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UNICEF’s lessons learned from the education response to the COVID-19 crisis and reflections on the implications for education policy

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ABSTRACT

COVID-19 triggered mass innovation that grew flexible learning modalities and pathways that can be built upon in future sector plans to make education systems more resilient. These tools must be paired with investments in the people expected to use them and strengthened data systems. To ensure plans are rooted in ever-pressurised budgets, Education Ministers will increasingly need to turn to economic analysis. Expansion of partnerships will be necessary to secure greater and more innovative forms of finance but also affordable digital learning solutions. If these opportunities are seized alongside the disruption wrought by the pandemic, they can equalize opportunities and accelerate progress.

1. Introduction

At its peak at the end of April 2020, schools shuttered by COVID-19 sent home nearly 1.6 billion students: this was 94 per cent of those enrolled worldwide and up to 99 per cent of the student population in low- and lower-middle-income countries (UN, 2020). Although that figure has fallen to 17.9 per cent by the end of November 2020, more than half of countries in a survey from October 2020 reported that they are combining remote learning and in-person education as schools reopen (UNICEF et al., 2020). Much hangs in the balance both for individual learners and countries which rely on the transformative potential of education to forge a pathway out of poverty to peaceful, prosperous lives and societies. Will the disruption and mass experimentation seen in education in response to COVID-19 catalyse transformative change within education systems or will it simply exacerbate the existing global learning crisis?

This paper analyses lessons learned from both the COVID-19 school closures and subsequent school reopening process to identify policy options and priorities to inform education sector planning and budgeting processes and enable decision-makers to seize this once-in-a-lifetime opportunity to accelerate wide-scale reform and innovation in education. It is intended to improve education-related programming within UNICEF and contribute to public policy debates and reforms accelerated by the pandemic. Section 2.1 addresses whether COVID-19 can be a catalyst to make education systems more resilient with a focus on education sector planning and data. Section 2.2 examines implications for education budgets and financing, and Section 3 sets out the overarching Conclusions.

It relies on a mix of qualitative and quantitative information. Internal UNICEF-led surveys conducted between June and September 2020 on education responses to COVID-19 along with the joint UNESCO-UNICEF-World Bank survey of Ministries of Education published in October 2020 provided valuable evidence, as does analysis of UNICEF-supported household surveys, such as the Multiple Indicator Cluster Surveys. Interviews, case studies, and documentation of lessons learned from UNICEF education teams around the world up to February 2021 are other key sources along with some external literature. Initial data from these sources paints an interesting picture regarding access to distance learning modalities, but much work is still to be done to analyse quality and effectiveness.

2. Making education systems more resilient

Although education sector planning processes have become increasingly complex over the past ten years with the possibility of including more sophisticated analysis, few countries were prepared for the shock to education systems wrecked by COVID-19. This is true not only for governments but for development partners and multilaterals as
well. Despite the previous pandemic scares posed by SARS, MERS and Ebola, the novel coronavirus caught the world off guard by its quick spread and upending of economies and virtually every aspect of daily life. Almost no education system was spared, and the widespread school closures and restrictions galvanized great urgency to overcome the resulting learning gaps. In order to make education systems more resilient to such shocks over the medium and long term, the lessons learned within this experience must be appropriately accounted for in future education sector planning and financing.

2.1. Education sector plans

2.1.1. Measuring and mitigating risk

In an ever-globalised world, why had so few education systems planned for a pandemic or, more generally, an alternative to face-to-face learning? In part, it is human nature to look backward to previous plans in order to build future ones. If done too mechanically, this approach can miss future threats and opportunities. As well, sector planning methodology is still grappling with the best way to integrate cross-cutting issues, such as emergencies, which are often not the direct responsibility of the Ministry of Education. Governments also tend to ignore low probability but high impact risks, particularly in the face of finite budgets (Gardner, 2020). Decision-makers in constrained systems, where the number of issues to address frequently overwhelms the resources available, may necessarily prioritise scarce resources towards issues that already exist, rather than those that may or may not materialise. The result is that education sector plans may be only partially risk informed.

The COVID-19 pandemic brought home to all countries the importance of integrating planning for emergencies, including beyond natural disasters, into sector plans and budgets. As climate change exacerbates the frequency and severity of natural disasters, the probability that countries will have to confront overlapping emergencies is growing and, in some cases, inevitable (UNICEF, 2019). In the disaster-prone Pacific Islands, for example, Cyclone Harold hit within the first month of COVID-19 school closures and the resulting switch to distance learning. However, because of the long tradition of emergency preparedness and disaster risk reduction in schools, Fiji and Vanuatu were able to minimise the disruption to children’s learning. For instance, the well-established communication mechanisms among teachers, parents and children proved invaluable during the switch to distance learning when schools were closed, during reopening, and for the monitoring of the safety and well-being of teachers and children. Their previous experience and planning also led them to prioritise teacher and student well-being throughout school closures and reopening, and UNICEF was positioned to respond immediately with the provision of temporary learning spaces and education supplies in areas where schools had been destroyed in the cyclone. As a result, both countries were able to reopen all their schools within two months despite the twin emergencies of COVID-19 and the cyclone (UNICEF, 2020a).

This lesson has not been lost in the recently published Education Sector Analysis Methodological Guidelines Volume III, which includes more detailed information on vulnerability and risk analysis that has been informed by the pandemic (UNESCO et al., 2021). In addition to the newly updated risk assessment tools, countries can also draw on research undertaken during the pandemic that identifies promising practices in equitable remote learning and the reach of different distance learning modalities (Dreezen et al., 2020; UNICEF, 2020b), and which can be used to tailor distance learning policy and plans. The three-volume series is the primary resource utilised in the construction of education sector plans.

While recognising the challenges facing planners in resource-constrained countries, it is still more cost effective to plan than to react in the midst of a crisis. Countries can think through a continuity plan of how to reach students and other relevant groups if schools had to close suddenly as part of its Education Sector Analysis, whether through high-, low- or no-tech means or, more likely, a mix. A risk informed analysis could see a country review how it keeps contact information current and decide on a communication protocol in the event of an emergency. Other examples include reflecting on whether the curriculum is suitable for delivery through distance learning and whether teacher training programmes adequately reflect the skills necessary to deliver using distance learning or blended learning.

2.1.2. Redundancies and resilience

2.1.2.1. Multiple distance learning modalities. Concerned with overcoming the digital divide, countries activated a menu of options, typically a mix of digital and non-digital methods in order to reach the greatest number of children (UNICEF et al., 2020). This approach to decision-making is illustrated in Fig. 1 below (UNICEF, 2020c).

