, between 2008 and 2018, the out-of-school rate in the region fell by more than 45%. However, the absolute numbers are still large, with 128 million children, adolescents and youths out of school in the Asia-Pacific in 2019.

In April 2020, 375 million primary and 339 million secondary students (99% of all primary and secondary students) in the Asia-Pacific could not attend school and missed valuable classroom learning time. By November 2020, around 171 million primary (55%) and 134 million secondary students (60%) were unable to attend school in person, despite institutions re-opening. This prolonged closure may bring serious challenges to the achievement of the Education 2030 Agenda. **Figure 7** shows how school closures affected children and youth in ECE, primary and secondary school.

1.6. Number and proportion of teachers affected by school closures, by subregion

Teachers have also been affected by school closures due to higher risk of job loss at education institutions or governmental education agencies as a result of enforced budget cuts.

Figure 8: Estimated number of teachers affected by school closures, by subregion



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

In early April 2020, 43 million teachers (99%), from pre-primary to secondary education levels, were affected by school closures (**Figure 8**). The total number of teachers not involved in direct face-to-face teaching activities declined over the following months in response to the slow attempts at re-opening schools.

In South and West Asia, for example, 16.2 million teachers were affected in April 2020. Despite the fact that countries in this subregion were slowly, but cautiously, re-opening their schools, 53% of teachers, from ECE to secondary level, did not physically attend schools.

A major concern is long-term job security and supply of qualified teaching staff in a region where more teachers are needed to meet the demand for education. In the short-term, teachers who were relieved of their teaching duties can be re-hired. However, over a longer period, teachers may decide to pursue other employment opportunities and abandon teaching.

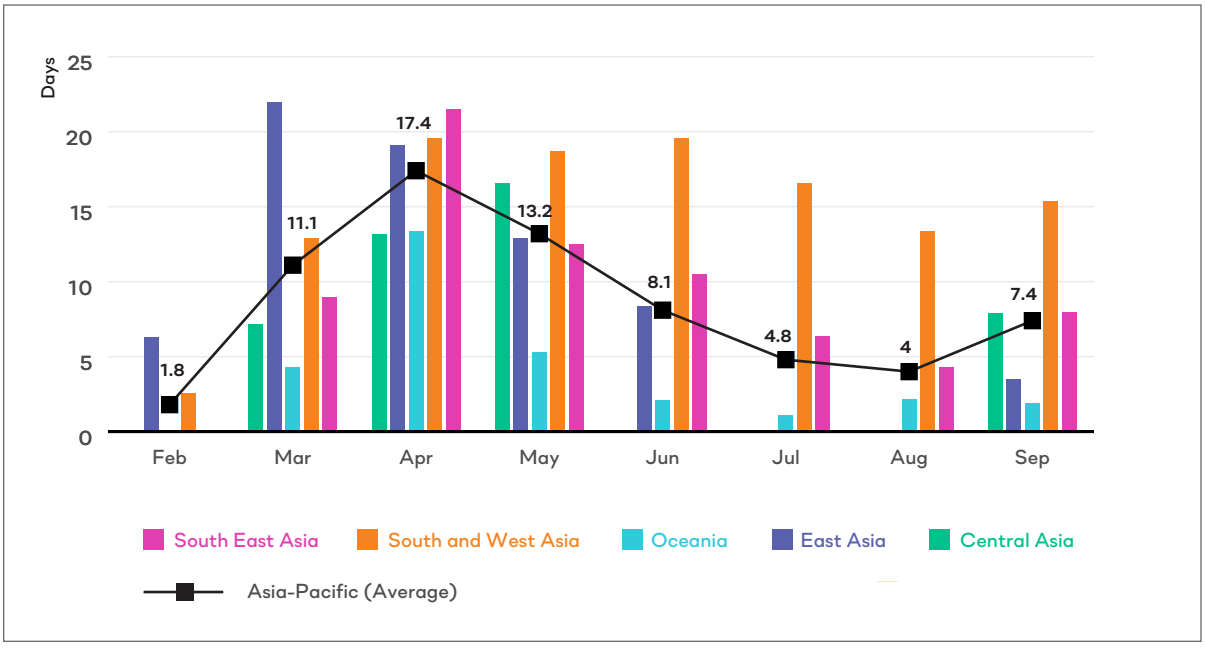
In the Indian State of Andhra Pradesh, for example, teachers and non-teaching staff employed by private schools and colleges were living 'hand-to-mouth' as they did not receive their salaries. All medium and small budget schools in this state stopped paying salaries to their teachers for over three months. The small budget schools largely depend on fees from students to pay non-teaching staff and teachers' salaries, separate from meeting administrative and recurring expenses.[7]

1.7. School days lost in the Asia-Pacific subregions

Lost days due to school closures are expected to have an adverse effect on student learning achievements. The number of lost days in the Asia-Pacific was highest during April 2020 (17.4 days) and May 2020 (13.2 days), on average, before steadily falling to a low in August (**Figure 9**). This decrease was also influenced by academic breaks. In September 2020, when the academic season resumed, the loss of learning days increased again in the region.

By subregion, East Asia recorded the highest number of lost school days during March and April 2020 while in South-East Asia the number of days lost peaked in April 2020 before both regions were able to lower the number of school days lost. In contrast, South and West Asia had consistently higher days of learning loss as most schools remained closed even after academic breaks.

Figure 9: Average number of school days lost across the Asia-Pacific, by subregion



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

7 B. Madhu Gopal. The Hindu (2020). *Pandemic, a hard lesson for private school teachers*.

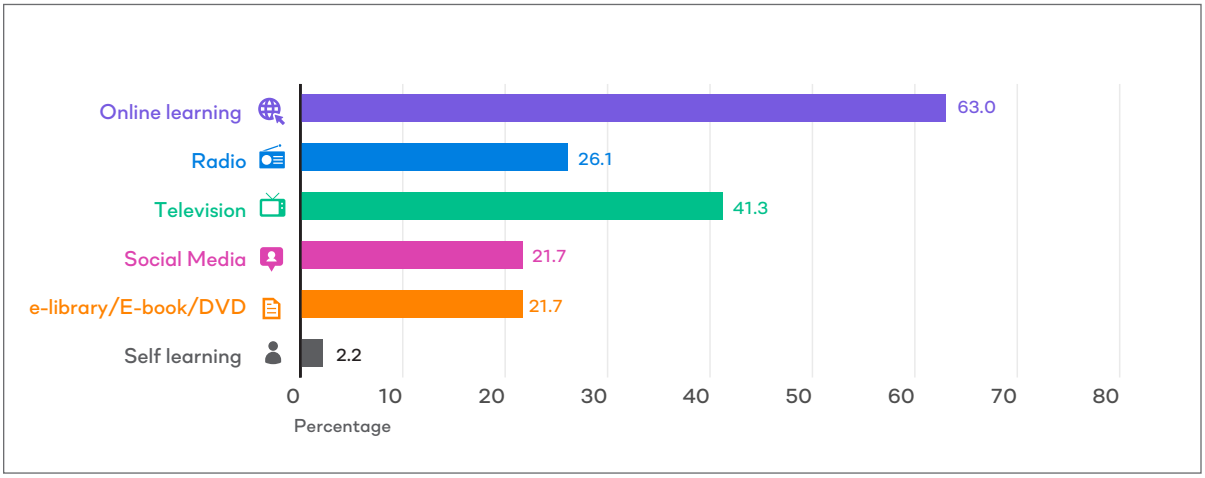
2. Remote learning during school closures

2.1 Country efforts to ensure learning during school closures

When schools closed to contain the virus, international and national governmental and non-governmental organizations developed various strategies so children could continue their education. National approaches to ensure ongoing learning while mitigating potential losses ranged from the simple distribution of self-learning textbooks, to online instruction.

Among the 46 countries of the Asia-Pacific, almost two-third developed online teaching and learning programmes (**Figure 10**). Just over 41% and 26% of countries, respectively, made use of television and radio broadcasting. Social media platforms, such as Facebook and YouTube, as well as offline programmes and various storage and distribution means (e-books, DVDs, etc.), were used by 22% of countries as a form of instruction. It should be noted that most countries deployed more than one platform or method to continue learning activities for students.

Figure 10: Percentage of countries using remote education delivery methods during school closures (N=46)



Source: Based on documentation collected by UNESCO Bangkok in June 2020.

2.2 Learning options used by countries in the region

Various types of programmes were developed and implemented by countries in response to school closures caused by the pandemic so children could continue learning. Some examples of these are listed below.

Online, Internet-based instruction

Many governments worldwide took an ICT approach to learning, delivering lessons online. Globally, there was a perceived rise in e-learning in which instruction is undertaken remotely and on digital platforms, with teachers and students directly communicating, discussing and participating in learning activities through electronic devices such as computers, laptops, tablets, or mobile phones. Effective virtual instruction includes a clear timetable, platform, well-defined instruction for students to join classes, good teacher preparation, set assignments, the provision of feedback to students and most importantly, a stable Internet connection.

Though many countries adopted virtual classes, not many had sufficient Wi-Fi coverage. This was especially so in poorer, rural landscapes and deprived urban areas – a situation that can contribute to learning inequalities within countries. The effectiveness of this approach, and the expected impact on inequality, requires further study.

Situation in the Republic of Korea

Online classes were created to facilitate a direct exchange between teachers and students to share subject content and educational materials. Classes took the form of lectures, real-time interaction (Q&As, discussions), or they were assignment-oriented. Platforms for the online class delivery were Naver LINE WORKS, Gooroomee, Google Hangouts, Microsoft Teams, ZOOM, Cisco Webex, etc.

Learning through television

TV broadcasting is not necessarily separable from Internet streaming as the content for TV tends to be delivered by both means simultaneously and many countries have developed educational learning programmes that are broadcast through television.

Academic content is developed and aired in different time slots for different grades and by subject category. TV learning programmes can range from pre-primary education to secondary education and include basic literacy and numeracy, science, and language instruction.

Situation in Bangladesh

State-owned Bangladesh Television broadcasts educational television lessons suitable for Grades 6 to 10. The programme is called *My School at My Home* and it is broadcast daily from 9 a.m. to 12.30 p.m. local time. The programme can be re-viewed on YouTube. This initiative is supported by UNICEF Bangladesh.

Situation in Cambodia

The Ministry of Information and the Ministry of Education, Youth and Sport, in collaboration with National Television of Kampuchea, broadcasts education programmes that support learning for students at kindergarten, primary and secondary levels. Students in Grades 9 to 12 are provided with three hours of educational content for their examination preparation each day. These programmes can be accessed via the ministry's mobile app and Facebook, which link back to YouTube. The lessons can be downloaded through the E-School Cambodia webpage.

Radio learning

Radio broadcasting is similar in intent to television broadcasting, but without visual learning. Outside the classroom, radio has been used for educational purposes since the early 1920s and this medium may be the oldest alternative to the delivery of education in person.[8] In countries where Internet penetration is low, radio can be instrumental in extending learning.

Situation in Fiji

The Ministry of Education, Heritage and Arts initiated a supplementary radio broadcast. These weekday daily education programmes are delivered through the Schools Broadcasting Unit and the Fiji Broadcasting Corporation. Content covers literacy and numeracy for Grades 1 to 8, as well as addressing ECE. The radio broadcasting schedule is available on the ministry's website.

2.3 Access to remote learning and its effectiveness

As previously highlighted, when schools were closed, governments around the world implemented various remote learning strategies including online learning. These interventions were not error-free. Countries faced severe challenges, such as a lack of technological infrastructure, technological knowledge and resources to reach out to the most disadvantaged groups.

