



Beyond Disruption: Technology Enabled Learning Futures

2020 Edition of Mobile Learning Week

12-14 October 2020

Report

Mobile Learning Week (MLW) is the United Nations' flagship event on Information and Communication Technology (ICT) in education, and has been organized by UNESCO and its partners consecutively for eight years.

The 2020 edition of MLW 2020, held online because of the COVID-19 pandemic, was devoted to the theme of Beyond Disruption: Technology Enabled Learning Futures. The three-day event focused on knowledge sharing on the use of technology to ensure learning continuity and quality, and to build resilient education systems against the backdrop of the COVID-19 education disruption. This synthesis report consolidates, showcases and assesses lessons learned from distance learning programmes shared by more than 3,000 live online participants and 90 speakers, including ministers, representatives from governmental agencies of Member States and international organizations, together with experts from NGOs, the private sector, as well as academic institutes.

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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.

Introduction to Mobile Learning Week 2020

Beyond Disruption: Technology Enabled Learning Futures

Beyond Disruption

The COVID-19 pandemic has caused the most widespread disruption to education systems in history. Schools and universities in more than 190 countries were closed at the height of the pandemic, impacting over 90 percent of the world's student population.

Well-intentioned government efforts to provide distant learning at unprecedented speed and scale gave rise to staggering inequities. Formal learning effectively stopped for over one third of the world's learners because they lacked access to remote learning when their school buildings were shuttered. The youngest students were the most likely to miss out on distance education, despite evidence that the early years of life are the most critical for learning and development. For students who were able to access technology-mediated education, learning was deeply uneven, both in terms of quantity and quality. This was true across countries, as well as between communities and schools.

"No one could ever have predicted that in 2020, more than half the world's student population – 1.5 billion children and youth – would be forced to stay away from schools because of a virus."

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

The shift to distance learning placed new strains on everyone involved in education. Teachers were forced to move learning to digital media with little preparation or training. Parents were unwittingly thrust into the role of learning coordinators and home school operators. Policy-makers had to take decisions that carried enormous repercussions for a wide range of stakeholders under time pressures and often with conflicting or incomplete information.

Although the pandemic was barely eight months old at the time of Mobile Learning Week (MLW), it had supercharged long standing educational inequalities that, without radical responses, will ripple through a generation. Students from high income households in developed countries with educated parents were usually making progress studying at home and benefiting from distance education, while learning for many students from developing countries and low-income households mostly stagnated. The most optimistic projections for dropouts anticipate an unprecedented surge in out-of-school children and youth at a time when public funding for education is likely to decline due to decreased tax revenue. Students most likely to disengage and leave school after the crisis are those disadvantaged by other factors, whether disability, poverty, language or geography, among others.

Hundreds of millions of learners began the 2020-21 academic year, not in a bricks-and-mortar school, but rather in front of a digital screen, at least for those lucky enough to have access to technology and the skills and support to use it productively.

Mobile Learning Week 2020

Mobile Learning Week (MLW) is the United Nations' flagship event on digital technologies in education, which has been organized by UNESCO and its partners for eight consecutive years. The planned edition of MLW 2020, under the theme of Artificial Intelligence and Inclusion, had to be cancelled in March 2020 due to the COVID-19 pandemic. Instead, an [online edition of Mobile](#)

[Learning Week](#) was held for the first time ever. Devoted to the theme of *'Beyond Disruption: Technology Enabled Learning Futures'*, the 2020 online edition (12-14 October 2020) examined the medium and long-term implications of the unprecedented global educational disruption caused by the global COVID-19 pandemic.

MLW 2020 aimed to draw lessons from the range of education responses deployed in order to inform the planning of technology-enabled inclusive and resilient learning systems for the future. It also aimed to explore emerging issues in order to set out an agenda for further research, policy and practice. In this emergency context, MLW 2020 was guided by the objective of: surfacing ideas, practices, policies and strategies to improve the provision of distance education in line with the central policy focus of SDG4: inclusion, equity and quality 'for all'.