In addition to the four main remote learning methods presented in Fig. 2 (that is, online, TV, radio and take-home lessons), internal UNICEF surveys from May 2020 found that 72 out of 135 countries also used SMS messages, instant messaging or social media platforms to deliver educational content and facilitate ongoing engagement and communication amongst teachers, students, and families. In rare cases and under appropriate circumstances, education ministries enabled home visits for hard-to-reach children.

An example of deployment of multiple distance learning modalities is the Ministry of Education, Youth and Sports in Timor-Leste that made learning materials available via TV, radio, internet, SMS, mobile app and in print (UNICEF, 2020d). Similarly, in Jordan, lessons were shared online, on social media, in print and, in exceptional circumstances, through home-based visits to offer tailored supports for children with disabilities living in refugee camps (UNICEF, 2020e). Jordan’s national blended learning programme, Learning Bridges, launched following school reopening to help children recover lost learning from 2020 and accelerate learning in the current academic year, also relies heavily on printed learning packs that each come with a QR code that links to other resources, including audio files and online materials, for those children with access to a smartphone (UNICEF, 2021a).

2.1.2.2. Equity and resilience. Despite these efforts to mitigate the digital divide through the use of multiple modalities and a mix of high-, low- and no-tech options, significant swathes of children were still left behind,compounding significant pre-existing inequities. Comparing the remote learning response methods, countries’ Ministries of Education reporting available data on access to internet and broadcast media (UNICEF, 2020b), estimated that a minimum of one third, or 463 million schoolchildren, were not reached with digital and broadcast remote learning (see Fig. 3). Since this estimation does not account for children who nominally had access to a technology which their country utilized to provide remote learning but who nevertheless did not access remote learning through that technology, it is likely that the actual number of children not reached through these methods is much higher.

In some countries, the reach of remote learning was much worse than the estimates in Fig. 3 suggest. For example, in Nepal, two-thirds of children were unable to access home-based learning (UNICEF, 2020f). To help close the gap, since 2019, UNICEF has been working with the International Telecommunication Union with the aim of connecting every school to the internet through a global initiative called Giga. Nevertheless, educational exclusion is expected to drive up dropout, with UNESCO estimating that at least 24 million students are at risk of not returning to school following the disruptions caused by the pandemic (UNESCO, 2020a).

While initial data focused on access, it is not the whole of the story. Quality and efficacy are much harder to track, and the evidence is less robust. This is discussed in more detail in the sub-section on Measuring Learning.

The identity of those groups of children is not a mystery: unequal...
access was exacerbated for rural, poor, linguistic minorities and children with disabilities (Dreesen et al., 2020; UNICEF, 2020b). Girls, too, face greater exclusion as exemplified in case studies on the COVID-19 and education response from Burkina Faso and Côte d’Ivoire (UNICEF, 2020g, 2020h). In addition to the increased rates of violence, early pregnancy and marriage that girls may experience as a result of school closures, scarce devices may be prioritised for boys and so, too, educational opportunities, as the economic impact of COVID-19 throws more families into poverty (Rafaeli and Hutchinson, 2020; UNFPA and UNICEF, 2020; World Vision, 2020). Fig. 4, below (UNICEF, 2020b) shows the overlapping nature of this educational exclusion while Fig. 5 sheds light on the gendered gaps in digital skills and use of devices (Amaro et al., 2020).

Girls do not always have equal access to devices or internet connection. For example, even in India, world renowned for information technology, boys are twice as likely to own mobile phones than girls (UNICEF, 2020i). Where families have to share a device, boys may be prioritised over girls (UNICEF, 2020j). Access to the internet also skews against girls, particularly those living in the least developed countries.
Progress in educational rights, which focused largely on expanded access, will likely be rolled back, especially for girls. In the words of education activist Malala Yousafzai, girls “are the first to be removed from school and the last to return.” According to the Malala Fund (Malala Fund, 2020), an estimated 20 million secondary-aged girls are estimated to drop out of school as a result of the current public health emergency.

Educational exclusion is cumulative based on factors such as poverty, geography, language, gender, and disability. While there is no silver bullet to ensuring equity in distance learning, planning for a mix of learning modalities tailored to a country’s context and provision of appropriate devices – whether tablets or solar powered radios – for the most disadvantaged families is critical to reaching the most marginalised groups of children. Building alternative learning modalities using the principles of universal design; that is, planning for teaching and learning methods that are more engaging for all learners (learning through a variety of methods with more interactive elements), presentation (content presented in a variety of ways and in a variety of languages that meets children’s needs or learning preferences), and action and expression (learners showing what they know in a variety of ways) is a useful starting point (World Bank, 2020a). A checklist proposed by the Inclusive Education Initiative helps decision-makers work through the overarching considerations of remote learning choice, community accessibility, educational accessibility, and individualization (World Bank, 2020a).

Other important solutions to inequity will come from greater collaboration and partnership, particularly with mobile network operators and other private sector actors, to expand access to more affordable devices and data. This includes potentially subsidised devices, more pay-as-you-go options, service bundling, tiered pricing and zero-rating for educational sites, where appropriate. Experiences from Timor-Leste and Turkey also highlight the importance of mobile apps, especially those that allow learners to work offline, as a strategy to increase reach through the growing numbers of smart phones as well as to reduce costs for learners to access educational resources (Lennox and Taulo, 2020; UNICEF, 2020d). The UNICEF-supported Learning Passport is also being rolled out in a growing number of countries with online and offline capabilities. Jordan’s Youth Learning Passport programme is one such example (UNICEF, 2021b). Globally, 63 per cent of governments reported taking action to improve access to online learning platforms through mobile phones (UNICEF et al., 2020).
2.1.2.3. Blended learning. As school reopenings accelerated in the second half of 2020, reliance on multiple learning modalities continued. Most education systems opted for blended learning, dividing school populations into cohorts and offering a mix of in-person and home-based learning to mitigate risk, including the potential of school closure. Globally, 54 per cent of 116 countries reported that they were or would be combining in-person and distance learning when schools reopened (UNICEF et al., 2020). Others have integrated the alternative learning modalities established during COVID-19 for broader uses, such as offering a more comprehensive range of learning materials to students following reopening, presenting complementary courses, or as a means to offer catch-up programmes to mitigate learning loss. Blended learning, it seems, is here to stay.