According to a UNESCO-UNICEF-World Bank collaborative survey on National Education Responses to COVID-19 School Closures, 20% of students in East Asia and the Asia-Pacific subregion, and 38% of students in South Asia who were forced to stay home due to school closures, did not have access to any form of remote learning during school closures (UNESCO, 2020).

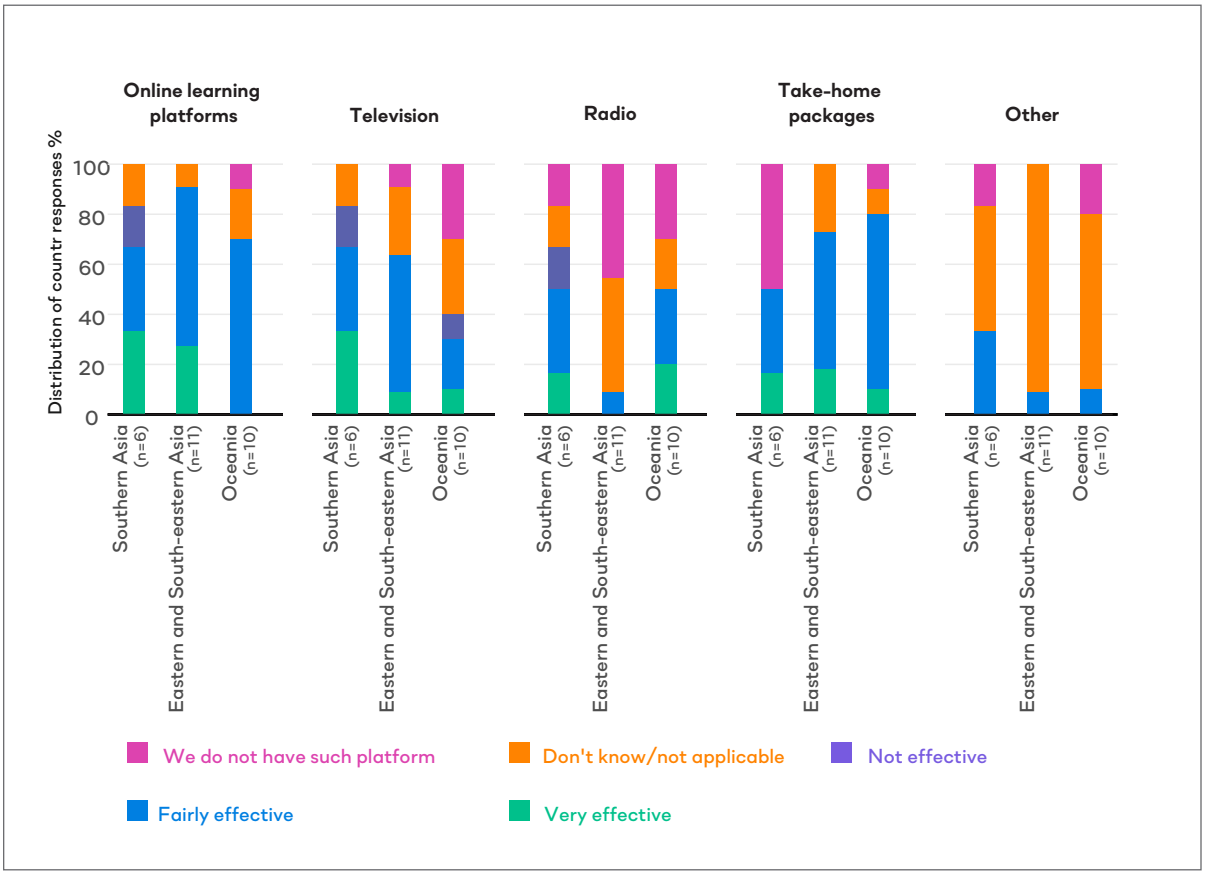
More research is needed to fully assess the effectiveness of the various remote learning methods in delivering the desired learning outcomes. Among Asia-Pacific countries, country respondents expressed some confidence in the effectiveness of the delivered education strategies to mitigate the negative impact of COVID-19.

8 Access: (https://files.eric.ed.gov/fulltext/ED095904.pdf)

The majority of the countries in the region considered both online learning platforms and take-home packages to be fairly effective intervention measures. Online learning was perceived as fairly effective in Oceania (70%) and East and South-East Asia (64%). In South Asia, 50% of responding countries did not provide take-home packages.

Television is believed to have been moderately effective by one-third to one-half of responding countries. Radio was viewed as less effective in general responses. The smaller confidence in radio and television is understandable given that Internet-based access, or direct take-home packages, can be more effectively monitored by schools and teachers. However, there is a need for more detailed studies to understand the actual effectiveness of different programme deliveries during the pandemic (**Figure 11**).

Figure 11: Anticipated effectiveness of education delivery strategies (N=28), by subregion

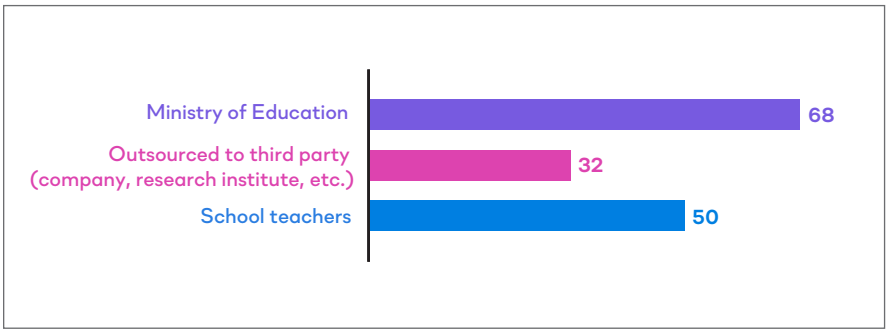


Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

2.4 Development of remote learning content

With regional education ministries making learning accessible through online platforms, it is important to monitor who is responsible for content in order to address accountability and ensure that the content delivered is adequate. A positive trend is that in a majority of countries (68%), the education ministry has prime responsibility for online content. In half of countries in the region teaching staff provided online content, while almost one in three countries outsourced content on these platforms (**Figure 12**).

Figure 12: Responsibility for content on online platforms (N=28)

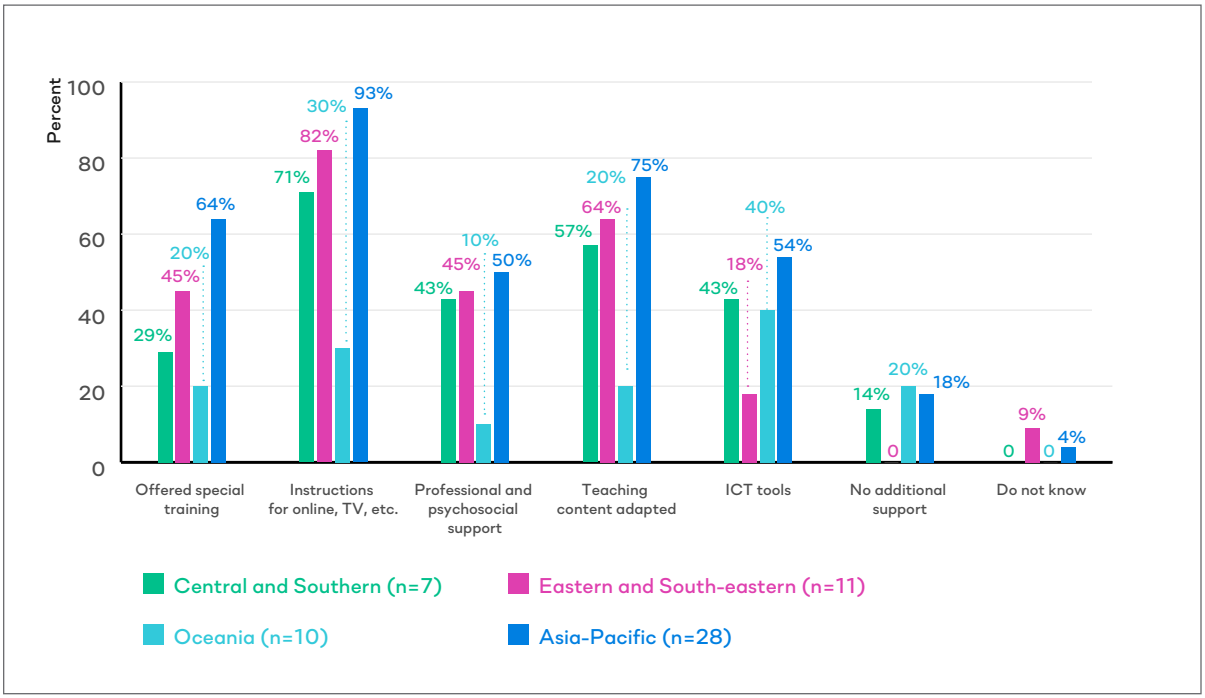


Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

2.5 Teacher readiness

To ensure effectiveness, teachers must have the capacity to use online platforms. Not every teacher is knowledgeable about remote learning methodologies, and many required some form of assistance. **Figure 13** shows the various types of support teachers received, though the effectiveness of these measures will have to be determined in future studies. It is positive to note that in 93% of responding countries teachers received instructions on how to make use of radio, TV and online learning platforms to deliver education remotely and 75% adapted their existing content to remote teaching. Further, in almost two out of three countries (64%), teachers received special training to organize remote learning. However, in almost one out of five (18%) countries, no additional support to teachers was provided, due to either insufficient capacity or need for such support.

Figure 13: Support provided to teachers for remote teaching (N=28)



Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

2.6 School feeding programmes

Schools also provide children with a place to get nutritional food, which is essential to achieving SDG 2 on Zero Hunger. In the Asia-Pacific, millions of students missed out on school lunches, a major source of their daily nutrition for physical and mental development.

To ensure students are getting their daily midday meals, countries are employing various strategies to distribute food to households. In China, the Ministry of Education, in collaboration with the Dairy Association of China and other suppliers, developed a mechanism to distribute milk at schools, or through online and non-contact orders, and delivery to students' homes. In India, states are providing milk, fruit, vegetables, and other key ingredients used in the 'Mid-Day Meal Scheme' and these items are delivered to children's homes. In Japan, the SFP food service operators offer take-away meals at a reduced cost. Parents can pick-up the meals which typically include milk, rice, vegetables and curry. Weekly deliveries of UHT milk, vegetables, bread, fruit, canned ham, etc., are provided to students at their homes in New Zealand, through the 'Eat my Lunch' scheme.

2.7 Monitoring student learning outcomes during school closures

The pandemic and consequent school closures had a major impact on high stakes examinations and national assessments which are important, especially at the higher grades, as students transition from one education level to another, or to gain entry into higher education and the labour market. Many countries cancelled, postponed, or delayed examinations. Some countries developed alternative strategies to examinations, such as an online test. In April 2020, UNESCO Bangkok conducted a survey to understand how countries are coping with examinations during the pandemic (**Table 1**).