UNESCO invited participants from around the world to reflect on lessons learned in responding to the disruption of educational processes and the quality of learning with a view to facilitating evidence-informed policy deliberation and action planning among ministers, policy-makers, private partners, civil society organizations, researchers, and practitioners. Drawing on its eight-year history of knowledge exchange on how best to leverage technology for learning, MLW 2020 helped illuminate how the education community can rise to meet the challenge of the moment and make what has become, in many contexts, the main portal to education—a computer, a mobile phone, a TV—a lifeline for learners and an ally to teachers, schools and communities around the world.

The conference also examined the effectiveness of large-scale distance learning programmes in ensuring continuity and quality of learning, and the implications for leveraging technology as an enabler for the building of more resilient, inclusive, equitable and effective learning systems for the future.

MLW 2020 involved more than 90 speakers, including 12 ministers or vice ministers and more than 20 governmental representatives, who shared national or international distance learning programmes together with speakers from international organizations, NGOs, and private companies, who demonstrated more than 20 innovative distance learning solutions or projects. In total, more than 3,000 individual participants attended the live Zoom sessions, and more than 29,000 viewers watched the livestreaming on Facebook or YouTube. In addition, the dedicated website of the online MLW 2020³ received more than 100,000 views during the three days of the conference.

³ <https://mlw2020.org>

DAY 1: Effective Policies

Sharing Policies and Evaluating Effectiveness

MLW 2020 began with a focus on sharing knowledge about ‘What worked?’ in the framework of distance learning policies. After months of large-scale experimentation with distance learning, panel discussions with high-level representatives of UN agencies, ministers, and experts aimed to draw specific policy guidance for the way ahead.

The first day comprised opening speeches, a keynote, a plenary and breakout sessions. It also included shows presented by partner organizations, ‘GIZ: atingi’ by Deutsche Gesellschaft für Internationale Zusammenarbeit, ‘Connect to Learn’ by Ericsson, ‘Teams for Education’ by Microsoft, and ‘Digitruck – Class is open Anywhere’ by Huawei, and a workshop, ‘Learning While Locked Down: Financial and Digital Literacy for Rural Women Using Mobimoooc Technology Under the Global Pandemic 2020’ hosted by the Commonwealth of Learning.

Conference Opening Speeches

The conference was opened by **Ms Stefania Giannini**, Assistant Director-General for Education, who began by reminding the audience that even though MLW has been hosted annually by UNESCO since 2011, it is the first time organized as a virtual event. These are special times, in which systems have needed to adapt to unexpected challenges. Education is going through real global disruption, affecting more than 90% of the world's student population.

Any discussion around education transformation focus on leveraging technology, which has to be grounded on lessons learned from the COVID experience. In particular, education has relied upon technology from the very beginning of this crisis and it is the basis for learning continuity. Technology is no longer supplementary to the education system, but it is key to government plans for hybrid models of learning while students are confined at home. The challenge is no longer about connecting schools but about connecting people, connecting learners and connecting teachers.

Governments have responded with low- or high-tech solutions. There were some strong and effective reactions to these unprecedented situations and some governments reacted faster than others. UNESCO tried to join forces with governments and form new types of partnerships to support the countries’ steep learning curve to develop and employ these solutions.

Another lesson is the need to rethink the concept of the right to education to include connectivity. Technology and connectivity are now integral for building resilient, flexible and open systems. UNESCO's main concern from the beginning of the COVID crisis has been how technology should provide access to education and address educational disparities. For example, an increasing reliance on private enterprise providers could pose a risk to human rights, to public service and to the common good. On the other hand, being able to work together with these enterprises can facilitate our collective responsibility and commitment to these challenges. It is also very important to

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SPEAKERS

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Ms Doreen Bogdan-Martin
Director, Telecommunication Development Bureau,
ITU

evaluate what did not work, and to think about how to improve our approaches and consider which policies will be effective. In particular, it has been vital to protect education as a sector from the COVID-19 pandemic due to the major disruptions and impact caused.

Ms Doreen Bogdan-Martin, Director, Telecommunication Development Bureau, ITU, continued the opening MLW speeches on the same theme. The new academic year had started, yet most students were still behind screens instead of in real classrooms. Accordingly, two main challenges needed to be addressed: broadband connectivity and digital skills.