Countries that had longer-term investment or experience with alternative learning modalities were able to pivot most quickly to home-based learning as COVID-19 shut down schools. This is evidenced in both high- and low-tech focused responses. When responding to COVID-19-related school closures, countries marked by previous emergencies could draw upon earlier experience implementing radio education programmes. These include countries that had weathered the Ebola crisis, such as Sierra Leone and Liberia, but also Burkina Faso, Central African Republic, Côte d’Ivoire, DRC, Mali, Somalia, and South Sudan.

A review of the Education Response to the Ebola Virus Disease Outbreak in Guinea, Liberia, and Sierra Leone noted mixed findings on the utility of radio programming. The three countries developed different implementation strategies, but the most successful occurred in Sierra Leone where it was set up quickly, covered multiple subjects from pre-primary through to secondary and where UNICEF and other education partners distributed over 60,000 solar radios. Over 65 per cent of families with school-aged children regularly listened to the programme. The programme was used to communicate lifesaving messages about Ebola prevention, facilitate catch up learning and provide an educational opportunity for out-of-school children. The programme was not limited to the period of the emergency and is considered a useful resource for in-person classes led by “unqualified teachers”. Guinea’s radio programme was focused mainly on providing catch up education after schools had reopened but was also considered “good quality and appreciated by the population”. One respondent stated that radio education was an “essential way to reinforce pupils’ learning but also to provide psychosocial support and to mobilize communities against the spread of Ebola”. In Liberia, however, coverage, quality and usage of radio education were low. The review did not refer to concrete figures on learning outcomes, noting overall monitoring challenges, including a tendency to focus on inputs (UNICEF, 2016).

Another example is Uruguay. Its long-term, strategic investment in digital learning since 2007 through its one-laptop-per-child policy, Plan Ceibal, made the country more resilient to the shock of COVID-19 (UNICEF, 2020k). These long-term investments in devices and digital architecture combined with seven years of teacher development on online teaching prior to the pandemic enabled Uruguay to pivot quickly to home-based learning during the period of school closures since the country had a well-established national system of digital learning already in place, one it had continuously refined over many years. Plan Ceibal operates nationally, covering “85 per cent of Uruguay’s 1 million students in the formal education system: 100 per cent in public schools aged 6–15 years and their teachers, as well as students in private schools in poor areas” (UNICEF, 2020a). Similarly, it was well positioned to move to phased reopening of its schools for the same reason: the system and the people in it were prepared to deliver blended learning; that is, a combination of in-person lessons for students in low-risk rural schools and online classes for everyone else. It was the first country in Latin America to do so, starting to reopen schools gradually beginning in April 2020 (Millan et al., 2020; Robinson et al., 2020; UNICEF, 2020c).

2.1.2.4. Investing in people. Not all one-laptop-per-child schemes are successful (Robertson, 2018), and a powerful lesson from Uruguay’s experience is the importance of investing not only in the technology but also in the people that bring the tool to life (UNICEF, 2020c). Since 2010, Plan Ceibal has increasingly focused on teacher development and modernising pedagogy (UNICEF, 2020c). The same lesson was repeated in research on promising practices for equitable remote learning, which recommended strengthening support for remote learning among teachers, parents, and caregivers for greatest effect on children’s learning and well-being (Dreesen et al., 2020).

Many countries are already moving to do so or accelerating efforts to train teachers and other education personnel in their rapidly evolving roles as facilitators of home-based or blended learning. For example, over 90 per cent of teachers in Timor-Leste are registered on the online Learning Passport platform, through which a virtual certification course helped prepare them for school reopening (UNICEF, 2020m). In Malaysia, education authorities launched not only online teacher training on distance learning, but also a digital community to foster peer-to-peer learning and support (UNICEF, 2020b).

Students, too, need the relevant skills. Gaps in digital skills among girls and women, unless addressed, will also undermine meaningful access to learning opportunities (Amaro et al., 2020).

If the mass experiment with home-based learning during the pandemic shined a light on the role of schools and teachers, it also made parents frontline responders and engaged them in children’s learning as never before (Borisova, 2020; Pokhrel and Chhetri, 2021). Research has highlighted the importance of parental engagement to foster children’s learning, particularly for foundational skills, such as reading, which the current public health emergency has only served to heighten. Authors Angrist et al. (Angrist et al., 2020a) highlight the importance of factoring in communication with parents or caregivers. They observed that distance learning (basic math problems delivered through SMS messages) combined with follow-up communication with the household (live calls from the instructor) increased parental engagement with their children’s learning (Angrist et al., 2020a). Ultimately, this helped to increase learning outcomes as well as parental understanding of their children’s level and needs (Angrist et al., 2020a). Globally, WhatsApp and messaging applications were the most common communication tool reported (in 84 per cent of countries) for interactions between teachers, students, and parents/caregivers during remote learning, followed by mobile phones in 67 per cent of countries (UNICEF, 2020c). While these were also the most common modalities in low-income countries, guidelines for such outreach were much less prevalent among this group.

In Argentina, policy-makers addressed the human element of remote learning by providing support to everyone in the school community, not just students and teachers but also school managers and students’ families (UNICEF, 2020d). This support took the form of a series of tailored booklets, videos, and podcasts.

These trends follow education research concluding that what really matters for student learning is “the interactions among educators, learners, and educational materials” (Centre for Educational Research and Innovation and Organisation for Economic Co-operation and Development, 2008; Cohen and Ball, 1999; OECD, 2010). It is not enough to simply replace a physical textbook with an online version. What matters is whether the teacher can capitalise on the tool or resource through improved instruction to give the student an improved learning experience (Stavrou and Vogel, 2020). The proof of the realization of this ambition will only come through tracking improvements in student learning; however, the initial evidence base is skewed to access, which is easier to measure.

For similar reasons, moving to digital, accessible textbooks that can be tailored to fit children’s specific learning needs and preferences is a more powerful change than simply digitising conventional texts. Countries such as Kenya and Timor-Leste are advancing work that seeks to combine technology, multiple language versions, and online learning...
platforms precisely because of their potential to transform education by overcoming longstanding barriers for children with disabilities or those from ethnic minority groups (UNICEF 2020m, 2020p).

This emerging evidence is critically important for policymakers looking to build multiple ways to offer learning in order to make education systems more resilient. The human element cannot be lost.