Table 1: Country approaches to examinations after learning disruption

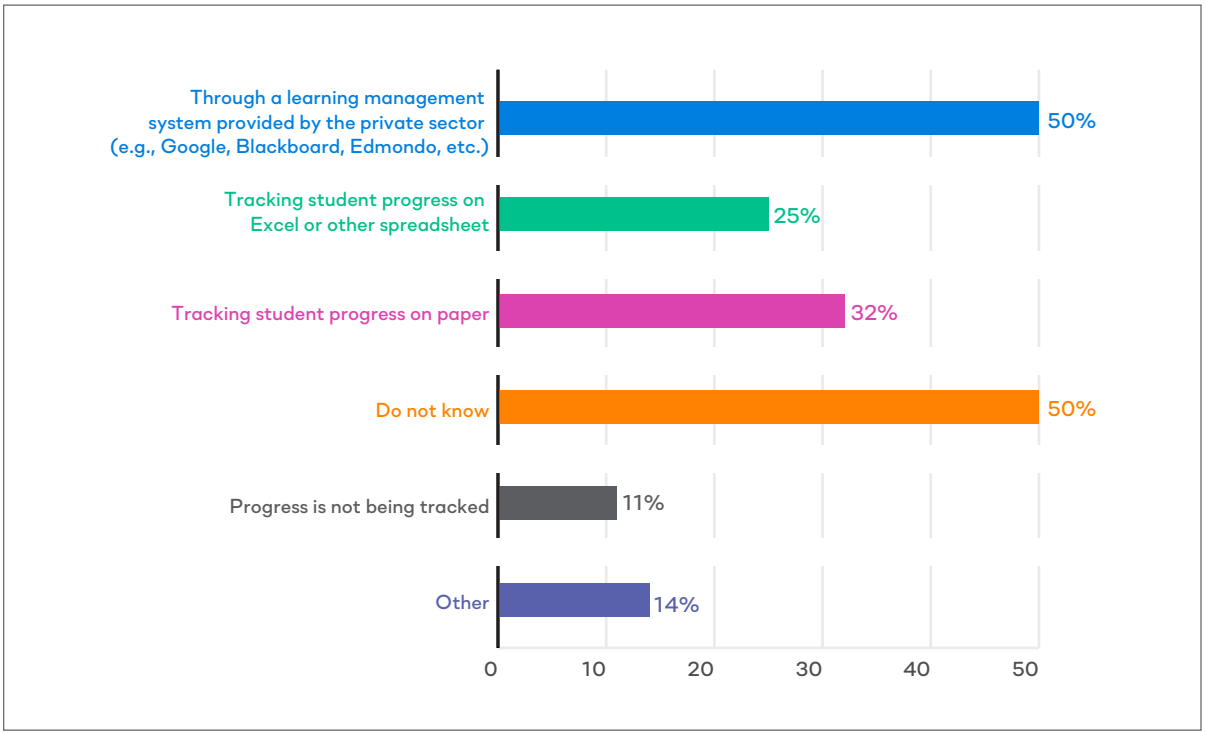
Strategies	Countries
Maintaining exams	Kazakhstan, New Zealand, Thailand
Cancelled	Indonesia, Japan
Postponement/delayed	Bangladesh, China, Fiji, India, Indonesia, Iran, Malaysia, Mongolia, Nepal, Pakistan (Khyber Pakhtunkhwa), Palau, Philippines, Republic of Korea, Samoa, Singapore, Sri Lanka, Thailand, Tonga, Uzbekistan, Viet Nam
Online test	Cambodia, Myanmar, Pakistan (Khyber Pakhtunkhwa)
Introducing alternative approaches	India, Indonesia, Micronesia, Mongolia, Myanmar, Palau, Thailand, Tonga, Uzbekistan, Viet Nam
Reducing number of exams	Japan, Viet Nam

Source: UNESCO, Bangkok (2020). Online survey on pandemic's effect on large-scale assessments and examinations.

With prolonged school closures, keeping track of learning has been a significant challenge, especially when tracking learning outcomes in remote education delivery situations. This is because observation by a teacher on the student's learning output is obscured by the physical distance between the student and the mentor. Periodic or summative examinations could provide important information regarding student performance across a range of subjects and indicate the effectiveness of remote education during school closures.

Asia-Pacific countries reported tracking student learning in various ways. Half of the countries indicated that they use a specific management system for this purpose. Tracking students on paper (32%), or through electronic spreadsheets (25%) is also common practice. However, half of the responding countries stated they were not aware of how they can track learning outcomes, while one in ten countries said they do not, or cannot, track student progress (**Figure 14**).

Figure 14: How do teachers keep track of what students have learned? (N=28)



Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

3. School re-openings and country responses to school closures

Prolonged school closures and disruption to instructional time inevitably has a severe negative impact on a child's ability to learn. The impacts of school closures, such as increased dropout rates, will be significantly higher for marginalized children, such as those from poor households, migrants, refugees, the forcibly displaced, ethnic minorities and children living with disabilities. Even before the pandemic, children from the most deprived households were already almost five times more likely to be out of primary school than those from the most affluent group.[9] Prolonged school closures also have detrimental impacts on providing essential school-based services, such as immunization and mental health and psychosocial support, as well as school feeding programmes.

With a slowdown in the spread of COVID-19, countries started re-opening schools and implemented measures to return to some form of normality as they dealt with successive waves and different variants of the virus. Going forward, it will be important that school re-openings are conducted in a safe and consistent manner, with an approach that takes into consideration each country's respective COVID-19 health response. It is crucial that all reasonable measures are taken to protect students, staff, teachers and their families from ongoing health risks. Countries should also develop strategies and implement intervention programmes that alleviate learning loss caused by school closures.

The second joint UNESCO, UNICEF and World Bank survey on the National Response to COVID-19 School Closures, considered school re-openings. The joint research identified countries' readiness to successfully handle this process and the strategies individual countries employed to mitigate learning loss in their schools.

3.1. Country strategies to mitigate student learning loss with schools re-opening

Countries developed different strategies to mitigate learning loss caused by school closures. About half of all countries responding to the UNESCO, UNICEF and World Bank survey reported they had implemented initiatives such as remedial learning. Another intervention involved the adjustment of the academic calendar to either accelerate or postpone education progress for students (**Table 2**). Three in four countries worldwide applied at least one measure to mitigate the negative impact of COVID-19 on education.

Looking into two subregions in the Asia-Pacific, between two-thirds (63%) and three-quarters (75%) of countries in South Asia and East Asia and the Asia-Pacific implemented at least one measure to mitigate the negative impact on education when re-opening schools (**Figure 15**). In East Asia and the Asia-Pacific, 63% of countries adjusted the academic calendar as the main intervention, while in South Asia remedial learning programmes (50% of countries) represented the main course of action. Adjusting the academic calendar in South Asia was devised for a quarter of countries, which might indicate how countries will make up for lost learning time during the coming academic year.

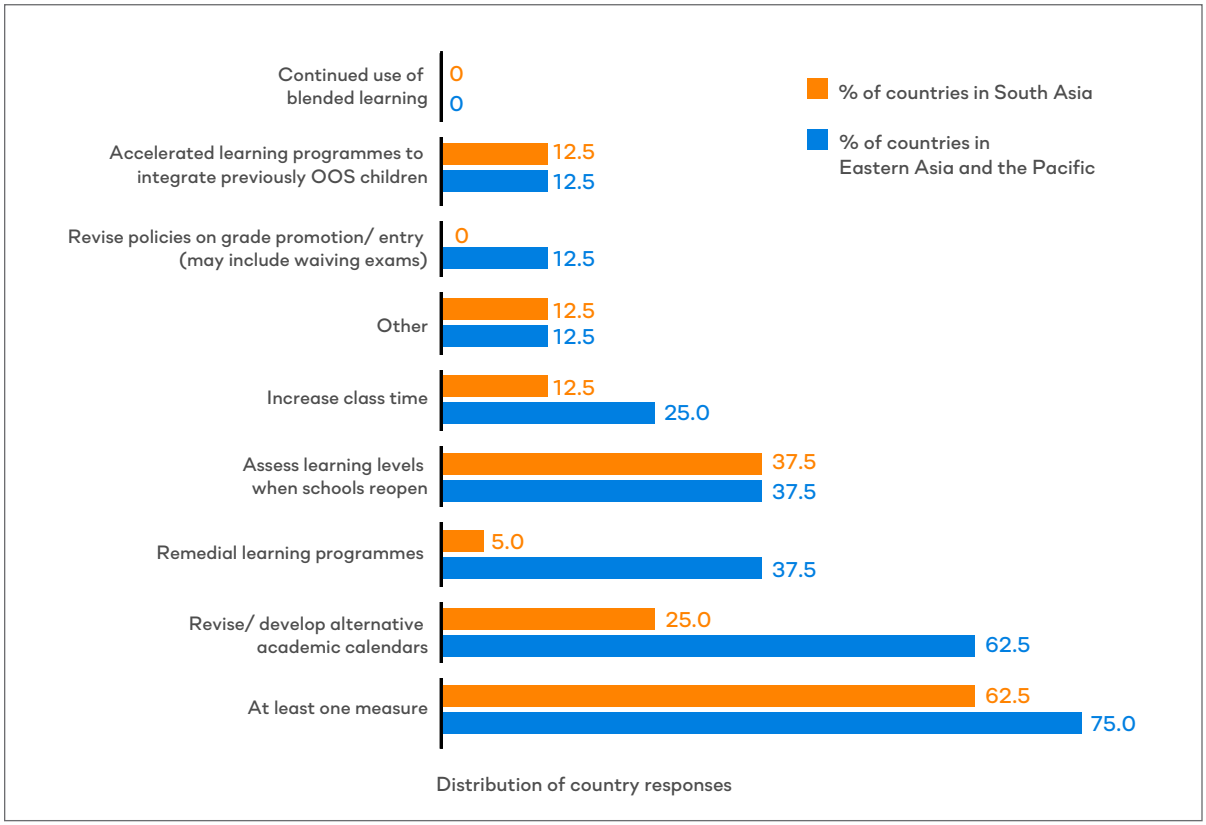
9 UNICEF's work in education. https://www.unicef.org/education

Table 2: Measures to mitigate student learning loss

Which of the following measures to mitigate student learning loss were included in school re-opening plans?	Percentage of countries worldwide	Percentage of countries A-P region
Revise/develop alternative academic calendars	39	46
Assess learning levels when schools re-open	35	42
Remedial learning programmes	44	52
Accelerated learning programmes to integrate previously out-of-school children	17	20
Increase class time	6	7
Revise policies on grade promotion/entry (may include waiving exams)	18	21
Continued use of blended learning	3	4
Other	3	4
At least one measure	63	75

Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

Figure 15: Measures to mitigate student learning loss in Eastern Asia and the Pacific, and South Asia (N=16)



Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

The situation in Thailand

Alleviating lost learning days: The Thai Ministry of Education (MoE) specifies a forty-week (200 day) academic year and most schools have a three-week break in October after the first semester and a nine-week break around the second semester start of 29 February. Thailand recorded its very first case of COVID-19 in early February 2020. Authorities introduced a ban on classroom learning and the prohibition of outdoor and extra-curricular activities as of 18 March 2020. School was scheduled to resume on 16 May, but to contain the virus, the government delayed the school start date to 1 July 2020. While no school days were lost during the time schools were closed for the break, 28 school days were lost during the period 16 May to 30 June 2020. To mitigate the learning loss due, authorities developed an action plan with an adjusted calendar and imposed curriculum and learning changes.

According to the adjusted calendar, schools re-opened from 1 July to 13 November (93 days), while the second semester took place between 1 Dec 2020 to 9 April 2021 (88 days). This totals the number of school learning days at 181, with a loss of 19 days from the regular school calendar of 200 days.

To cover the lost 19 days in the new academic year calendar, the MoE developed the following measures.