Broadband connectivity plays a critical role towards achieving the seven Sustainable Development Goals (SDGs). The problem is far from solved since half of the world's population is without connection; others are struggling with slow, expensive and inaccessible connections. Most of those who are affected are in remote areas, and typically from vulnerable groups. In addition, following lessons on a mobile phone can be very difficult, yet computers at home are not common in developing countries. To switch to online education, the number of households with internet connectivity was seen as key.

Infrastructure alone is not enough because using digital applications requires people to have digital skills. According to Ms Bogdan-Martin, the digital skills gap needs to be addressed if we want to develop effective policies and drive digital transformation. This is the main barrier, even in countries with good infrastructure, as teachers need to understand how to use and capitalize on online learning environments, while students and their parents need to understand how to use them. The digital skills gap is also a major challenge for the business community because, unless it is addressed, they may not be able to fund suitable employees.

The International Telecommunication Union (ITU) is putting a great deal of effort into the development of digital skills, especially through the ITU Academy platform. ITU has nine digital transformational centres across different regions that are already providing training to teachers for remote learning strategies, especially for underserved communities. A new partnership with Norway further supports this initiative. Teachers cannot be replaced, but using the internet to connect students and teachers, and share knowledge could lead to the most powerful transformation that has ever been seen.

The challenges of COVID-19 will continue for the foreseeable future, but there are also opportunities for action. The pandemic is pushing the education sector to dramatically accelerate its digital transformation. MLW provides an opportunity for all of us to share insights and examples.

Plenary Session 1: Ensuring Effective National Distance Learning Strategies

In this plenary session, the experiences of three countries were presented. As explained by **H.E. Ms Li Andersson**, Minister of Education, Finland, the Finnish distance learning response was organized rapidly, largely due to the country's highly educated and motivated teachers, who already experience a lot of autonomy. This was combined with the hybrid models that were already widely in use. Accordingly, education coped well during the pandemic. During the spring of 2020, buildings were shut on a Friday but teaching and learning continued online on the Monday with all students continuing to have the right to school meals, study guidance and student welfare services. Later, some schools were open for pre-primary and grades 1-3, but with only 30% of the children in school at any one time. In addition, all children who have special needs were given the right to attend face-to-face teaching in class. Finnish schools reopened for two weeks at the end of the summer semester to map the learning gaps that had occurred and to support individual learning needs. All of this was supported by the government's *'Wellbeing Package for the Young'* (€320,000), which aimed to mitigate the negative impacts of distance learning and to support learning and well-being at all levels of education.

In Kenya, the pandemic resulted in the closure of all schools in March 2020, and the establishment of the *'Out-of-Class Learning System'*. This built on an earlier digital literacy programme initiated in 2015, which had provided devices to primary schools, developed learning content, and trained many teachers. **Ms Maureen Mbaka**, Chief Administrative Secretary – ICT, Deputy Minister, Kenya, described how the pandemic response involved television, radio and online learning, with media partners developing and transmitting educational content across the country for up to 8 hours per day. Meanwhile, the largest mobile network offered subsidized data bundles to support access to education content across the country. Internet charges for the home were also reduced. However, many children were unable to access the material because of poor reception, lack of devices and lack of power.

H.E. Mr Gabriel Changson Chang, Minister of Higher Education, Science and Technology, South Sudan, focused on the impact of the pandemic on higher education. In South Sudan, access to universities was severely curtailed from March 2020 to meet COVID-19 social distancing requirements. Accordingly, learning centres were established around the country which were equipped with computers, internet connectivity, photocopy machines, televisions, radios, pre-recorded material and other facilities that students needed to pursue their studies. Universities coordinated activities between their campuses and the centres, while sharing facilities. Students were also encouraged to use smartphones because they are relatively affordable and more widespread, to communicate with their lecturers and peers, and to access materials and upload projects.

These various experiences raised many complex issues. For example, many countries suffered from limited internet and mobile phone networks, often with slow download and upload speeds. In addition, any existing connectivity typically gets weaker as you move out of the town centre towards rural areas. All of this adds to the problem of ensuring equity and inclusivity of access. There is also

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SPEAKERS

H.E. Ms Li Andersson

Minister of Education, Finland

Ms Maureen Mbaka

Chief Administrative Secretary – ICT, Deputy Minister, Kenya

H.E. Mr Gabriel Changson Chang

Minister of Higher Education, Science and Technology, South Sudan

the challenge of enabling teachers and students to make best use of the available technologies. This requires training and developing new competencies, providing appropriate support and encouragement for students to develop self-discipline and to become more autonomous, as well as devices and good data connections.