2.1.2.5. Multiple learning pathways. Much of the efforts in the initial phase of the emergency centred around establishing or expanding a variety of learning modalities to offer continuity, throwing open a greater range of options to help students resume their previous studies. The increased number of learning modalities brought students back to learning. Flipping this around, their proliferation opens the door to a different but growing ambition, which is to bring learning to the child. For instance, the initial purpose of the online learning platform, the Learning Passport, was to bring recognised educational pathways to displaced or refugee children. The design contemplated the possibility of such students to move back and forth between educational pathways, for example, reintegrating into their home or another national education system as their circumstances changed (UNICEF, 2020q).

The recognition that children’s educational needs vary over time is at the heart of work at expanding quality learning pathways. If education systems were child centred, they could accommodate integration and reintegration of not only children in emergencies but other flexible learning pathways, such as a move from in-person basic education to a short online skills certification course or non-formal education, to a more in-depth technical programme with an apprenticeship. For example, the COVID-19 response in Jordan and the Philippines specifically included non-formal second chance options to allow adolescents to finish their basic education and/or bridge to technical and vocational courses (Al-Smadi, 2020; UNICEF 2020r).

This approach of bringing tailored learning to the child, particularly to adolescents whose needs may branch out as they grow older, moves in parallel with the analysis of researchers from the Brookings Institute who criticise the traditional “stepwise” evolution of education systems that focus first on improved access, then quality, and finally relevance (Winthrop and Ziegler, 2019). Instead, they advocate for pursuing all three simultaneously to advance results for children in a timely way (Winthrop and Ziegler, 2019).

2.1.2.6. Policy implications. Over 2020, countries became more flexible in their approaches to learning modalities and pathways. Policymakers will need to ensure that there is parity and coherence between the different platforms and pathways. In some cases, this means addressing legislative barriers. For example, Bolivia passed Decree 4260 on 6 June 2020 (Government of Bolivia, 2020) to recognise the different modalities of blended learning, including in-person, part-time in-person, online, and distance learning, across the various sub-systems; that is, basic, alternative and special education as well as teacher training and professional development. No one modality will reach all children, so countries working to make their education systems more resilient typically need to opt for a menu of choices, typically a mix of digital and non-digital options, with mobile apps allowing offline work garnering growing attention. The precise constellation of the menu of options chosen may vary both by group of children and/or by region and will turn on the specific country context, including internet penetration rate, access to mass media, mobile phone ownership and network coverage as part of risk informed education sector analysis and subsequent planning and budgeting.

Beyond the decision around selection of learning modalities, monitoring and learning assessment will also need to adapt to track learning more frequently and across the various learning modalities and pathways in order for student progress to be noted and recognised (Conto et al., 2020). If learning is to put children and adolescents at the centre, greater integration of different pathways or sub-systems will be required. Adoption of human-centred plans means including training and supports for teachers, students, families, and school managers as well as strategies to ensure ongoing two-way communication whether through high-tech online platforms or low-tech telephone calls or texts. Teaching and learning that enable more tailored learning experiences also have a greater value-add, including resources based on universal design which can overcome longstanding barriers, including those related to language of instruction and disability. Combined, these elements will maximise the likelihood of meaningful impact in learners’ lives.

2.1.3. Data

Most education systems reactively put alternative learning modalities in place after the pandemic triggered school shutdowns. In the scramble, monitoring systems often came later, which led to gaps in the available data to measure with precision the number and groups of children accessing the various learning modalities but more critically their learning achievements. These monitoring gaps tend to be worse the poorer the country as demonstrated by Figs. 6 and 7 below examining online and televised lessons (Conto et al., 2020).

Pre-existing limitations in EMIS (Education Monitoring and Information System) data, including missing or incomplete information on pre-primary education, technical and vocational education, non-formal education, learners with disabilities or learners in crisis-affected settings, also clouded response plans’ ability to reach all children (UNESCO, 2020b). Just 60 per cent of countries adopted digital or broadcast remote learning strategies for pre-primary compared to 91 per cent for the primary level, 87 per cent for lower secondary and 86 per cent for upper secondary, keeping early learning more toward the margins of the response despite the undeniable importance of this foundational level of education (UNICEF, 2020b). See Fig. 8 below.

In addition, reopening during the pandemic may entail a process of opening up, closing, and reopening, meaning that education systems are likely to have to grapple with considerable fluidity in student enrolment and attendance. For example, in a single month between October and November 2020, re-closure of schools increased the number of affected learners by 38 per cent (UNESCO, 2020d). Being able to track student-level data would provide a clearer picture to policymakers. However, not all systems have this ability. Traditional paper-based

Fig. 6. Percentage of countries where governments report monitoring access and assessing online learning among 97 countries reporting use of online learning modalities, by income group.

Data source: UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures (2020)

Notes: The percentages in the figure are simple averages among the number of countries employing the respective remote learning modality, which is specified on the x-axis. Income classification is drawn from the categorization of the World Bank (three countries were dropped from the analysis because of missing information related to income classification).

Source: Extracted from (Conto et al., 2020)
school surveys that feed into EMIS still predominate (UNESCO, 2020c), but this approach will struggle to keep pace with these new phenomena, if paper-based data collection takes place at all during this year of disruptions.

Further, most EMIS were not set up to measure enrolment and attendance in home-based, blended, or in-person learning, which in some education systems now operate simultaneously. Some countries have responded to the need for these new kinds of data by establishing additional monitoring systems to track specific aspects of the country’s education and COVID-19 response to complement what is available through EMIS. A dashboard is one way to keep tabs on the percentage of children in face-to-face classes versus blended learning by grade level as part of school reopening (Government of Indonesia, 2020).

Others have made specific adaptations to their EMIS systems as part of their response. For example, Kyrgyzstan used its EMIS to undertake school-based water and sanitation and COVID-19 risk assessments prior to reopening (UNICEF, 2020s), and in Kosovo, education authorities have integrated tracking and reporting COVID-19 cases into their system successfully piloted by countries, including Guinea (World Bank, 2019). This could serve to make data collection faster but also facilitate feeding back the analysis to the different levels of the education system; that is, from the schools through to the governing national or sub-national layer, as well as to the public. Such an approach will also require investing in people to ensure that data is not simply made available but utilized to inform decision-making and policy.

This is not an abstract consideration. The Global Education Evidence Advisory Panel concluded that information to parents and children on education benefits, costs and quality, where this was not widely available, was a highly cost-effective way to improve attendance and learning, categorising this kind of intervention as the one and only “great buy” for Governments at the top of its rating scale (Angrist et al., 2020b). See Fig. 9 below. More broadly, risk communication to prevent and allay fears about the spread of COVID-19 is also seen as a key part of effective COVID-19 response (Haug et al., 2020).

