



SDG 4 and the COVID-19 emergency: Textbooks, tutoring, and teachers

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Abstract COVID-19 once again revealed the inherent weaknesses in relying on classroom-based schooling and ICT to sustain learning, a danger already familiar from earlier man-made and natural disasters. A lack of textbooks and lack of guidance for caregivers to support home-based learning limited the effectiveness of efforts to provide continuity of learning. These same elements are the key to preparing better for the next crisis and keeping SDG 4 on track.

Keywords COVID-19 · Education in emergencies · SDG 4 · Textbooks · Home-based learning · Peer-tutoring · Teachers · Social and emotional learning (SEL)

Given the critical role that education plays in the reproduction of modern societies, it should be surprising that school systems rely so widely on a single delivery system—classroom-based, age-graded schooling—that typically has few fail-safe features. Conventional schools regularly shut down for weeks or months at a time in response to recurring crises, and when they reopen they have permanently lost much learning and many students. Despite heroic, creative, and personally exhausting responses on the part of many educators in recent months, the impact of the COVID-19 crisis on school systems worldwide appears to be following the typical crisis pattern, though on a larger scale.

The future of Sustainable Development Goal (SDG) 4 depends on education systems being better prepared for another crisis, whether that's another global pandemic, the massive population displacements triggered by climate change, or on a smaller scale, armed conflicts and natural disasters. Over the last few months, based on an unsystematic, ad hoc

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review of COVID-19 responses, we have identified three areas where investments in preparedness efforts could yield major returns in learning. These returns would benefit millions of children whose education is most at risk in crisis settings and in lower- and middle-income countries (LMICs). The key areas include textbooks, support for home-based study, and training teachers and principals to provide that support.

More textbooks, now

Where schools shut down in response to COVID-19, most education systems turned to electronic information and communication technologies (ICT)—internet, laptops, smartphones, and even earlier broadcast technologies like radio and TV, to deliver the curriculum. Yet, a significant proportion of students—mainly those who were already under-resourced and at risk of under-achieving—had limited or no access to ICT. For example, Bell et al. (2020) and Buchbinder (2020) noted inequalities in digital capacities and access to ICT-based learning. Even in households that have a smartphone, it may not be available for the children of the family to use.

The negative impact of closures was especially severe in LMICs, where textbooks are often the main teaching technology and a significant proportion of students (sometimes the majority) still do not have their own copies. Over the last few months, millions of children in LMICs have been sheltering in place without ICT or textbooks, and some had no access to TV or radio either. To address this gap, some countries—Uganda and Afghanistan among them—printed study materials. Yet with so many institutions shut down, producing these materials in sufficient quantity and ensuring they reached the most vulnerable households remained a challenge. Where students had textbooks at home, teachers in some countries were able to use phone calls, WhatsApp messages, or announcements on the radio to instruct caregivers on which pages the students should cover and when.

UNESCO has been sounding the alarm about the lack of textbooks for many years, but COVID-19 is making that problem more evident to all. NISSEM (www.nissem.org), the organization we and others co-founded, also argues that the best way to ensure better access to learning for the largest number of students, particularly in LMIC and crisis contexts, is to produce enough textbooks and to distribute them to the children who still do not have them. This is not to suggest that either UNESCO or NISSEM is entirely satisfied with the quality of existing textbooks, but to recognize how little can be done without textbooks for children in the most vulnerable households. Therefore, as soon as what the World Bank (2020) has called the “coping” phase of the COVID crisis passes, this strategy should be our highest priority. However, as described in the next section, since most textbooks were not designed for self-study, simply producing them is not enough.

Better support for home-based learning

In far too many countries, including many high-income settings, few children complete a quality education without out-of-school tutoring and/or caregivers who provide at least minimal support and encouragement for homework and test preparation. The World Bank (2019) reported widespread learning poverty in LMICs: despite high levels of school enrollment, children are not getting the help they need to learn at school, while parents with low levels of literacy lack the time and skills to support learning at home (Mishra

et al. 2020). Drawing on experience in refugee settings in the Middle East, Quaddor (2020) argued not just for the importance of textbooks over ICT in the current crisis, but also for training caregivers to help children use textbooks and other learning materials that school systems may try to provide.