In summary, accessible, affordable, inclusive, sustainable, universal and uninterrupted learning is essential – all of which depend on the following: a blended learning approach that involves face-to-face teaching and eLearning enabled by technology; infrastructure enhancements; expanding internet provision for schools and communities; distributing devices to learners who need them; improving digital skills for teachers; and ensuring stakeholder engagement. Technology-enabled teaching can help to achieve this, but requires careful planning at the national level to ensure inclusive and resilient learning systems for the future. Finally, distance learning will never replace physical classrooms, as schools and universities are much more than places for learning. They provide social networks, safety and wellbeing, inclusion and equity.

Ensuring Effective National Distance Learning Strategies

Key Messages:

- National Distance Learning strategies depend on good network infrastructure and access to devices.
- Limited internet and mobile phone networks, such as in rural areas, amplifies problems around equity and inclusivity of access.
- Enabling teachers to make best use of the available technologies requires extensive teacher training and appropriate support.
- Enabling students to make best use of the available technologies requires digital competencies, encouragement to develop self-discipline and to become more autonomous.

Keynote 1: 'Keeping our Promise' by Mr Ken Hu, Deputy Chairman, Huawei

Mr Ken Hu, Deputy Chairman, Huawei, began his keynote by reminding participants that education is a promise – from government to its citizens, from communities to its families – to help its young people lead a better life. However, COVID-19 has challenged this. At the peak of the pandemic, more than 190 countries closed their schools, which affected more than 1.6 billion students. Thankfully, the number of students out of school has reduced, but many students still do not have access to online classes.

There are many reasons for this, such as the lack of digital inclusion at all levels of society. Around the world, there is a major imbalance in connectivity, access to devices and digital skills. For example, while 87% of people have internet access in high-income countries, the number is lower than 20% in low-income countries. Even within countries, income affects access to technologies. In the United States of America, one of the richest countries, around 50% of low-income families still do not have reliable access to the internet. In other words, the digital divide exists both between and within rich and poor countries.

So, Mr Hu asked, how do we begin to address the digital divide? Huawei started with the programme called '*Tech for All*' which focuses on connecting schools and building digital skills for young learners. In South Africa, for example, they provided network equipment and mobile devices, and worked with Click Foundation, an NGO, to deliver an online curriculum, and with a local provider for free network access. Meanwhile, they also worked with teachers in Senegal to help them create distance learning materials to share with their students.

Another collaborative project, '*SCI-tech*', was launched in Kenya in September 2019. This project converted an old cargo container into a solar-powered computer lab, equipped with laptops, smartphones and other devices. A local NGO takes the lab to rural areas, where they train young people how to use computers and the internet. Since September 2019, 1,500 young people have received a total of more than 25,000 hours of training.

In conclusion, there are many young people around the world who want to learn – but they cannot because of a lack of devices, connectivity and digital skills. Mr Hu stated, "But the incredible thing is that there are also many people who want to help, and we are only too pleased to help make these connections". Mr Hu finished by reminding the audience that education is a promise: now is the time to keep that promise.

High-level Panel 1: Distance learning policies with a focus on evidence and data

Ms Stefania Giannini, Assistant Director-General for Education, UNESCO, opened the first High-level Panel of MLW 2020 by highlighting the importance of the many national strategies that have been developed around the world to maintain learning despite school closures. However, there are many outstanding questions. For example, she asked, how do we ensure that we reach all learners, how do we meet their needs, and how do we maintain the quality of learning? A key problem is that we do not even have clear evidence of the losses experienced by our young people.