2.1.3.1. Measuring learning. Learning is the ultimate measure of success of any education system. Thus, central to responding to COVID-19 and school reopening will be a plan to take stock of children’s learning (INEE, 2020; World Bank, 2020b). Unequal access to the tools needed to partake in home-based learning and other supports during the period of school closures, compounded by structural inequalities, will translate into greater learning loss among the most disadvantaged groups of learners (World Bank, 2020b).

When schools reopen, returning students “can be expected to return...
to school up to half of a year behind where they were when the school year was interrupted and more than a year behind where they would have been without school closures” (Cummiskey, 2021). The younger the student, and the earlier and longer the school closure, the greater the learning loss. Countries struggling with low levels of early grade reading may be hit particularly hard. For example, when looking at students reading fewer than 10 words per minute correctly, the RTI International model predicted that there would more Grade 3 students unable to read when schools reopen than when schools started the year prior to COVID in seven of the eight example countries analysed (Cummiskey, 2021). See Fig. 10 below.

Recent guidance from the World Bank recommends the following sequence during reopening: use the first few days after reopening to focus on well-being, re-establishing normalcy and rapport to be followed by classroom diagnostic testing, formative assessment of students’ progress in the period of learning recovery, and finally, potentially, summative assessment (World Bank, 2020b).

Applied examples highlighted in the Guidance Note include Chile and Brazil. Chile implemented voluntary diagnostic tests that included a questionnaire on socioemotional wellbeing and skills administered through parents or caregivers for children in Grades 1–3 and through self-administered tests to children in Grades 4 and above, as well as assessments of the fundamentals: reading and math. Its supports to teachers and school directors covered specific instruction on the administration, scoring, and use of the results of the diagnostic assessment during reopening. Resources include video tutorials, protocols, and guidelines. In São Paulo, Brazil, the Ministry of Education is encouraging both diagnostic assessment of each student as well as ongoing formative assessment through quizzes, group projects, homework, and portfolios to guide learning recovery. Its guidelines note that summative assessments should be based against what was “actually taught in the classroom” in 2020 rather than against the standard curriculum-based guidelines that would normally apply. Education authorities cancelled the state-level large-scale assessment, Sistema de Avaliação do Rendimento Escolar do Estado de São Paulo, for 2020 given the prolonged disruption caused by the pandemic (World Bank, 2020b).

Other examples of formative assessment in reopening from UNICEF-supported education programmes include Madagascar, Uzbekistan, Sri Lanka, Bangladesh, and Malawi (Jenkins and Banerji, 2021). Mongolia,
too, devoted the first classes upon school reopening for formative assessment, the results of which allowed teachers to tailor catch up classes (UNICEF, 2021c).

2.2. Education financing and budgets

2.2.1. The “triple shock”

The World Bank refers to COVID-19’s triple shock (Al-Samarrai, 2020). National economies, households, and foreign aid will all be hit by the economic fallout of the pandemic, putting pressure on education budgets and squeezing opportunities for the most vulnerable children. In their joint analysis, UNICEF and Save the Children estimate that the pandemic pushed another 150 million more children into poverty in low- and middle-income countries (UNICEF and Save the Children, 2020). The fall in family fortunes combined with school closures is expected to lead to girls disproportionately losing educational opportunities, although in some cases, boys will also be pushed out of education into child labour to make up for lost income (Azevedo et al., 2020; UNICEF, 2020u). The estimated lifetime earnings’ loss for all learners is US $10 trillion or a drop of US $872 per learner per year (Azevedo et al., 2020). The Save Our Future coalition recommends scaling up cash transfers to offset the shock to household earnings so that families have sufficient resources to send their children, particularly their girls, back to school once they reopen (Save Our Future, 2020). The Equitable Education Fund established by the Government of Thailand in May 2020 is one such example of a large-scale conditional cash transfer programme focused specifically on reducing educational inequities (Government of Thailand, 2020; Oxford Policy Management and UN, 2020).

Although it is still early to get a full picture on how the pandemic has affected education financing and budgets, emerging evidence points to a disproportional impact on poorer countries. In 2020, governments invested approximately US $11.8 trillion in stimulus packages (UNESCO, 2020x). However, only 0.78 per cent or US $91 billion is for education, while the rest is mostly for health response, social protection and economic recovery (UNESCO, 2020e). Of those US $91 billion, only US $8.7 billion is in low- and lower-middle-income countries (UNESCO, 2020e). The education stimulus was used to offer immediate support during widespread school closures, preparation for the gradual reopening of schools and post-COVID learning recovery (UNESCO, 2020e).

Comparing education budget data collected before and after the pandemic began from 29 countries of various regions and income classification shows that budgets declined in 65 per cent of low- and lower-middle-income countries compared to only 33 per cent of high- and upper-middle-income countries (Al-Samarrai et al., 2021). Low- and lower-middle-income countries are also more likely to report cuts to their education sector wage bill and school feeding programmes (UNICEF et al., 2020). It is alarming that the gap in annual funding needed to reach the SDG 4 in low- and lower-middle-income countries has increased from US $148 billion pre-COVID to near US $200 billion post-COVID over the next decade (UNESCO, 2020). This figure dwarfs the annual overseas development assistance budget for education which in 2018 stood at approximately US $16 billion (Save Our Future, 2020).

2.2.2. Illuminating the inevitable trade-offs

Improvement in the quality of budgets is integral to address gaps in the implementation of education sector plans. This will prioritise data and evidence that feed the budget process and also trigger shifts in how policy choices are framed. Integrated National Financing Framework is a new methodology to help countries do this. The approach highlights sustainable development spending priorities alongside an assessment of all the available financing sources: national, international, public, and private. Once education is set out as a priority within the Framework, the tool can help to ensure that resources are mobilised and directed accordingly to avoid or mitigate against the risk of financing gaps that can turn into implementation gaps in national development plans.

Given the growing competition for public resources, Education Ministers will increasingly need to speak the language of their Finance counterparts, perhaps even adopting standard tools used in economic analysis when presenting education budgets, including costings, financial projections, and investment cases. Greater marshalling of evidence and data on cost effectiveness to justify policy and programmatic choices will be required, both within the education sector and more broadly. One example of this kind of evidence is the World Bank’s How to Improve Education Outcomes Most Efficiently? A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric (Angrist et al., 2020b).