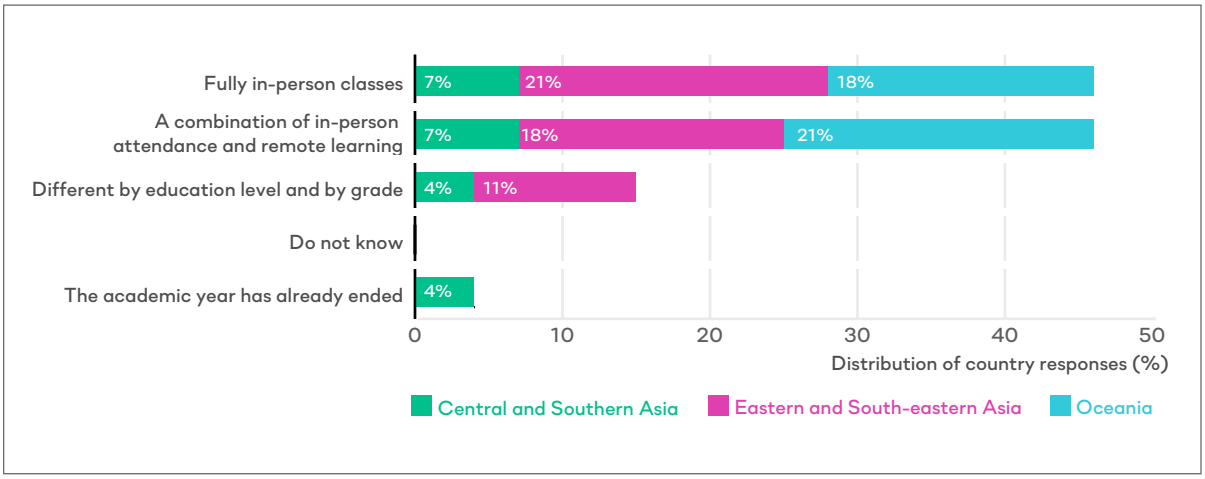
Onsite: Longer school hours; weekend classes (Saturdays) and the implementation of extra-curricular activities.
Online classes: Deep learning and open sources for students to consult and self-learning.
Home learning: Students were provided with extra handouts; organize flipped classrooms.

The supplementary practices are planned to cover seven more days in the first semester and twelve days in the second semester, bringing the total supplementary practices days to 19 to cover lost learning days due to the new academic calendar.

3.2. Countries adopted various learning activities to continue learning

Among the responding countries in the Asia-Pacific where basic education resumed, nearly half (46%) of countries opted for in-person classes and 46% opted for a combination of in-person and remote learning (**Figure 16**). This indicates that most countries opted for student attendance, even when supplemented with remote learning. In 15% of countries, it was not possible to determine which approach was adopted. This has been indicated to be dependent on the level of education.

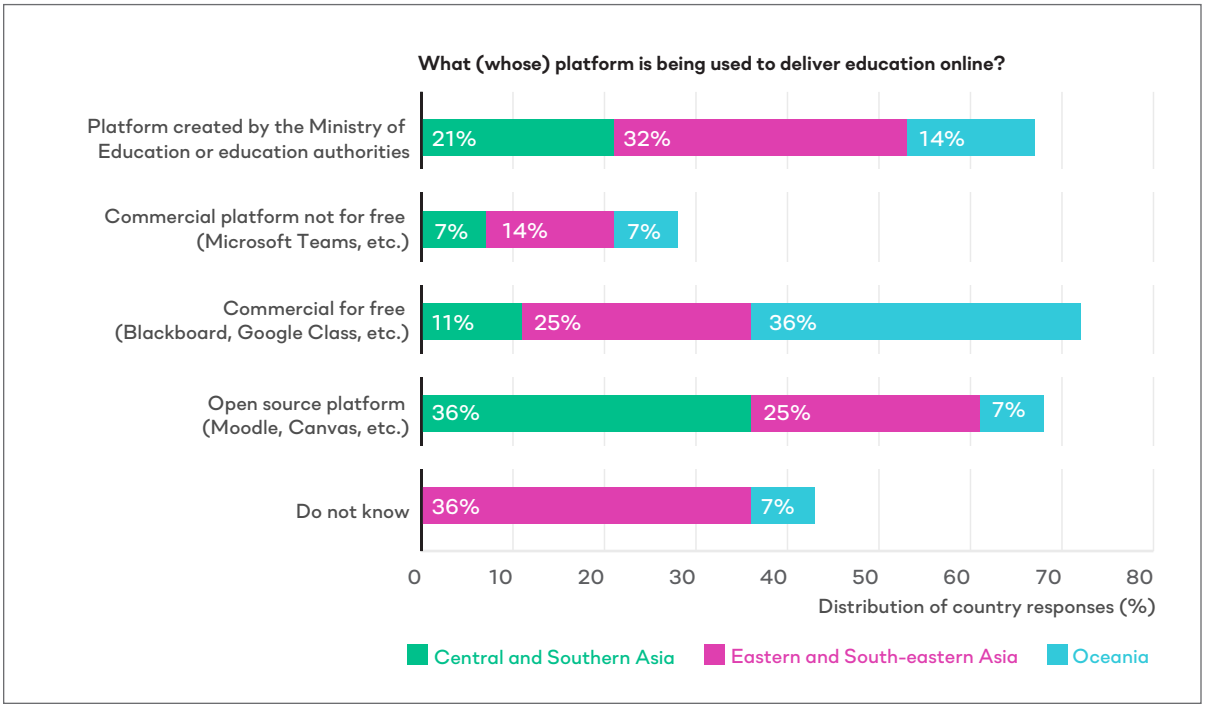
Figure 16: Means of teaching after re-opening schools, by subregion (N=28)



Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

Given the breadth of Internet-based choices to deliver education, it is important to consider the ownership of these platforms, and the resulting accountability and control over content, as well as potential data collection (**Figure 17**). In the Asia-Pacific region as a whole, the majority of platforms were developed by an education ministry (67% in total). Pre-existing, commercial free and open-source platforms which are used by 40% and 36% of countries, respectively, are also common.

Figure 17: Ownership of Internet-based learning platforms (N=28)



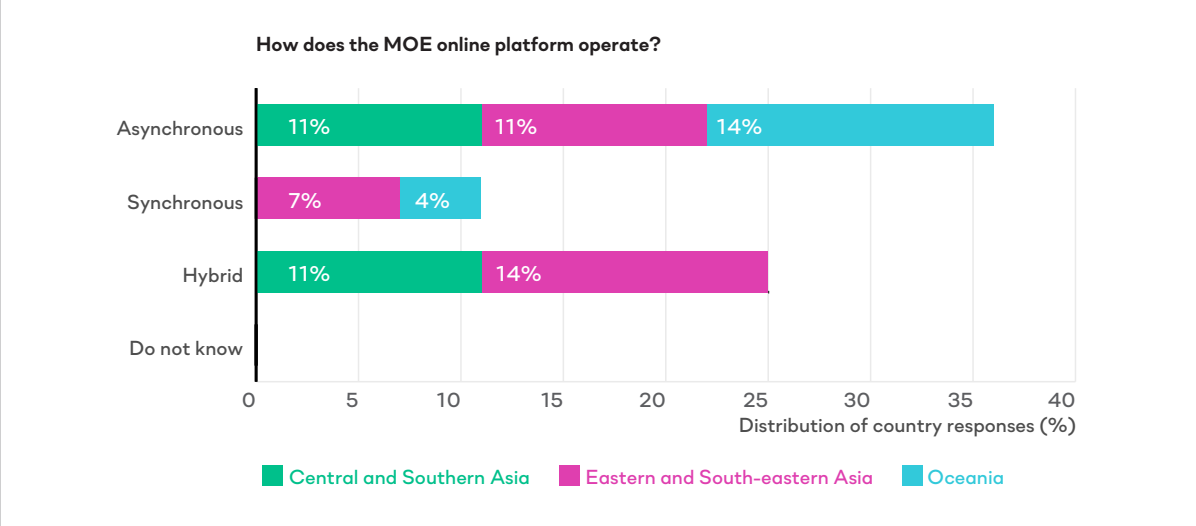
Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

Where countries used remote, Internet-based learning, there are three options to engage with students and teachers: students and teachers can communicate in real-time exchanges through various live chat or video programmes, or applications on computers or mobile devices (synchronous); students and teachers can communicate through time-delayed programmes and applications, such as text and image-based online forums, cloud storages, or website-hosted repositories to distribute documents (asynchronous); or a combination of both methods of synchronous and asynchronous communication can be used to maximize engagement.

Where a MoE provided an online learning and teaching platform, 36% were of asynchronous nature and only 11% of these platforms were synchronous. One in four countries pursued a hybrid approach with a MoE-provided platform (**Figure 18**).

These results may not be too surprising given that real-time communication between students and teachers requires high technological resources and the ability of both the teacher and student to navigate the required programmes. Technical difficulties are less likely to impact learning in asynchronous or hybrid approaches as those using these platforms have more time to familiarize themselves with the layout and to find support in navigating them.

Figure 18: Methods of remote learning/teaching provided by the MOE-hosted online platform (N=28)

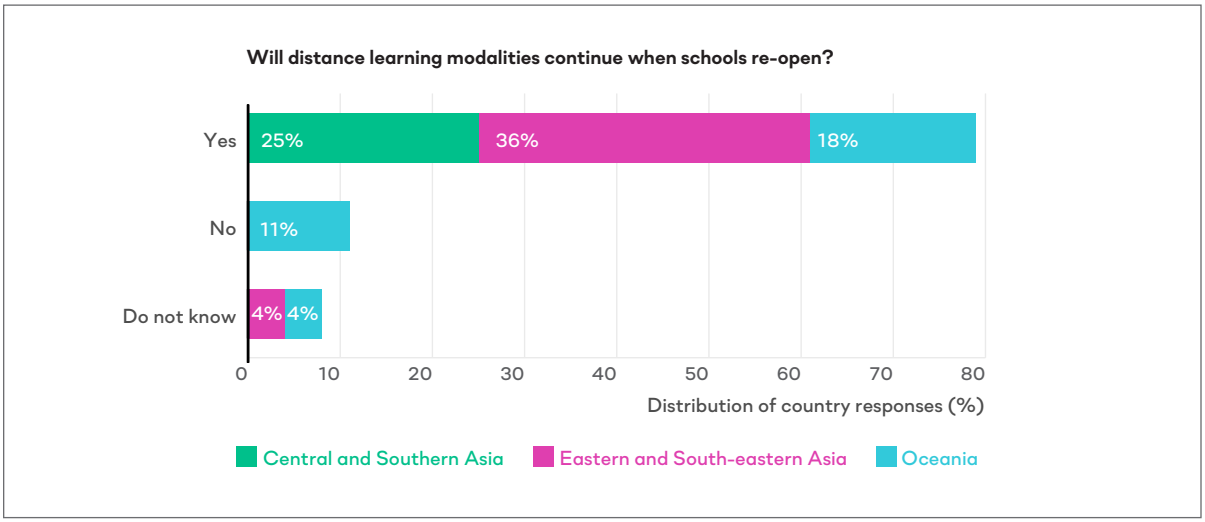


Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

3.3. Countries chose blended learning when re-opening schools

The educational challenges of COVID-19 have reshaped the way education is delivered. Much of the education delivery has been achieved through various means of Internet-based learning and communication. Correspondingly, four in five countries (79%) in the Asia-Pacific region indicated that they will continue instruction through distance learning (**Figure 19**). It is significant that ICT in education has never been as relevant as it is now.

Figure 19: Countries indicating continuation of education through distance learning (N=28)



Source: UIS (2020). Based on the UNESCO-UNICEF-World Bank survey.

Due to the disruption in education systems caused by school closures, UIS research (2021) shows that there will be significant learning losses. However, if countries can effectively implement corrective remedial and/or accelerated programmes they will be in a better position to lower the negative impact of school closures imposed in an effort to contain the spread of COVID-19.

4. Impact of school closures on dropout rates, learning and data collection

The pandemic has had an unprecedented negative impact on global education systems. Due to prolonged school closures, millions of teachers and students were unable to attend school to provide and receive instruction in an interactive environment. Countries developed various strategies to ensure learning could continue through online and offline learning programmes. However, access to these programmes in many countries was limited and the quality and effectiveness of the programmes was inconsistent.