As a first step, other speakers in the Panel shared the experiences of their countries. In Ethiopia, all schools closed in March for around seven months, leading to a loss of learning and many social issues. However, **H.E. Dr Engineer Getahun Mekuria**, Minister of Education, Ethiopia, explained that many distance learning methods were put in place. For example, while some schools in cities made use of the internet, television was used to deliver lessons and support learning in rural areas. However, in reality many boys have taken on key roles in farming to support their families, while hundreds of school aged girls have been forced into marriage. When schools reopen, it is likely that many of these young people will not return. Meanwhile, most universities continued to provide learning, but only online. This was mainly accessed by postgraduate students, who typically live in cities, while most undergraduates live in rural areas and rarely have laptops or access to the internet.

Many lessons have been learned from Ethiopia's experience of the pandemic and its impact on education. Perhaps most importantly, the Minister stated, digital technologies are no longer a luxury. They are a social necessity to support human rights in education. Those students who live in rural areas are marginalized by the lack of access to computers or the internet; the social divide is exacerbated by affordability and connectivity. In short, COVID-19 has further widened the digital divide, between the poor and the relatively affluent as well as between those who live in cities and those who live in rural areas.

Accordingly, the provision of technology to rural schools should be prioritized, while broadband internet access needs to be made available to all high schools. In addition, all teachers should have laptops and professional development to help them take advantage of the technologies; while all students need access to low-cost equipment. Improving access to education in this way depends on cooperation, between and within countries, as well as between the public and private sectors. Only then will the education sector be better prepared for the next crisis that hits.

In Côte d'Ivoire, when the COVID-19 crisis started, schools and universities were closed for two months. **Mr Raoul Koné**, Deputy Chief of Cabinet of the Minister of Higher Education, described how two online digital platforms were set up, one for schools and one for vocational training, with the guiding principle that education should remain free, inclusive and accessible.

CHAIR

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

PANEL

H.E. Dr Tarek Shawki
Minister of Education and Technical Education, Egypt

H.E. Dr Engineer Getahun Mekuria
Minister of Education, Ethiopia

Mr Jure Gašparič
State Secretary, Ministry of Education, Science and Sport, Slovenia

Mr Raoul Koné
Deputy Chief of Cabinet of the Minister of Higher Education, Côte d'Ivoire

Ms Auhood Abdullah Alfaries
General Director of the E-learning and Distance Learning Directorate, Ministry of Education, Saudi Arabia

H.E. Dr Nath Bunroeun
Secretary of State, Cambodia

The school platform, for example, hosted educational content for students from the last year of primary school to the end of high school. This was then extended to cover all ages. It comprised more than 300 audio visual capsules of educational content, covering traditional and cultural curriculum subjects, and adopted proven e-learning practices. Although internet access is widely available in the country, the online platforms were not the only medium used. Côte d'Ivoire also used national television and radio channels, as well as 150 local radio stations, all supported by the educational publishers to stream educational content for all school levels. This was extended for hearing impaired students, which included translation into braille. Facebook was also used to deliver the '*My Home School Programme*'.

Côte d'Ivoire was also dedicated to the health and social components of education. For example, class groups were reorganized and new pedagogy was used to respect social distancing. In addition, 18 million masks were distributed to schools. In fact, this response plan was only possible because the education and health departments, the ministry of civil protection and the ministry of transportation, all worked together.

Other important work included the production of thousands of Open Educational Resources (OER), the establishment of additional training centres, and the delivery of thousands of hours of professional training, much of which was supported by UNESCO. Because COVID is not limited to schools, every effort was made to raise parents' awareness by, for example, producing thousands of posters on physical distancing and the importance of e-health and online safety.

Mr Jure Gašparič, State Secretary, Ministry of Education, Science and Sport, Slovenia, began his contribution by reasserting that education is the 'priority of priorities', access to education is a fundamental human right, and education will also lead to economic success. The reality is that society is becoming more complex, open and connected, and knowledge is increasingly available to all. In fact, Slovenia is proud to have played a leading role in the development of OER. In the past, OER were used mainly by enthusiasts and 'early adopters'. Now OER are being adopted widely in Slovenia.