Even before the decision stage, education officials will need to face and assess the inevitable trade-offs. New tools to help decision-makers would likely help. Menus of rigorously evaluated programmes provide education and finance officials guidance in assessing these trade-offs and prioritize the most effective interventions for a given context and budget (Angrist et al., 2020b). These could be paired with rigorous analysis of budgets to identify inefficiencies. Decision trees, such as the one UNICEF developed at the beginning of COVID-19-related school closures to guide Governments’ decisions about which remote learning modalities to adopt in which context could offer practical help (UNICEF, 2020u).

2.2.3. New approaches

Results-based financing is likely to continue to grow both within countries but also among international donors and partnerships. The Global Partnership for Education, for example, is increasingly moving to a results-based approach, requiring that at least 30 per cent of grants be disbursed upon achievement of pre-agreed goals (Global Partnership for Education, 2020). Impact bonds and education outcome funds may also increasingly appear on the table to attract private sector and other non-state actors who will be key, in particular in efforts to expand digital learning.

Public-private partnerships may also garner increased interest as a cost-effective way to implement promising ideas. For example, in Bulgaria, the Government leveraged an existing website with online tutoring resources (UNICEF, 2020w). With a small sum of seed money from the country’s education partners, the company improved its diagnostic testing of students and broadened the scope of its resources to cover all grades and core courses. In Viet Nam, education authorities and development partners are increasingly engaged in initiatives to scale up digital learning, including by mapping internet connection and speeds as well as providing affordable devices and data (UNICEF, 2020x).

3. Conclusions

The COVID-19 emergency is a wake-up call for education systems to better prepare before the next emergency hits. Building back better means improved education sector planning and budgeting, specifically a more systematic approach to measuring and mitigating risk right from the design phase, reflected in both sector plans and budgets. At a minimum, all countries will need a continuity of learning plan; that is, a strategy outlining an alternative to face-to-face classes in the event of emergency and ready-to-go ways to facilitate communication among and within key groups, including emergency or health authorities, school directors, teachers, students, and their families.

The pandemic which disrupted everyone, everywhere is also a deeper invitation to rethink education systems by building on the mass experimentation and innovation to bring about transformational change and accelerate still-too-slow progress for the world’s children. New modalities and platforms, if planned carefully, can overcome long-standing barriers due to language, geography, gender, and disability. For example, digital books and learning materials can be designed to include different languages. Audio files, as well as adjustable fonts, subtitles, more interactive elements tailored to a variety of learning styles and needs go beyond offering a simple alternative to face-to-face learning. The education response to COVID-19 shows that likely a
menu of options and a mix of digital and non-digital modalities will be required. It is also clear that tools in themselves are not enough. Their use depends on the skill and ingenuity of the people using them. School communities must be readied before crisis strikes. Teachers must have practised in an ongoing way how to teach using alternative modalities. The increased engagement of learners’ families and overall appreciation of the importance of schools could be capitalised upon in the blending learning schemes that predominate in reopening schemes.

The greater flexibility education systems have had to embrace should be cultivated to provide children with multiple pathways to learning. The pathways must rise to meet children wherever they are to provide them with ways to acquire the knowledge and skills needed to forge a better life, including from one education to the next or amongst the different component parts as their needs require. These different pathways must be of quality and be recognised to bring about transformative change.

Initial data and analysis from the pandemic have focused largely on the question of access. This has been useful, including to see the yawning gaps, sparking a push for expanding partnerships, particularly with technology and telecom companies to find solutions. Much remains to be done to flesh out the evidence around quality and effectiveness; that is, to measure what children really learned during the pandemic. It is also a lesson learned in the importance of measuring student learning at the fore of any education programme, even in emergency settings.

While measuring improvements in student learning is surely paramount and most challenging, this emergency brings greater urgency to the question of data more broadly. The pandemic underlines the need to close existing data gaps on pre-primary education, technical and vocation-education, non-formal education, learners with disabilities or learners in crisis-affected settings, as well as emerging needs such as how to track students in blended learning scenarios. It is also an impetus to modernise how data are collected, analysed and shared, moving towards faster systems paired with investments in institutional capacity so that data are not just collected but acted upon in a timely way to make a real difference to children’s education.

Implementation of sector plans ultimately turns on budgets, and these will come under increasing pressure as the full economic fallout of the virus becomes clear. Education ministers will face tough trade-offs and will be called upon to marshal high quality data and evidence to support their proposed budgets, likely increasingly speaking the language of their Finance counterparts to make their case amidst heightening competition for scarcer public resources. Costings, simulations, and investment cases may grow in importance alongside newer models of financing, such as impact bonds, outcome funds and public-private partnerships.

Education has been forever disrupted. If the opportunity is seized alongside the challenge posed by the pandemic, it can be catalysed for the better to equalize opportunities and accelerate progress.

References

Al-Samarrai, S., 2020. Protecting Education Finance From COVID-19’s Triple Funding Shock. Education for Global Development. URL: https://blogs.worldbank.org/education/protecting-education-finance-covid-19s-triple-funding-shock (Accessed 3.18.21).

Al-Samarrai, S., Cerdan-Infantes, P., Bigrinovna, A., Bodmer, J., Vital, M.J.A., Manos, A., Barakat, B.F., Murakami, Y., 2021. Education Finance Watch 2021 (English). URL: https://documents.worldbank.org/EN/PUBLICATIONS/2021/04/07/626216-140277898546-education-finance-watch-2021 (Accessed 3.18.21).

Al-Smadi, B., 2020. A Second Chance at Education. URL: https://www.unicef.org/jordan/stories/second-chance-education (Accessed 3.18.21).

Amaro, D., Pandolfelli, L., Sanchez-Tapia, I., Brossard, M., 2020. COVID-19 And Education: The Digital Gender Divide Among Adolescents in Sub-saharan Africa. UNESCO Connect. URL: https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/ (Accessed 3.18.21).

Angrist, N., Bergman, P., Breweer, C., Matheng, M., 2020a. Stemming learning loss during the pandemic: a rapid randomized trial of a low-tech intervention in Botswana. SSRN. URL: https://doi.org/10.2139/ssrn.3663098 (Accessed 3.18.21).

Azevedo, J.P., Hasan, A., Goldemberg, D., Iqbal, S.A., Geven, K., 2020. Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates. World Bank, Washington D.C. URL: https://doi.org/10.1038/s41562-020-01009-0. URL: https://www.nature.com/articles/s41562-020-01009-0 (Accessed 3.18.21).

J. Lennox et al.
International Journal of Educational Development 85 (2021) 102429

Barakat, B.F., Murakami, Y., 2021. Education Finance Watch 2021 (English). URL: https://digscholarship.unco.edu/jeri/vol8/iss1/8/ (Accessed 3.18.21).

