Executive Summary

Within days of its arrival, the COVID-19 pandemic caused major disruption to education, at every level, right across the globe. At the height of the school closures during spring 2020, 90% of the school children population were affected. In response, UNESCO launched the *'Global Education Coalition'*, which brought together more than 140 members from the UN family, civil society, academia and the private sector to ensure that #LearningNeverStops.[2] Nonetheless, by October 2020, around two thirds of the global student population still faced some type of disruption, including school closures and other unresolved issues.

A few countries already had comprehensive digital systems in place, and were able to segue quickly and successfully into home-based distance learning. However, the reality is that most countries were mostly unprepared, and were forced to quickly devise new strategies and partnerships for the continuity of education. This work was enormous, and millions of young people around the world were supported, or were kept busy with educational activities.

However, the disruptive effects of the COVID-19 pandemic were immediate. In many ways, they undermined the progress that had been achieved in many areas around the world, with those who were already struggling being hit the hardest. School shutdowns increased child labour, hunger and extreme poverty, while millions of children are now more likely to drop out of school entirely. Even university students were significantly affected, especially those who live in rural areas who were further marginalized by the disadvantage of not having access to the internet.

In particular, the arrival of COVID-19, despite the massive efforts around the world, has further widened and exacerbated the digital divide between the poor and those who are just getting by, between those who live in cities and those who live in rural areas, and between affluent countries and the developing world. However, in some ways, COVID-19 has also been a catalyst for change in education, although it remains to be seen whether these changes will last long-term.

Initiatives to address diverse needs during the pandemic

Many initiatives were rolled out relatively quickly by governments and NGOs around the world to ensure that all children were always learning. Many were digital and online, using locally-developed learning management systems, such as *'Ruang Guru'* from Indonesia or global platforms like TikTok, Facebook, WeChat or Google. Others built on existing initiatives, such as *'The Egyptian Knowledge'* bank of digital content and the *'Global Digital Library'*, or were newly developed, such as *'Sophya World'* by Harvard University and *'Tabshoura in a Box'* by Lebanese Alternative Education. However, most countries used a complex mix of multiple channels, such as television, radio, mobile phones and print to disseminate learning content such as Open Educational Resources. In many places, radio was the only possibility as exemplified by *'Read Haiti',* while in other places, such as parts of rural India, distance learning meant teachers cycling to remote villages to provide learning resources and teaching support.

With many countries offering subsidized data bundles, the use of mobile telephones was seen to be especially effective thanks to mobile phones being relatively affordable and increasingly widespread. However, as with all technologies, providing education via mobile phone had its own challenges, including: limited network coverage, low download and upload speeds, families sharing a single device, and small screen sizes. It was especially challenging for mobile provision to meet minimum accessibility standards. For example, in many countries, resources and platforms had to be made

[2] https://en.unesco.org/covid19/educationresponse/globalcoalition

available in multiple languages, while everywhere they had to be made accessible for children with disabilities or additional needs, none of which was straightforward.

Digital technologies require digital competencies

Digital approaches to education during the COVID-19 pandemic were especially common, making it possible to deliver some form of education in all countries of the world, even if not to everyone. Accordingly, digital technologies can no longer be seen as a luxury – instead, they have become a social necessity to support education as a human right, for the common and public good. Nonetheless, the reality remains that the majority of children around the world and too many teachers do not have access to robust digital technologies, such as laptop computers, something that many governments tried to address by distributing computers widely, with mixed results.

However, making computers and other hardware available is only the start. Countries also now need to ensure that teachers and children, and the children's parents, are digitally literate. They need to be taught how to use the technologies, to help them take full advantage of what these tools can make possible, while mitigating some of the challenges and avoiding the dangers.

For online teaching and learning, teachers in particular need high quality professional development, such as the *'Teaching Online'* MOOC developed by University College London and the Lebanese University, and the *'Institute for Online Education'* established by the UNESCO International Centre for Higher Education Innovation. Teachers also need comprehensive support, which can be enhanced by building peer networks such as *'Comunidad Atenea'* for teachers across Latin America. High quality teacher professional development is particularly important to ensure that they understand which pedagogies are most appropriate for distance learning, and how learning may be student-led – to avoid teachers simply trying to put existing classroom practices online, which has rarely been seen to work.