Further, worsening economic performance throughout 2020 increased poverty levels across the Asia-Pacific region and is highly likely to have severe, negative impacts on school enrolment and school dropout rates, especially among marginalized populations. This section analyses the impact of school closures, so appropriate policy advocacy can be promoted among policymakers at both regional and country levels. The key issues to be addressed are:

a) An increase in the school dropout rate and the number of out-of-school children, adolescents and youths.

b) A loss of learning – increasing the proportion of students who fall below the minimum proficiency level in reading and mathematics.

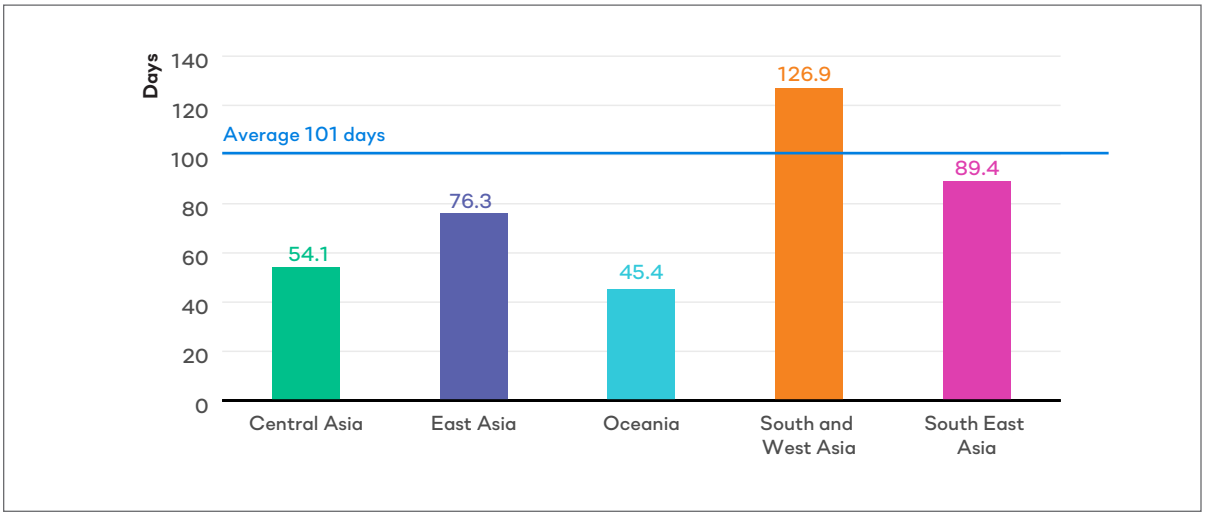
c) Loss of school years.

d) Hurdles in education data production.

4.1 Increase in out-of-school children, adolescents, and youths

The varying duration of school closures could result in differences in student achievement and dropout rates across the Asia-Pacific region. On average, students lost more than 101 days up to September 2020, a figure that represents almost half of the whole academic session. Students in South Asia lost the most school days (127 days), followed by South-East Asia (89 days) and East Asia (76 days). Students in Oceania experienced the lowest number of days lost, with just over 45 days, on average (**Figure 20**).

Figure 20: Average number of school lost days (up to September 2020), by subregion



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

There is growing concern that school closures might force thousands of marginalized students across the region to drop out and engage in child labour to support their families. At the same time, economic pressures put school fees out of reach for poor families. Overall, an estimated 6.7 million students from pre-primary to secondary levels are at risk of dropping out. The poorest and most deprived children are at the highest risk of dropping out, especially those of secondary school age as they are under the most pressure to earn money to support their families, engage in household chores and provide childcare for siblings. Girls in particular are at risk of child marriage (UNESCO, 2020).[10] Altogether, these factors will increase the number of out-of-school children in the region if tangible strategies are not developed to cushion the situation. A Save the Children study in 37 countries which asked children whether or not they would return to school, revealed that 95% of students believed they would return; 2% of students believed they will not go back to school when they re-open; and 4% of students were unsure.[11]

However, based on a simulation covering 180 countries and territories, UNESCO[12] estimates that around 24 million learners from pre-primary to tertiary education were at risk of not returning to their studies in 2020 following school closures. Of these, 10.9 million were primary and secondary level students and 11.2 million were girls and women, with 5.2 million of these at the primary and secondary school levels.

The Asia-Pacific region is already struggling with large numbers of out-of-school children (128 million) of primary and secondary school age. The region is also under pressure to achieve its SDG 4 commitment of bringing all primary and secondary age children and youth into school.

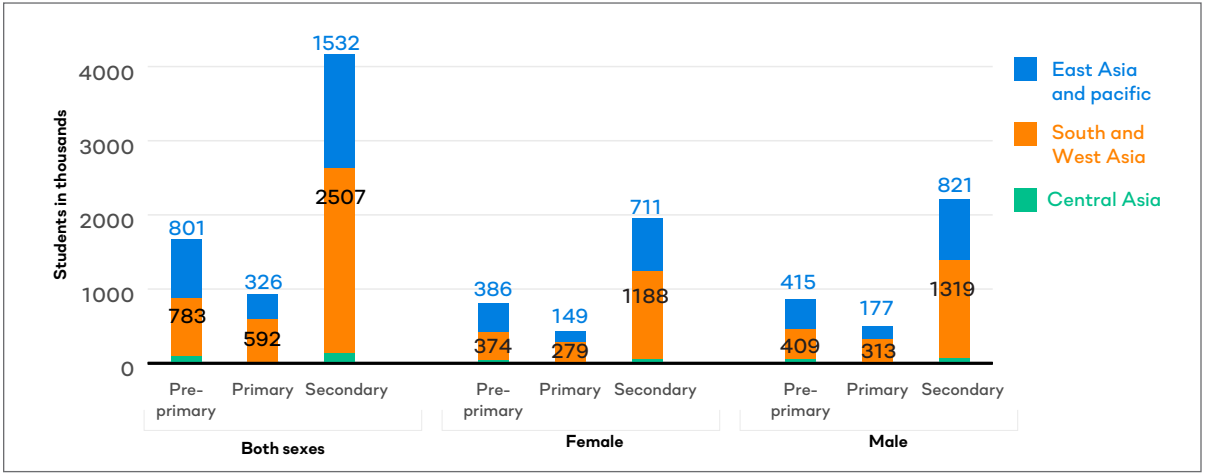
UNESCO estimates that the total number of out-of-school children will increase by 4% to 133 million in the Asia-Pacific. Altogether, over 6.7 million students in the region, from pre-primary to secondary levels, are at risk of dropping out of school, with the highest dropouts expected

10 UNESCO (2020). How many students are at risk of not returning to school? Advocacy paper.
11 Save the Children (2020). Protect a generation.
12 UNESCO (2020).

at the secondary level (4.2 million). The projection shows there will be less impact on primary education, with little less than one million students at the primary level at risk of dropping out due to COVID-19 (**Figure 21**).

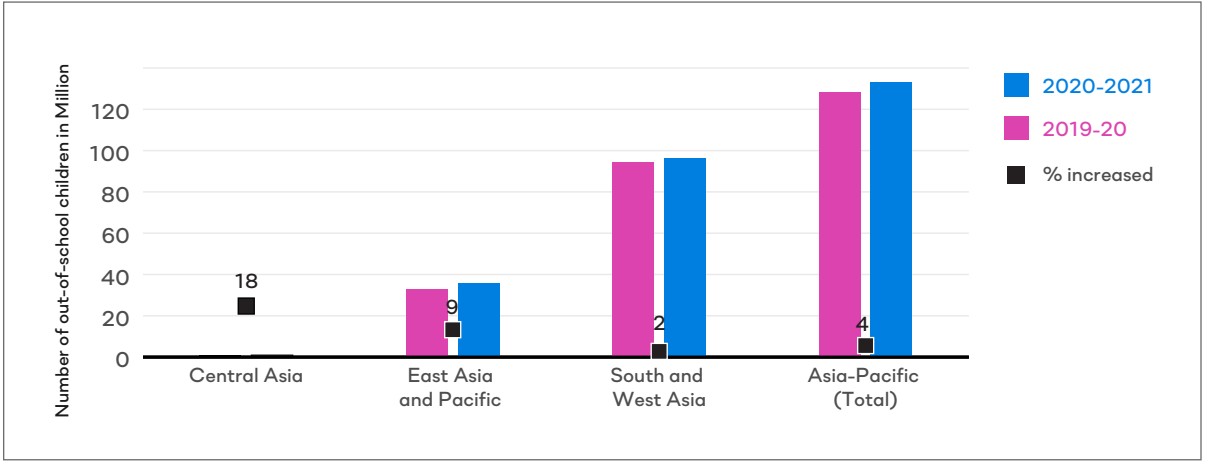
Looking at subregional estimates, Central Asia will see out-of-school numbers increase by 17%. In East Asia and Pacific, out-of-school numbers will increase by 9.5%, and in South and West Asia, they will increase by 2%. The largest number of learners at risk (5.9 million) live in South and West Asia (**Figure 22**).

Figure 21: Estimated number of students at risk of dropping out, by education level



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

Figure 22: Estimated number and percentage increase in out-of-school children (primary and lower secondary age), by subregion



Source: UIS (2020). Access: https://en.unesco.org/covid19/educationresponse.

4.2 Increasing proportion of students experiencing learning losses and falling below the minimum proficiency level in reading and mathematics

Research shows that school closures have hampered student achievement and progress toward SDG 4. This could have adverse effects on SDG 4 Indicator 4.1.1 which aims to measure the *"proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving a least a minimum proficiency level in (i) reading and (ii) mathematics, by sex."*

Studies show that, on average, student exam scores decreased significantly for each day of school missed (Horn and Jansen (2009); Ahmed (2013); Nurhafizah Ahmad, et. Al. (2018); Marcotte, D.E., Hemelt, S.W. (2007)).[13] This evidence is even more significant for lower grade students. Based on these studies, student academic performance can be estimated to have fallen substantially for students if no intervention was implemented to counter this damaging situation.

4.2.1 Estimating the impact of COVID-19 on learning

UIS research (2021) suggests that around 100 million additional students will fall below the minimum proficiency threshold as a result of reduced contact time with teachers during COVID-19 school closures. This research estimates that for every month of schooling lost, a child loses two months of learning. Moreover, these losses are coupled with worsening inequality. However, when considering children who were in Grade 3 in 2020, catching up to the learning trajectory that existed prior to COVID-19 is possible by 2024 if countries implement effective remedial or accelerated learning programmes.

The World Bank (2020) estimates the effect of school closures and the economic impact on learning-adjusted years of schooling under three different scenarios. These range from protracted school closures and few or ineffective alleviation efforts by governments, to shorter school closures and highly effective remedial efforts.

Kaffenberger's (2020) projections indicate school closures and the lost learning of primary-aged students will have a larger effect when students reach Grade 10 in 2027. The analysis argues that governments can mitigate this lost learning through remedial learning programmes. It has been stated this approach could even help produce higher learning outcomes than predicted prior to COVID-19, through a substantial reorientation of teaching methods.

This accumulation of lost learning reflects Andrabi, Daniels and Das's (2020) study of the impact of the 2005 Pakistan earthquake on future learning outcomes. This is also reflected in Gustafsson and Deliwe's (2020) estimates of lost learning for South Africa, where it was argued that various government interventions, particularly early grade reading activities and school accountability reform, can mitigate the impact of COVID-19.