Cummiskey, C., 2021. Calculating the Educational Impact of COVID-19 (Part II): Where Will Students Be When Schools Reopen? URL: https://shared.rti.org/content/calculat-ing-educational-impact-covid-19-part-iii-where-will-students-be-when-schools-reopen (Accessed 3.18.21).

Dreesen, T., Akseer, S., Dewan, M., Peralta, J.P., Kamei, A., Mizunoya, S., Ortis, J.S., 2020. Promising Practices for Equitable Remote Learning Emerging Lessons From Covid-19 Education Responses in 127 Countries. URL: https://www.unicef-irc.org/publications/1090-promising-practices-for-equitable-remote-learning-emerging-lessons-from-covid.html (Accessed 3.18.21).

Gardner, D., 2020. Pandemics Are Low-probability, High-consequence Events. We Should Have Been Prepared. The Globe and Mail. URL: https://www.theglobe andmail.ca/opinion/article56205195/article56205195.html (Accessed 3.18.21).

Global Partnership for Education, 2020. Guidance Note on GPE Variable Part Financing. URL: https://www.globalpartnership.org/sites/default/files/document/bi 2019-03-GPE-guidance-note-variable-part-financing-EN.pdf (Accessed 3.18.21).

Government of Bolivia, 2020. Decreto Supremo 4260. URL: https://bolsivia.infoleyen.co m/norma/7370/Decreto-supremo-4260 (Accessed 3.18.21).

Government of Inonesia, 2020. Masa Pandemi Covid-19 (WWW Document). URL: http://sekolah.data.kemdikbud.go.id/kebijakanbaja.php (Accessed 3.18.21).

Government of Thailand, 2020. Equitable Education Fund. URL: https://ea.eeit.or.th/ (Accessed 3.18.21).

Haug, N., Geyrhofer, L., Londei, A., Dervic, E., Desvrais-Larrive, A., Loreto, V., Pinior, B., Thurner, S., Klimek, P., 2020. Ranking the effectiveness of worldwide COVID-19 government interventions. Nat. Hum. Behav. 4, 1303-1312. URL: https://doi.org/10.1038/s41562-020-01009-0. URL: https://www.nature.com/articles/s41562-020-01009-0 (Accessed 3.18.21).

INEE, 2020. Measurement and Evaluation During the COVID-19 Pandemic. URL: https://ineec.org/system/files/resources/INEE%20Technical%20Note%20on%20Me asurement%20of%20COVID-19%20outcomes/files.pdf (Accessed 3.18.21).

Jenkins, R., Banerji, R., 2021. How Can Formative Assessment Foster Learning As Schools Reopen? UNICEF Connect. URL: https://blogs.unicef.org/evidence-for-a ction/how-can-assessment-foster-learning-as-schools-reopen/ (Accessed 3.18.21).

Lennox, J., Taulo, W., 2020. Three Innovative Responses to COVID-19 That Have Changed the Course of Education in the Philippines. URL: https://blogs.worldbank.org/en/ impact-bonds/ (Accessed 3.18.21).

Malala Fund, 2020. Girls’ Education and COVID-19: What Past Shocks Can Teach Us About the Impacts of Pandemics. URL: https://www.unicef.org/newswire/ar chive/malala-fund-releases-report-girls-education-covid-19 (Accessed 3.18.21).

Marian, L., Linhardt, C., Taylor, C.M., Ballestrino Olivera, M.E., Ezen, V., Fraoua, B., Mazza, N., Prapassorn, Y., de la Torre, S., Zahid, H., 2020. Teaching and learning during the COVID-19 pandemic: a collection of stories from educators around the world. J. Educ. Res. Innov. 8 (1). URL: https://digischolarship.unco.edu/jeri/vol8/iss1/8/ (Accessed 3.18.21).

OECD, 2010. The Nature of Learning: Using Research to Inspire Practice. Educational Research and Innovation. OECD, Paris. URL: https://www.oecd.org/education/ceri/innovatingtolearn.htm (Accessed 27.6.21).

OECD, 2020. Social Impact Assessment of Covid-19 in Indonesia. URL: https://doi.org/10.1596/1813-9450-9284. URL: https://openknowledge.worldbank.org/handle/10 986/39345 (Accessed 3.18.21).

Ortiz, J.S., 2020. Promising Practices for Equitable Remote Learning Emerging Lessons From Covid-19 Education Responses in 127 Countries. URL: https://www.unicefirc.org/publications/promising-practices-equitable-remote-learning-emerging-lessons-from-covid.html (Accessed 3.18.21).

Poliakshel, S., Chhetri, R., 2021. A literature review on impact of COVID-19 pandemic on teaching and learning. Korea Soc. Educ. Future 8, 133-141. URL: https://doi.org/10.1177/2347631120983481. URL: https://www.sciencedirect.com/science/article/pii/S2347631120983481 (Accessed 3.18.21).
J. Lennox et al.

International Journal of Educational Development 85 (2021) 102429

11

UNICEF, 2020g. Education and Covid-19 Case Study From Cote d’Ivoire – Keeping Children Learning During School Closures. URL: https://www.corecommitments.unicef.org/kp/case-study—cote-d’ivoire (Accessed 3.18.21).

UNICEF, 2020h. Education and Covid-19 Case Study From Burkina Faso – Opening Schools up Better. URL: https://www.corecommitments.unicef.org/kp/case-study—burkina-faso (10-september-2020).pdf (Accessed 3.18.21).

UNICEF, 2020i. Gender-responsive Education in the Context of COVID-19 - Framework and Progressive Standards for South Asia. URL: https://www.unicef.org/rosa/gender-responsive-education-context-covid-19 (Accessed 3.18.21).

UNICEF, 2020j. Education and Covid-19 Case Study From Viet Nam - Keeping Children Learning During School Closures. URL: https://www.corecommitments.unicef.org/kp/case-study—viet-nam-on-keeping-children-learning (19-march-2020).pdf (Accessed 3.18.21).

UNICEF, 2020k. Education and Covid-19 Case Study From Uruguay – Long-term Investments in Digital Learning Helps Schools Open up Better. URL: https://www.corecommitments.unicef.org/kp/case-study—uruguay (1-october-2020).pdf (Accessed 3.18.21).

UNICEF, 2020l. Early Opening of Schools in Uruguay - Overview and Lessons learnt. URL: https://www.unicef.org/uruguay/media/386/file/EarlyOpening%20新冠肺炎%20children%20in%20Uruguay%20during%20the%20COVID-19%20pandemic (Accessed 3.18.21).