Slovenia has also made progress with educational technology (EdTech). The country had developed many EdTech solutions and content, but only integrated them fully in the education system after COVID-19. Many of the tools were still in prototype before the crisis, and the country was not ready to deal with the pandemic. However, COVID-19 brought a new impetus and the country responded quickly and effectively during the four months of school closures. Television and the internet were used to make a comprehensive range of resources, including much OER, available for schools. At the time of MLW, all schools and universities were open again, and well-prepared with the necessary skills and equipment to return to distance learning if necessary. However, whatever the planning, distance learning technologies cannot substitute schools. The smiling faces of children and teachers in school - face-to-face teaching and learning - is not replaceable. So, whenever possible, schools must stay open but can be complemented by distance learning technologies.

Ms Auhood Abdullah Alfaries, General Director of the E-learning and Distance Learning Directorate, Ministry of Education, Saudi Arabia, continued by pointing out that when we look back at 2020, we will probably think of it as the year when life changed forever. In fact, change is not always a bad thing in education: classroom disruption can lead to classroom innovation.

Following the school closures in March 2020, education in Saudi Arabia moved to a multidimensional distance learning model. Many different channels were used, including: an online Learning Management System designed with innovative teaching and learning solutions, a 'back-to-school' portal, education programming broadcast around the clock on terrestrial and satellite television channels, a virtual kindergarten, and specific resources for students with special education needs (SEN). Around 400,000 teachers were trained to support these approaches using a 'train the trainers'

approach, and more than 80% of high school students were participating after two weeks into the semester. These numbers continuously improved on a weekly basis.

Most importantly, considerable effort was put into collecting data about the students use of the various technologies and approaches. Data provides insights to help decide what works and what does not. Going forward, it will help in the redesign of teaching and learning strategies, enable teachers to provide more effective learning, and meet the many different student needs and capabilities.

With the support of UNESCO and the OECD, the entire Saudi Arabian programme was carefully evaluated, based on a robust research framework that included issues around leadership, policy, curriculum design, assessment and technology. The study involved 318,000 participants, including 54,000 students, 100,000 parents, and thousands of school staff, and has led to a number of recommendations and guidelines for all stakeholders, including school staff, parents and policy-makers, to help improve distance learning for all. In the post-COVID era, education will never be the same, but Saudi Arabia will be better prepared for future unexpected disruptions.

Egypt has been investing in the digital transformation of education since 2016, which put them in a good position to respond to the COVID-19 pandemic. “The Egyptian Knowledge Bank of digital content”, explained **H.E. Dr Tarek Shawki**, Minister of Education and Technical Education, Egypt, “is a key component”. This is a comprehensive library of digital learning objects for Higher Education and K-12 that is available to every citizen, and includes everything published by many of the largest global publishers. From 2018, this transformation has developed into a new education system, Education 2.0, a reimagination of education with a core emphasis on student-led approaches.

When COVID-19 hit in March 2020, everything was in place, including a national portal and vast amounts of curriculum content, which meant that everything was immediately available online. However, while high school students had access to devices, not everyone had this provision. So the country also made use of television, an e-book platform and a Learning Management System and completed a range of research projects, asking students to work through them individually or in small groups. Almost every student joined, mostly using mobile telephones.

Egypt also assessed everybody, under strict social distanced conditions, using project-based assessment and more traditional exams. One key lesson was that students were more interested in their grades, and whether they had passed, than in accrediting what they had learned. According to the Minister, this was “a real eye-opener”. Accordingly, Egypt is working hard to think through the fundamentals: How can skills be best imparted to children in the 21st century? How can assessment be improved, moving from memorization to skills, and removing the words examination and rubric from the education lexicon? How can learning be taken beyond country borders? The Minister concluded that we need to focus education on skills and not on credentials. We also, he suggested, need education to be fun because all too often it can be a punishment. We need to liberate ourselves from the education background that we all inherited.

Cambodia also used multiple channels to support learning during the pandemic. **H.E. Dr Nath Bunroeun**, Secretary of State, Cambodia, described how digital resources, an e-learning platform and many thousands of videos, a new digital television channel for reaching parents and children in rural areas, and even Facebook, were used to ensure that all students - even those without internet access - were still able to engage in learning during the school closures. This new provision was developed to address multiple needs. For example, it had to comply with minimum standards; had to properly support students from ethnic minorities, which meant it had to be available in at least three languages; had to ensure that children with disabilities were not left behind; and had to ensure a flexible curriculum, so that all students were ‘always learning’.