In addition, governments also need to find ways to sustain the technologies which involve technical support and robust connectivity. Otherwise, the massive investments will be in vain. In fact, connectivity and appropriate infrastructure are still lacking in many parts of the world, a scarcity that needs to be addressed if education systems are to be prepared for future shocks, which is why connectivity is the focus of a major international project '*Giga*' led by ITU. In fact, a shift in understanding is needed, from connectivity from being an enabler, to being a necessity. This means, for example, that the provision of technology to rural schools ought to be prioritized, while broadband internet access needs to be made available to all high schools around the world.

However, currently available technologies tend to be rooted in outmoded pedagogical approaches, targeting mainly the learning of facts – something that computers are very good at doing. Instead, new approaches are needed such as *'Rethinking Learning'* launched by UNESCO's Mahatma Gandhi Institute of Education for Peace and Sustainable Development, *'Azima'* developed by Jusoor for Syrian children in Lebanon, and the *'SmartBus'* initiative from Huawei, as well as new technologies, such as *'Kolibri'* from Learning Equality, *'M–Shule'* in Kenya, *'Ustad* Mobile' from No Lost Generation, and UNESCO's *'Teaching AI for K12'* portal of resources. More comprehensive learning experiences are also needed, as exemplified in *'Caring for Each Other'* from the Sesame Workshop, involving story-telling, play and discussion, to address collaboration, creativity, and critical thinking – all of which are central for learning to happen well.

Gathering robust evidence of what works

Despite all the efforts, for most existing educational technologies there is little robust independent evidence that they achieve what they claim, or that they lead to any significant learning. Accordingly, there is a need for more investment in programme evaluation and innovative research, so that the impact of digital technologies on student learning can be better understood, rather than relying on speculation or good intentions, in order that the world is better prepared for future emergencies. In

addition, new and existing approaches to teaching and learning, whether or not they are digital, need to be robustly evaluated before they are rolled out at scale.

Many contributors noted that computers can never replace teachers. The support, motivation and inspiration provided by human teachers is necessary and cannot be replaced even by Artificial Intelligence (AI) tools. Similarly, distance learning, however effective, will never replace physical classrooms. Schools are much more than places for learning. They provide a social space, safety and wellbeing, as well as opportunities for collaborative learning. In any case, as learners are multisensory, there are limits to the learning that can be supported by screen based tools alone. This is why many educators call for hybrid or blended approaches to learning, which combines the best of offline face-to-face teaching with the best of educational technologies.

When schools finally get back to something resembling normality, it is likely that technology will have a greater role – but it is unlikely that technology will replace what happens in classrooms. Instead, it is necessary to rethink what is can best be learned with technology at a distance, and what needs to be learned with others in shared physical spaces. It is also likely that gaps between home and school will somehow be narrowed, following the experience of millions of parents worldwide, who undertook home-schooling during the pandemic, while many schools became stronger community hubs.

Policy-makers and educators also need to be cognizant of the dual-edged sword of data. Data could be essential to improving education. It can provide insights to help us decide what works and what does not. Collecting the right data could help us redesign teaching and learning strategies, enable teachers to design more effective learning, and meet the many different student needs and capabilities. However, data can also be used for negative purposes.

The reality is that education data are fast being accumulated by a small number of global corporations and potentially used for commercial purposes that were never anticipated, and for which consent was neither sought nor given. While no-one suggests that educational technology companies intend to undermine students' best interests, too much current technology is based on private, proprietary interests and ecosystems. This leads to the question, how might commercial players be prevented abusing their position and misusing this information? Accordingly, the world needs to think of a new culture of technology focused around values of collective community engagement and open and free software development.

The growing need for transnational and intersectoral partnerships

All of these multiple challenges and opportunities also call for new partnerships, cooperation and collaboration between and within countries, and between the public and private sectors, to leverage the potential benefits of digital technologies and to improve impact, efficiencies and efficacy.

The many discussions that took part during Mobile Learning Week 2020 called for education to be reimagined for the future, for a new vision for teaching and learning that is designed to help young people develop their full capabilities, that draws on the learning sciences rather than political vagaries, and that focuses on skills rather than cheaper credentialing. To achieve this, to ensure that education is designed for the common good, experts highlighted that the world needs to develop a robust plan. This plan should be one that brings countries together, so that each can learn from one another, and involves all stakeholders, including students, teachers, parents, school leadership, local communities, policy-makers, and the private and third sectors, to ensure that the world's children, youth, women and men are properly supported, in the most unexpected situations.

One silver lining of the COVID-19 pandemic is that it clearly showed that change in education is not always a bad thing: classroom disruption can lead to classroom innovation. It is now necessary to agree on the right route to ensure that education is inclusive, equitable, of high quality and for all.