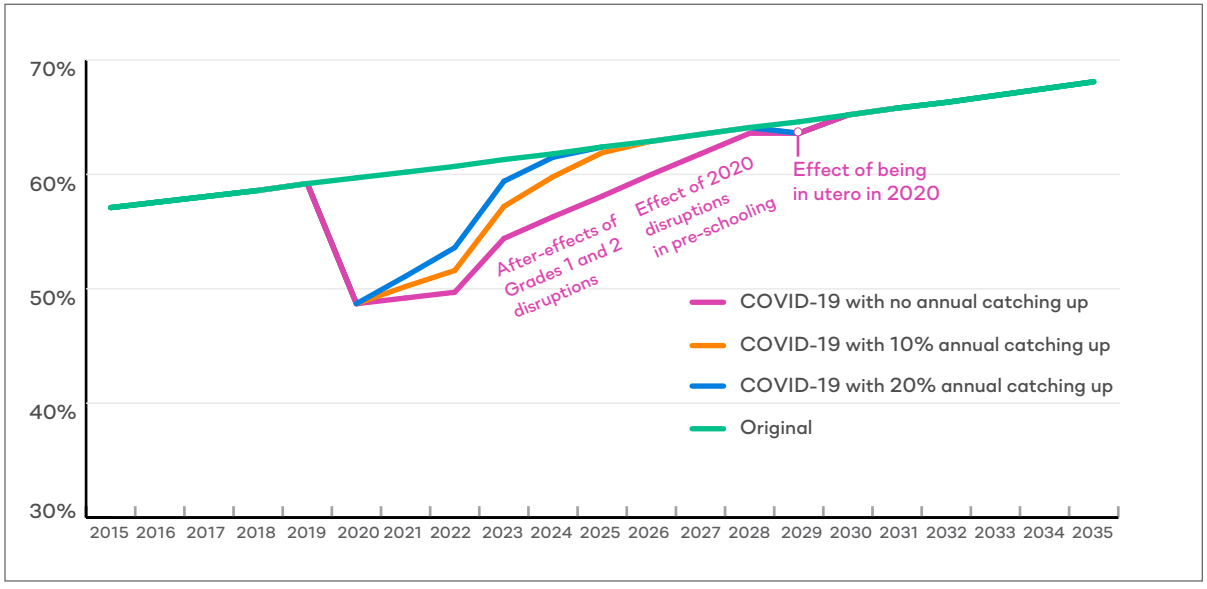
13 Horn, P.M. and A. Jansen (2009). Ahmed, A. A (2013); AIP (2018); Marcotte, D.E., Hemelt, S.W. (2007).

Sabates, Carter and Stern (2020) estimate the magnitude of school closures in Ghana and identify factors that contribute to learning loss by exploring data on learning loss in the transition of students between complementary basic education programmes and regular government schools.

Figure 23 provides three global learning trajectories emerging from the model developed by UIS to project the learning loss due to the pandemic using three different catching up assumptions. The focus here is on Grade 3 reading. In the model, no catching up, and accelerating annual learning in all grades by 10% and 20%, are used to get the different trajectories. The SDG indicator value reflecting children in the population who are proficient declines by a whole 10 percentage points between 2019 and 2020, from 59% to 49%. This translates into 14 million fewer proficient children within the global age cohort corresponding to Grade 3 – the entire age cohort is estimated at 133 million. In line with earlier UIS projections, one can assume that around 12 million of the 133 million children would be non-proficient because they were not attending school.

After the sharp drop in 2020, there are two years of relatively slow improvement. These two years are years when learners who previously suffered disruptions in Grades 1 and 2 participate in Grade 3. The years 2023 and beyond see considerably better levels of proficiency, as Grade 3 learners without a history of primary school disruptions enter the schooling system, though they might have experienced disruptions at the preprimary level. The simplifying assumption here is obviously that there is no grade repetition. Depending on how effective catching up efforts are, a return to the original pre-pandemic trajectory occurs in 2031 or 2027 – both the 10% and 20% acceleration scenarios result in all countries reaching their historical trajectories in 2027, though the 20% scenario sees more countries reaching this point before 2027. (It may seem from the graph as if the 20% trajectory reaches the original before the 10% trajectory does, but smaller distances from the original seen in the data are not really visible in the graph.)

Figure 23: Lower primary reading trajectories



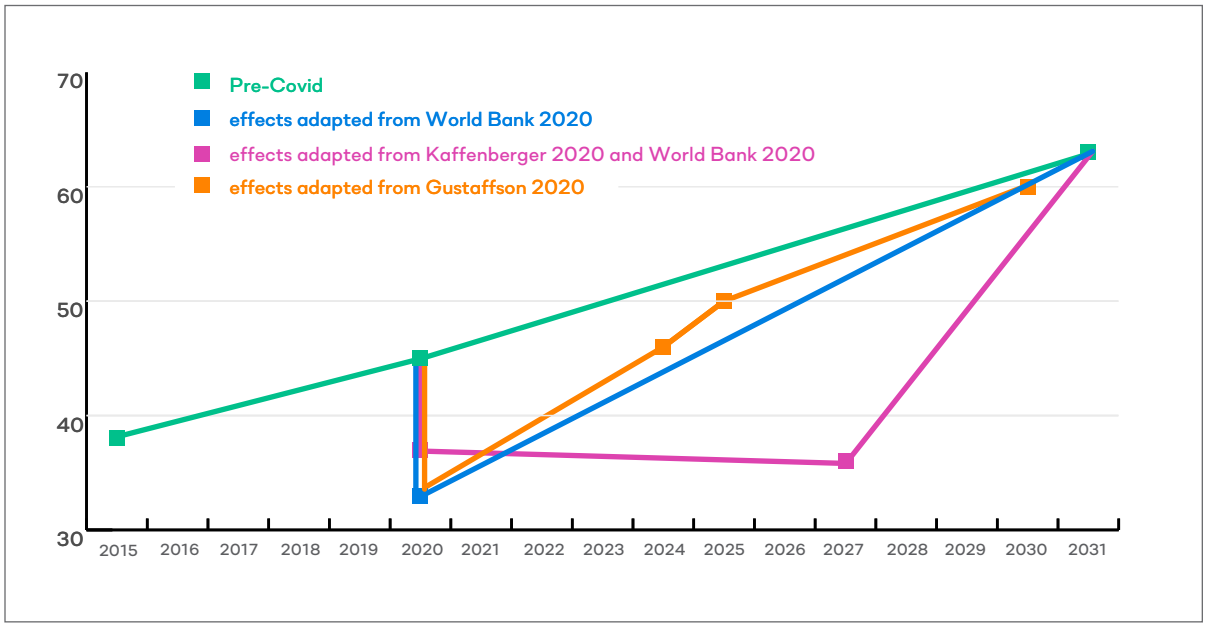
Source: UIS (2021). Access: http://uis.unesco.org/sites/default/files/documents/covid-19_interruptions_to_learning_-_final2.pdf

In all three COVID-19 trajectories in **Figure 23**, there is a slight drop in proficiency in 2029 as children who were in utero in 2020 enter Grade 3.

All of these studies estimate the effect of COVID-19 on learning outcomes under differing scenarios of government intervention.

According to the joint UNESCO, UNICEF and World Bank survey, 68% of countries reported that they were planning remedial activities. In the Central and South Asia subregion, 64% of countries were planning remedial activities. In Oceania, 67% of countries were pursuing remedial activities while 58% of countries in East and South-East Asia were doing so (**Table 3**).

Figure 24: Projected percentage of students achieving minimum proficiency (end of lower secondary, reading) if 68% of countries implement remedial learning activities



Source: Kaffenberger, M (2020); Gustafsson, and Deliwe (2020); World Bank (2020).

While the actual trajectory of the percentage of students attaining minimum proficiency was unknown, incorporating the size of the impact on the SDG 4.1.1 projection model (UIS 2020), assuming a linear trajectory,[14] illustrates how COVID-19, in with conjunction government mitigation efforts,[15] alters the projections of SDG 4.1.1. If 68% of countries implement remedial activities, the COVID-19 pandemic would decrease the percentage of students achieving minimum competencies by 2.9 percentage points (**Figure 24**).

14 The World Bank approach (2020), assumes the size of the effects to have incurred in 2020 and the path returning to the pre-COVID-19 projection for 2031 is assumed as linear. For Gustafsson (2020), the same trajectory is used. For Kaffenberger (2020), the effect is applied in 2027 for lower-secondary, with linear projections before and after.

15 Projections between the remedial and non-remedial scenarios were calculated as a weighted average; 68% for the remedial scenario and 32% for the non-remedial scenario. For the World Bank approach (2020), this was for the pessimistic and optimistic scenarios, while for Kaffenberger (2020) this was for the non-remedial scenario, with one-third lost learning and the remedial only scenario.

4.2.2 The impact of COVID-19 on student learning achievements in the Asia-Pacific

Table 3 indicates there will be between 41.2 million and 86.5 million additional students worldwide completing the lower secondary level without having minimum competencies due to the pandemic. This is based on the number of countries pursuing alleviation intervention activities.

Globally, if **68% of countries** implement various remedial activities at the lower secondary level to mitigate learning losses there will be around 57 million additional students who complete lower secondary without minimum competencies. In such a scenario, Central and South Asia subregions would experience the largest impact on learning, with 15 million to 31 million students completing lower secondary without achieving minimum competencies. With **64% of countries** implementing remedial programmes, the Asia-Pacific subregions will see around 21 million additional lower secondary students complete the lower secondary level with minimum competencies. This 21 million also includes 6.2 million additional students without minimum competencies due to the inaction of governments to alleviate learning loss. In East and South-East Asia, the COVID-19 fallout will see an additional 6 million to 12 million students who complete lower secondary with minimum competencies. With **58% of countries** pursuing mitigation measures, this subregion will witness 8.5 million students who complete lower secondary education with minimum competencies, a figure of 2.5 million additional students due to the inaction of governments to mitigate the impact of the virus.

At the primary level, globally,[16] the number of completers not achieving minimum learning proficiency ranges from 48 million to 102 million students based on the percentage of countries implementing mitigation activities. With **68% of countries** pursuing mitigation activities there will be an additional 66 million students completing the primary level who do not achieve minimum competencies. Of this figure, 17.4 million is due to a failure to implement remedial learning programmes (Table 3). Among the subregions of the Asia-Pacific, with **64% of countries** implementing mitigation activities, the average estimate of the number of additional students completing the primary level without reaching minimum proficiency levels between 2020 and 2030 will be 21 million in both Central and South Asia, of which 7 million is due to a lack of mitigation in countries in these two regions.[17] In East and South-East Asia, with **58% of countries** implementing mitigation activities, the region will see an additional 6.3 million students completing primary without achieving minimum learning competencies. Of this figure, 2.2 million accounts for countries' inaction to implement alleviation measures.

16 To adapt the World Bank (2020) effect to the primary level, the increase in likelihood was calculated as 1.08 times than that of the lower secondary level following the ratio of effects on likelihood implied by Gustafsson (2020). For the Kaffenberger (2020) adaptation, the effect on the likelihood of zero learning at the eighth-grade level was used.