UNICEF, 2020m. Education and Covid-19 Case Study From Timor Leste – Opening up Better With the Learning Passport. URL: https://www.corecommitments.unicef.org/kp/case-study—learning-passport-in-timor-este (8-october-2020).pdf (Accessed 3.18.21).

UNICEF, 2020n. Education and Covid-19 Case Study - Empowering Teachers to Deliver Blended Learning After School Reopening in Malaysia. URL: https://www.corecommitments.unicef.org/kp/case-study—malaysia (08-july-2020).pdf (Accessed 3.18.21).

UNICEF, 2020o. Los Equipos De Conducion Frente Al COVID-19. URL: https://www.unicef.org argentina/publicaciones-y-datos/conducion (Accessed 3.18.21).

UNICEF, 2020p. Education Case Study From Kenya - Accessible Digital Textbooks for Children in Kenya. URL: https://www.unicef.org/media/65066/file/EdStrategy-2019-2020-CountrySolutions-Kenya.pdf (Accessed 3.18.21).

UNICEF, 2020q. UNICEF And Microsoft Launch Global Learning Platform to Help Address COVID-19 Education Crisis. URL: https://www.unicef.org/media/101274/file/UNICEF-microsoft-launch-global-learning-platform-help-address-covid-19-education.pdf (Accessed 3.18.21).

UNICEF, 2020r. Education and Covid-19 Case Study From Bulgaria - Online Diagnostic Testing and Interactive Tutoring. URL: https://www.corecommitments.unicef.org/kp/case-study—bulgaria (Accessed 3.18.21).

UNICEF, 2020s. Situation Report No. 13 on the Novel Coronavirus for Europe and Central Asia Region. URL: https://www.unicef.org/eca/media/13816/file (Accessed 3.18.21).

UNICEF, 2020t. Activities to Support Learning and Reopen Schools in Montenegro. URL: https://www.corecommitments.unicef.org/kp/case-study—montenegro (Accessed 3.18.21).

UNICEF, 2020u. Issue Brief: Covid-19 and Girls’ Education in East Asia and the Pacific. URL: https://www.unicef.org/edap/reports/unicef-education-covid-19-response (Accessed 3.18.21).

UNICEF, 2020v. Remote Learning COVID-19 Response Decision Tree. URL: https://inee.org/system/files/resources/UNICEFCOVID19_DECISION_TREE_V8_CLICK_HERE.pdf (Accessed 3.18.21).

UNICEF, 2020w. Education Case Study From Jordan - Unleashing the Potential of Youth Through the Learning Passport. URL: https://www.corecommitments.unicef.org/kp/case-study—jordan (Accessed 3.18.21).

UNICEF, 2020x. Education Case Study From Jordan - Recovering and Accelerating Learning During School Closures. URL: https://www.corecommitments.unicef.org/kp/case-study—jordan (Accessed 3.18.21).

UNICEF, 2020y. Education and Covid-19 Case Study From Yemen - The Learning Passport. URL: https://www.corecommitments.unicef.org/kp/case-study—yemen (Accessed 3.18.21).

UNICEF, 2020z. Education and Covid-19 Case Study From Nigeria - Keeping Children Learning During School Closures. URL: https://www.corecommitments.unicef.org/kp/case-study—nigeria (Accessed 3.18.21).

UNICEF, 2021a. Education Case Study From Jordan - Recovering and Accelerating Learning for 1 Million Children in Grades 4 to 9 Through the Learning Bridges Programme. URL: https://www.unicef.org/documents/recovering-and-accelerating-learning-1-million-children-grades-4-9-through-learning (Accessed 3.18.21).

UNICEF, 2021b. Education Case Study From Jordan - Unleashing the Potential of Youth Through the Learning Passport. URL: https://www.corecommitments.unicef.org/kp/case-study—jordan (Accessed 3.18.21).

UNICEF, 2021c. Education and Covid-19 Case Study From Mongolia - Remediation of Learning After School Reopening. https://www.corecommitments.unicef.org/kp/210107_eapro_case-study—mongolia.pdf (Accessed 3.18.21).

UNICEF, 2021d. Save the Children: 2020 Global Impact Note: Education on Covid-19 in Child Poverty. URL: https://data.unicef.org/resources/impact-of-covid-19-on-multidimensional-child-poverty/ (Accessed 3.18.21).

UNICEF, UNESCO, World Bank, 2020. What Have We Learnt: Overview of Findings From a Survey of Ministries of Education on National Responses to COVID-19. URL: https://data.unicef.org/media/national-education-responses-to-covid19/ (Accessed 3.18.21).

Winthrop, R., Vegas, E., 2020. Beyond Reopening Schools: How Education Can Emerge Stronger Than Before COVID-19. URL: https://www.brookings.edu/research/beyond-reopening-schools-how-education-can-emerge-stronger-than-before-covid-19/ (Accessed 3.18.21).

Winthrop, R., Ziegler, L., 2019. Leapfrogging to Ensure No Child Is Left Without Access to a Twenty-First Century Education. URL: https://www.brookings.edu/wp-content/uploads/2019/09/LNOB_Chapter6.pdf (Accessed 3.18.21).

World Bank, 2019. Project Appraisal Document - Republic of Guinea for a Project for Young Children Early Childhood and Basic Education. URL: https://documents.worldbank.org/curated/en/490951862963276735/pdf/Guinea-Project-for-Results-in-Early-Childhood-and-Basic-Education.pdf (Accessed 3.18.21).
World Bank, 2020a. Pivoting to Inclusion: Leveraging Lessons From the COVID-19 Crisis for Learners With Disabilities. URL: https://www.worldbank.org/en/topic/disability/publication/pivoting-to-inclusion-leveraging-lessons-from-the-covid-19-crisis-for-learners-with-disabilities (Accessed 3.18.21).

World Bank, 2020b. Guidance Note on Using Learning Assessment in the Process of School Reopening. URL: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/856951606239586214/guidance-note-on-using-learning-assessment-in-the-process-of-school-reopening (Accessed 3.18.21).

World Vision, 2020. COVID-19 Aftershocks: Access Denied; Teenage Pregnancy Threatens to Block a Million Girls Across Sub-saharan Africa From Returning to School. URL: https://www.wvi.org/publications/report/coronavirus-health-crisis/covid-19-aftershocks-access-denied (Accessed 3.18.21).