Caregivers and older siblings of all education levels can play some role in supporting academic learning, and they play a particularly important role in establishing the basic literacy and numeracy levels that enable children to study on their own. Pre-schoolers need school readiness activities that build verbal, motor, and pre-literacy skills, perhaps through play with slightly older children or engagement with grandparents. Early primary learners need face-to-face work and focused practice decoding and comprehending basic texts, which family members with only slightly higher levels of literacy can provide. Late primary and middle school learners may need an authority figure to ensure they persist and complete assignments, maintaining or further developing basic skills. Older students need encouragement to go as far as they can on their own, then to write down their subject-specific questions and look for ways to communicate with people who can provide answers. Finally, for many girls in communities where gender-based harassment and violence are endemic, learning at home or in small neighborhood groups may be their only option to continue their education, even after the crisis has passed. Their caregivers must give them time to study, encouragement to persist and, if their studies advance, help to find acceptable subject-level tutors.

Although social and emotional learning (SEL)—notably empathy, attention, collaboration and negotiation, critical and creative thinking, problem-solving, respect for others who are different, and awareness of multiple perspectives—is part of most school curriculum frameworks, it is often crowded out by other more frequently assessed subjects. Households naturally provide many SEL opportunities through play, exploring nature, helping with chores, storytelling, and caring for younger siblings and elders. Guidance to caregivers on how to make SEL activities Sequenced, Active, Focused, and Explicit (SAFE) can increase long-term impact and retention (CASEL 2020; Jukes 2019). Both in school and at home, however, SEL requires positive direction from responsible adults and siblings, to deal promptly with bullying, negative stereotyping, and exclusion of those who are different. Where ICT-based instruction is available, adults may be encouraged to supervise scarce devices, to ensure younger children (especially girls) have adequate access, but, in general, older children may be more adept than their elders at helping younger ones use technology.

Even during the present crisis, many approaches to providing support at the household and neighborhood level have been implemented by civil society organizations and NGOs, mostly on a small scale (Barnett et al. 2018; Chaudhury and Niaz 2020; Kimithi 2020). Once breathing space appears between crises, a great social mobilization effort will be needed to launch a mix of government- and civil society-based programs, to provide support to children studying at home in less resourced households. National and local civil society organizations can work with Ministries of Education and schools to develop and distribute guidance to parents, older siblings, and other household members in the form of posters, public service announcements, and leaflets: how to get a textbook if your child doesn't have one, how to practice reading with your child even if you can't read, how many hours a day your middle-school student should be studying, how to make a study corner in your home, etc. (Kemisso and Carvalho 2020). Civil society organization members can canvas their communities to identify households lacking textbooks and other learning materials, then ensure those households receive materials promptly, as Pratham has demonstrated in India (Starkey 2020). In coordination with local schools, those organizations

can mobilize and train youth to be learning facilitators in their own or neighboring households, especially where there are no available literate adults.

New roles for teachers and principals

In many LMIC settings, teachers' primary responsibility in classroom-based schooling is to deliver the curriculum as presented in the textbook (Smart 2019). When crises push the curriculum online or onto nationally produced television or radio programs, teachers who are not fully occupied with caring for their own households may choose to take on new roles. During the current crisis some teachers, particularly those with highly respected roles in rural communities, moved naturally to interface with caregivers and to mobilize volunteers and civil society organizations, in order to support children studying at home. Other teachers and principals need training and coaching to develop unfamiliar community organizing skills. Moreover, mobilizing households in densely populated but fragmented urban neighborhoods may require different skills/approaches than in smaller, stable towns or sparsely populated rural areas. Teachers who have left their place of work to shelter in their home areas may be mobilized to work there.