17 Effects on the likelihood for each region was assumed to be the same as the global effect sizes.

Table 3: Projected number of additional students completing learning without minimum proficiency in reading, between 2020 to 2030, average projections in millions

Region	If no country pursues mitigation (business-as-usual)	If all countries pursue mitigation	If surveyed percentage of countries pursues mitigation	Loss due to countries not pursuing mitigation	Surveyed percentage of countries pursuing mitigation	Assumed completion rate
End of lower secondary						
World	86.5	41.2	56.9	15.7	68.0	73.0
Sub-Saharan Africa	16.9	7.6	10.8	3.2	68.0	37.0
Northern Africa and Western Asia	7.1	3.5	3.5	0.0	100.0	74.0
Central and South Asia	30.8	14.7	20.9	6.2	64.0	77.0
East and South-East Asia	11.6	6.1	8.5	2.5	58.0	79.0
Oceania	m.	m.	m.	m.	67.0	m.
Latin America and the Caribbean	5.1	2.7	3.3	0.7	75.0	81.0
Europe and Northern America	2.8	1.5	2.1	0.6	55.0	98.0
End of primary						
World	101.9	48.5	65.8	17.4	68.0	85.0
Sub-Saharan Africa	39.3	19.0	25.5	6.5	68.0	64.0
Northern Africa and Western Asia	9.3	4.2	4.2	0.0	100.0	84.0
Central and South Asia	32.5	14.4	21.0	6.6	64.0	89.0
East and South-East Asia	9.4	4.1	6.3	2.2	58.0	95.0
Oceania	m.	m.	m.	m.	67.0	m.
Latin America and the Caribbean	4.2	1.8	2.4	0.6	75.0	91.0
Europe and Northern America	1.0	0.4	0.7	0.3	55.0	99.0

Source: Kaffenberger, M (2020); Gustafsson, and Deliwe (2020); World Bank (2020).

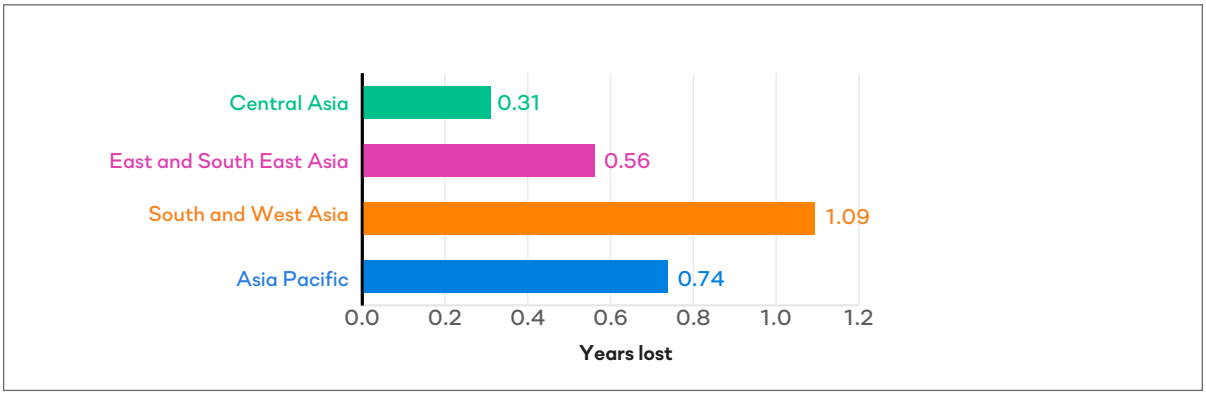
4.3 The loss of learning years

It is estimated that the absence of mitigation programmes, such as remedial classes and extra-time accelerated learning, would cause losses equivalent to a year's worth of learning for current third grade students, by Grade 10 (Kaffenberger 2020). This represents 10% of the years spent in school. Nonetheless, if remedial action is taken after the immediate shock, the impact is reduced to six months' worth of learning, allowing the student to recover, at least partially, the initial loss.

For the cohort of 145 million students starting school in 2018 (as per the UIS database), of whom 70% would complete secondary education, this would mean collectively one billion years' worth of learning for the ten years to 2030, one for each year of schooling for each student that completes the cycle.[18]

The COVID-19 negative impact would make this cohort collectively lose 100 million years' worth of learning in the absence of remedial action, and 50 million years if educational systems succeed in implementing remedial programmes.

Figure 25: Years of school lost in Asia-Pacific by 2030



Source: UIS (2020).

Students in the Asia-Pacific lose, on average, 101 learning days (0.6 years) due to school closures, with an estimated lower secondary completion rate of 76%. Without any remedial programmes, a current first grader will lose (by 2030) 0.74 years in ten years. In the subregions, students in Central Asia will lose 54 learning days (0.3 years); students in East and South-East Asia will lose 76 learning days (0.42 years); and students in South and West Asia will lose 130 days (0.72 years) due to school closures (**Figure 25**).

There will be an estimated completion rate of 97%, 75%, and 66% for Central Asia, East and South Asia, and South and West Asia, respectively. A first grader in these subregions will lose 0.31 years in Central Asia; 0.56 years in East and South-East Asia; and 1.1 years in South and West Asia in ten years. With appropriate and effective remedial programmes, countries in the region would be able to reduce learning loss significantly.

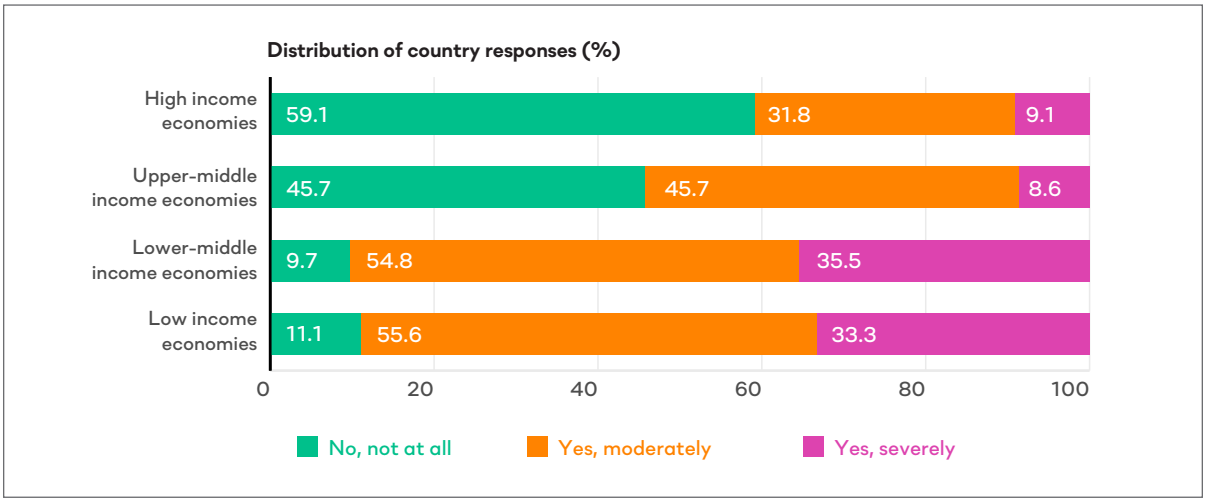
18 145 million students time 70% of secondary completers times 10 education levels.

4.4 Impact on education data collection and production

Timely, high-quality, accurate data can help inform policy makers and planners about the ongoing scenario and the immediate challenges schools, students and teachers face so they can develop appropriate policies, plans and relevant remedial programmes to alleviate the effect of the pandemic. Quality data is essential during the crisis to provide policymakers with the information that will enable them to make targeted interventions.

However, pandemic-enforced school closures, and the closures of national statistics offices, had a huge impact on global and national data collection and production due to the closure of main administrative offices, combined with an inability to operate data systems from home. Around 90% of low- and lower middle-income countries faced either a moderate or severe difficulty with data collection (**Figure 26**).

Figure 26: Percentage of countries whose data collection was disrupted due to the pandemic (by economic group)



Source: UIS (2020). Based on the UIS Survey on Pandemic Impacts on National Planning Units.

5. Implication on resources to achieve SDG 4

To provide a quality education for every child and youth in the developing countries of the Asia-Pacific, the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) estimated, based on the UNESCO model of SDG 4 financing, that education spending for pre-primary to upper secondary has to rise from US$606 billion in 2015 to an annual average of US$737 billion between 2016 and 2030 (UNESCAP, 2019).

The increase reflects higher enrolment and an increase in per capita student spending in line with higher incomes. In addition, reasonable access to quality post-secondary education would cost an annual average of US$1.2 trillion between 2015 and 2030.

This reflects an increase in the size of the student population at all levels, except for primary, so that by 2030 there will be about 230 million more students than there are currently, including 91 million more students in upper-secondary education.

South and West Asia contribute to much of this growth due to the large student populations and ambitious progression targets. At the same time, costs per student will increase, primarily reflecting income growth, but also due to smaller class sizes, or better-paid teachers in some countries in these two regions.

While domestic public and private financial resources are sufficient to cover this increase in most countries in East Asia, external financing will continue to play a big role in the Pacific Island states and across lower income countries, such as Afghanistan and Pakistan, to fill the resource gap (UNESCAP, 2019).[19] But this situation existed before the pandemic.

The impact of the containment efforts to halt or slow the spread of COVID-19 had severe economic consequences that exacerbated inequalities around the world as well as within countries. Government fiscal efforts to prop up their economies will have a negative impact on balance sheets and there is the risk that public spending on education systems may fall – just at the time when more spending is needed to support schools, teachers and students.

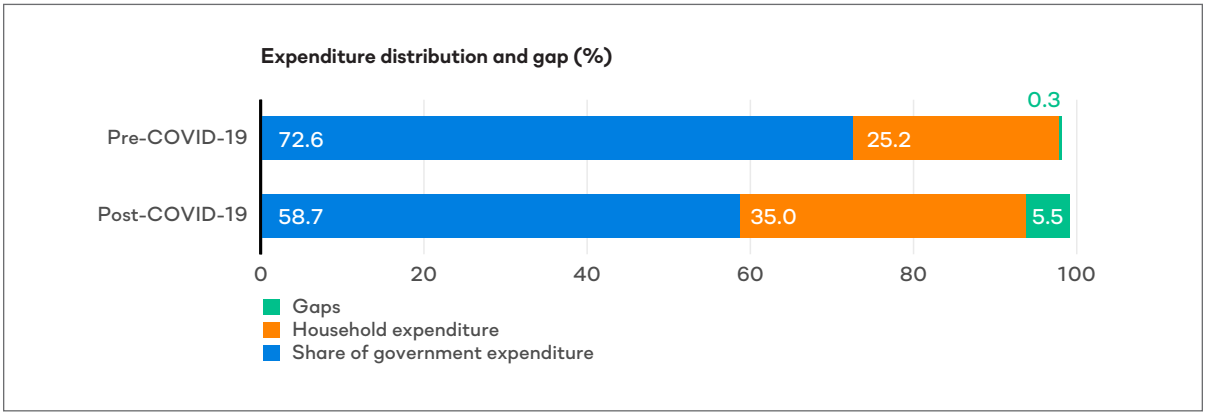
19 UN ESCAP (2019). Economic and Social Survey of Asia and the Pacific 2019.

5.1 The education finance gap could increase significantly

The pandemic has caused major challenges to education financing worldwide. For low- and lower-middle income countries, the gap in annual funding required to reach SDG 4 increased from US$148 billion pre-COVID, to almost US$200 billion (UNESCO, 2020) with the onset of the virus. With diverging economic growth patterns driven largely by fiscal stimulus in high-income countries, combined with rising debt loads, education, viewed as a lower priority, could become a victim of spending cuts. Significantly, low income countries are always the most vulnerable, as was the case after the 2007/2008 global financial crisis (IIEP, 2020).[20]

About 19% of mostly low- and lower-middle income nations indicated the possibility of education budget cuts for the 2020 and 2021 fiscal years. This public spending reduction could include cutting wage bills by reducing teaching staff levels. School meal allocation could also be affected. This would have a detrimental impact on critical programmes that keep young students nourished and ready to learn (UNESCO, UNICEF, Word Bank, 2020).[21]

Figure 27: Average annual percentage gap in education finance, pre- and post-COVID-19, Asia-Pacific



Source: Calculated using UNESCAP Economic and Social Projection Model (UNESCAP, 2019).
Note: Total percentage distribution is not equal to 100% because (a) total public costs exclude private pupils.

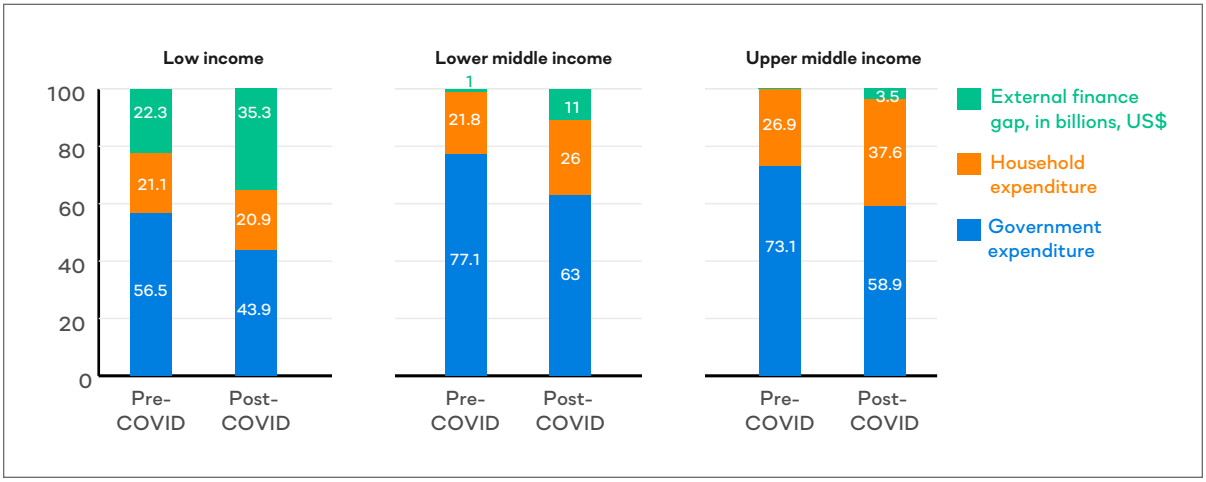
According to a UN ESCAP forecast in 2018, the Asia-Pacific has an average US$6 billion annual financial shortfall (just above 0.3% of total cost of education) to achieve SDG 4 by 2030. The deficit is especially high for low income countries (more than 22% of the total education bill). With a downturn in economic development in the region, there will be less funding for education and the shortfall is forecast to increase to US$10.5 billion annually, provided the share of education expenditure as a percentage of GDP remains the same.

In the case of a reduction in the share of education expenditure as a percentage of GDP, the gap could increase to more than US$100 billion annually. This will increase the financing gap from a mere 0.3% annually in the pre-COVID era, to over 5.5% in the total amount of education finance needed to achieve SDG 4 by 2030 in the region (**Figure 27**).

5.2 Low income and lower-middle income countries most affected by the education finance gap

Prior to the COVID-19 pandemic, only low income countries had a funding gap for SDG 4 objectives. One impact of the pandemic in the region has been to expand the gap in financing for SDG 4 needs to lower-middle and upper-middle income countries. Low income countries continue to have the largest education finance gap, however, with an annual average expenditure shortfall of 22%. This figure will increase to over 35% if public expenditure on education decreases (**Figure 28**).

Figure 28: Average annual gap in education finance, pre-and post-COVID-19, by income level



Source: Calculated using UNESCAP Economic and Social Projection Model, (UNESCAP, 2019).

With this in mind, it is very important to monitor the allocation of a country's GDP to education expenditure and ensure that spending remains stable. Insufficient and inconsistent funding will have a severe and negative impact on education systems and result in an inadequate provision of educational services. This includes deficient teacher numbers, inadequate school facilities, poor learning materials and limited teacher training opportunities, a situation that will weaken the assessment of teachers' instruction knowledge and classroom skills.

These factors will cause a decline in the quality of education delivery, which in some countries is already very low. In addition, low income countries will be doubly impacted if there is a reduction in official development assistance.

This situation would force poorer countries to realign their fiscal priorities in the wake of the pandemic. For this reason, COVID-19 will put immense pressure on the attainment of the SDG 4 objective to *'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'* and reach those most at risk of marginalization. Advocacy and awareness-raising among national and subnational governments as well as the donor community need to be increased in order to ensure education remains a priority for countries and adequate resources are provided to achieve SDG 4.

6. Key findings and the way forward to strengthen monitoring during the pandemic

6.1 Key findings

At the height of school closures in April 2020, the COVID-19 pandemic prevented 1.5 billion students worldwide from attending school. In the Asia-Pacific region, 99% of students (850 million students, see Section 1.4), from pre-primary to secondary levels, have been negatively affected by pandemic-enforced school closures. This unprecedented and lengthy ban on school attendance has revealed an adverse and destructive impact on student learning while illustrating inequalities that exist within and between countries. It has also revealed how countries' education systems are highly susceptible to crises such as this pandemic. Millions of students, especially poor students and those living in remote locations, have missed out on improvised learning opportunities due to insufficient Internet connections and ICT technology during the school closure periods, showing how education systems in many countries are not ready to respond to, and proactively deal with, emergency situations.

a. **Many countries in the Asia-Pacific developed remote and distance learning options, especially the use of online platforms, to ensure ongoing learning.** However, students who did not have Internet connections and user devices, such as laptops, computers and smart phones, were left out. This indicates how educational responses to COVID-19 can widen inequalities within and between countries – with experiences varying across income groups.

b. **Most low income countries planned to re-open schools for face-to-face learning rather than adopting a hybrid model more popular in high income countries.** This is likely because in areas with limited Internet connectivity, remote learning was not considered to be an effective substitute for official classroom-based learning. However, most low- and lower-middle income countries also reported that they did not have enough resources to re-open schools safely.

c. **Many schools had inadequate digital infrastructure and teacher capacity to deliver remote learning by ICT**. Few teachers received some form of short training to organize remote and distance learning programmes.

d. **Teacher job security was negatively affected by school closures, especially in the private sector.** Teachers at private schools experienced job loss due to school closures, or lower or irregular pay, increasing the risk that they may not return to the profession once school are fully re-open.

e. **School feeding programmes stopped when schools closed in April.** Millions of students were getting healthy nutritious food through school meals programmes prior to COVID-19 and while some countries had capacity to develop effective strategies to supply school meals to school children during the crisis, not all countries could implement such strategies effectively.

f. **Disruption in collecting and compiling education data.** The virus disrupted administrators' ability to execute effective policies and plans to tackle this extremely challenging scenario. This affected low- and lower-middle income countries more. Together with other mitigation plans to continue learning operations, countries should have a plan to ensure key and essential data can be collected and reported at national and global levels.

g. **Effective remedial programmes are essential.** In order to alleviate the impact of the pandemic on student learning and offset learning loss, countries should design remedial or accelerated learning programmes based on the geographic, technological and economic situation of the students. The development and support for high-tech programmes should also ensure marginalized groups do no face further discrimination.

h. **Increasing education finance gaps for low income and lower-middle income countries will impact their ability to achieve SDG 4.** Countries should pay special attention to ensuring that education expenditure is sufficient for meeting their commitments. Countries should be supported to increase or maintain public education expenditure from 4% to 6% of GDP and from 15% to 20% of total public expenditure.

6.2 The way forward

Data collection is vital for ensuring effective policies, planning and monitoring of education, especially during a pandemic. The following measures are recommended to strengthen national data collection and production capacity:

- Strengthen and data collection systems for effective monitoring of school re-opening plans. This approach should focus on safety, equity and inclusion. Monitoring and data systems should also collect data on online and distance learning programmes, their delivery and student achievement.

- National monitoring authorities should receive greater support to expand their capacity to enhance and develop data collection and compilation methodologies. These approaches could include the use of technical devices such as smart phones and tablets, as well as Internet-based innovations.

- Data collection guidelines and tools should be developed so countries can adjust practices and collect only the most essential data for planning and policy strategies. This approach will advance the development of remedial and intervention programmes.

- Support should be provided for regional, subregional and national impact assessments, in coordination with national statistical organizations and ministries of education, so the true impact of COVID-19 on learning can be assessed.

Technical note: coverage and sources of data on schools, students, and teachers

Data composition and data sources

The database is comprised of schools, students, teachers and school closure and number of school days lost for different levels. The school data is comprised of primary (ISCED 1), lower secondary (ISCED 2) and upper secondary (ISCED 3) education levels only. For student data, it covers data for ECE (both ISCED 01 and 02), to tertiary level (ISCED 8). Similarly, for the teacher data, it includes data from pre-primary (ISCED 02) to tertiary level (ISCED 8).

The data on the number of schools are retrieved from the UIS annual education surveys where data on education institutions for both public and primary schools are collected for primary to secondary education. The student and teacher data are mainly from the UIS database (UIS September 2020 data release: http://uis.unesco.org/).

Data on status of school closure (national level closure, partial, academic break etc.) and number of days of schools closed by each of the month are retrieved from: https://en.unesco.org/covid19/educationresponse.

As a matter of fact, the effect of the pandemic can be different for primary and secondary school, and post-secondary education. The report and analysis highlight the issues related to primary and secondary school education. Therefore, the analysis estimates the number of schools (primary to secondary) affected by COVID-19. For students, it uses the number of students affected by school closure at ECE (both ISCED 01 and 02) to secondary education (ISCED 3). Data on teachers span pre-primary (ISCED 02) to secondary education ISCED 3) for the analysis. As mentioned earlier, data for post-secondary non-tertiary and tertiary level data for both students and teachers are available in the database and analysis can be carried out should there be need and interest.

Country inclusion

The countries included in this analysis comprise only those countries which underwent a lockdown and school closure (nation-wide or partially, at least one point in time due to COVID-19). The countries which never had a lockdown are not included in the calculations. Therefore, the included number of countries varies from the total number of countries globally.

ISCED Level

DEFINITION and implication

The education levels mentioned in the data are based on ISCED 2011 classification. Following are the classification and its brief definition under ISCED 2011:

ISCED level	Education Programme
ISCED 01	Early childhood education and development – programmes focusing on age 2 years and less
ISCED 02	Pre-primary education – programmes focusing on 3-5 years age
ISCED 1	Primary
ISCED 2	Lower secondary
ISCED 3	Upper secondary
ISCED 4	Post-secondary, non tertiary
ISCED 5 to 8	Tertiary

Imputation for missing data on enrolment

More than 90% of data are available; however, some country data are not available. For the remaining 10%, the UIS imputed figures on students and teachers for ISCED 0 to 8 (UIS September 2020 data release). The average PTR has been used to impute the number of students and teachers in different levels of education.

Criteria of estimating the affect of school closures

The number of schools, students and teachers have been counted as having been or are being affected by lockdown measure in response to COVID-19 pandemic because the country either underwent a nation-wide closure or partial closure. When schools were not closed in response to COVID-19 but due to planned academic/school cycle breaks (vacations), those schools, and their student and teacher populations, have not been counted as affected by the pandemic and are thus not considered.

In short, if a country closed all schools as a national-level response, 100% of schools, students and teachers have been counted as affected. If a country closed its schools partially, an assumed 50% has been allocated to the total number of schools, students, and teachers to estimate the numbers of schools, students and teachers affected. The proportion 50% has been chosen, because partial closures differed by country, ranging anywhere from 10%, 25%, 50%, 75% to 90%.

Similarly, estimating the number of days of school closure, the actual number of school days closed were counted, eliminating school holidays and academic breaks. In terms of partial school closure, only 50% of the total number of school closures have been applied to estimate the total number of school closure days.

If a country's information on the percentage of schools closed is available, the allocated percentage can be changed.

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