Areas still struggling to provide all students with textbooks, or those with little ICT connectivity, are unlikely to have a laptop or tablet in every student's hand by the time of the next crisis. In those settings, the focus should be on equipping every teacher and principal with some form of ICT or radio, so they can transmit lessons and learning materials to students without ICT, keep caregivers connected to emerging guidance, and maintain a channel of communication between the community and government education authorities. The World Bank (2020, p. 33) for calls for "ramped up support for parents, teachers, and students, including socioemotional support" in its guidance note on COVID-19 response, covering the phases of coping, managing continuity, and improving and accelerating for the longer term. Sara Ruto (in Nannyonjo 2020) emphasizes that "[The crisis] is giving energy to some of the pillars of the curriculum that had not found voice before. For example, parental engagement, empowerment, and values-based education. These (i.e., values-based education) are things children need to see, touch, and grow with. And home is the first place where this happens. School leaders should use this opportunity to engage parents to ensure such learning takes place".

Regarding the special challenge of remedial education during the months of "back to school" when social distancing is still a consideration, school tents (as used in humanitarian emergencies) or tarpaulins/plastic sheeting (and poles) have provided shelter from the sun and rain in many crisis settings and would allow schools to keep more classes operating at a time. In addition, youth volunteers supervising sub-sections of a class can enable the teacher to address both remedial and up-to-date groups at the same time.

Better textbooks, as soon as possible

With adequate funding, more textbooks can be printed in a matter of months; revising and producing new ones for all students and subjects, however, may take more than a decade. Nonetheless, in the long-term new textbooks, better adapted to learning at home as well as school, are needed. Many current textbooks do not encourage pedagogy that promotes and utilizes basic SEL skills, thus contributing to rote academic learning, social and emotional

disengagement, and dropout, especially among children with inadequate reading skills and/or weak command of the language of instruction. Likewise, few older textbooks address the skills and knowledge needed for youth agency in the twenty-first century. The structure and content of new textbooks should reflect lessons from recent research on why so many students are not learning. They should also reflect lessons from COVID and other national or global crises, remembering that these are watershed social-emotional events in children's and teachers' lives and constitute major teachable moments for the society.

Specifically, new textbooks should incorporate:

- short units, amenable to self-study, structured and language-leveled to reflect the varied language capacity of students;
- simple activities that can be undertaken by two or three children (Smart 2019) in class or at home;
- more lessons and activities that tap into children's experience of crisis and address SEL and twenty-first century skills explicitly;
- guidance for teachers, tutors, and helpers embedded in the margins;
- enriched disciplinary content bearing on youth agency for public health, environmental sustainability, and respect for all; and
- lessons drawn from COVID-19 and other crisis experiences that bring SDG Target 4.7 themes to life: the spread of pandemics demonstrating global interconnectedness; the social science of crises, e.g., how they magnify inequities and tensions around cultural differences; the biology and epidemiology of health pandemics; and crisis preparedness and preventive action as opportunities for positive youth agency.

In many countries, this will represent a revolution in textbook writing, requiring retraining and coaching for textbook writers, as well as piloting and evaluating new material those writers produce. Today's writers, often busy teachers who were educated years ago with rote learning methods (or academic professors far from the school classroom experience), cannot suddenly adjust to twenty-first century needs by fiat and without support. In parallel, in the medium term, pre- and in-service teacher training and associated teaching and learning materials should prepare teachers and principals for new roles in their communities, as the need inevitably arises.

In conclusion, for those eager to lead their school systems into the twenty-first century, fully connected to the world wide web, with ambitious goals for STEM education at all levels, the approach suggested here may well feel like a throwback to the 20th century. But the COVID crisis has highlighted the dangers of relying solely on classroom or ICT-based schooling for delivering basic education in LMICs. To meet their commitments to SDG 4, many countries must make immediate, major, and perhaps sacrificial investments in textbooks, caregiver training to support basic education, and teacher/principal re-orientation to support home-based learning, including low-tech methods as needed to ensure equity. All of this constitutes a relatively simple strategy to strengthen the resiliency of our education systems—and the future of our children—in the face of the (many) twenty-first century crises yet to come.

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