To achieve all this, the planning and development of a ‘master plan’ involved all stakeholders – especially parents, whose involvement was indispensable, the local community and teachers. The

plan involved, for example, teacher training covering three overlapping areas: how to teach effectively and flexibly, technical skills, and their subject specialism; while students were encouraged to take a more active role in their learning, such as selecting evidence from the internet to support their ideas. Focused on the use of technology to enhance learning, this whole approach is likely to become a permanent feature of the education system in Cambodia.

Distance Learning Policies with a Focus on Evidence and Data

Key Messages:

- There is insufficient evidence of the learning losses experienced by young people.
- Activities to mitigate the learning losses and the digital divide have included:
 - enabling broadband internet access for schools;
 - providing teachers with laptops and professional development;
 - providing students with low-cost equipment;
 - online Learning Management Systems;
 - developing new educational content, especially Open Educational Resources;
 - using national terrestrial and satellite television and radio channels;
 - cooperation between different ministries and departments;
 - using project-based and collaborative learning activities; and
 - using social media.
- Efforts have been focused especially on:
 - disadvantaged students, students with disabilities and special educational needs, ethnic minorities, and displaced people, for example by prioritizing technology for rural schools;
 - issues around leadership, policy, curriculum design, assessment, and technology; and
 - the health and social components of education.

Breakout Sessions and Workshop

National Distance Learning Strategies: Best Practices

After months of large-scale experimentation with distance learning, there is now a need for in-depth reflections on “what worked” and “why”.

Access to relevant tools and resources is essential, but should be considered as part of a holistic approach. In other words, technology and content readiness are necessary but not sufficient conditions for effective distant learning. In fact, there remain large discrepancies between high-income and low-income countries in terms of student readiness for online learning. For example, while around 90% of students in high-income countries are thought to be ready for online learning, the figure is only 25% in low-income countries.⁴ This is partly due to a lack of internet access at home in many countries across the globe and in some countries, there is also poor access to non-digital basic media such as radio.

In addition to technological and content readiness, effective distance learning requires appropriate pedagogies. These pedagogical approaches should be effective in reaching all learners and supporting the required learning outcomes. The digitalization of resources is not enough and pedagogical design specific to distance learning is essential. In addition, it is important to monitor and evaluate the effectiveness of implemented distance learning strategies, so that they might be iterated and improved accordingly. Very few countries are doing this at the national level.

The experiences of four countries were presented. In China, considerable effort was put into developing a technology infrastructure that worked smoothly and that was appropriate for urban and rural areas alike. For example, low-tech solutions such as the China Education Network Channel presented educational television programmes. Meanwhile, around 170 online platforms made educational resources available to all school students, while ensuring that students with SEN were properly supported. A parallel aim was to ensure pedagogical diversity, which was achieved by including collaborative learning, peer learning and project-based learning. AI technology solutions were also used to support distance learning and assessment. All of this was made possible by means of cooperation between governments, enterprises and schools – with enterprises investing tens of billions of yuan.

In the Republic of Korea, close collaboration between the Ministry of Education and the commercial sector was important. Although the tech infrastructure was already good in the country, with 99.7% of Korean households having access to the internet, the 300-fold increase in the use of online education resources during the pandemic led to some infrastructure issues that had to be addressed. Throughout the pandemic, careful piloting in limited numbers of schools was thought to

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⁴ <https://www.brookings.edu/research/school-closures-government-responses-and-learning-inequality-around-the-world-during-covid-19>

be key, along with the sharing of best practices of distance learning between teachers, supported by voluntary organizations and telephone support.

In Singapore, lessons that had been learned from earlier epidemics, such as SARS in 2003 and the H1N1 virus in 2009, put the country in a good position for dealing with the COVID-19 pandemic. Since those experiences, Singapore had regularly been using distance learning. For example, each school organizes time every year during which learning takes place at a distance. This allows teachers and students to prepare, allows infrastructure to be tested, and teases out potential challenges for teachers and students, leading to the continuous development of resources and pedagogies for distance learning as well as shaping teacher professional development. Thanks to these practices, Singapore was ready to implement distance learning at scale when the COVID-19 pandemic struck.

In Croatia, a hybrid centralized and decentralized approach was used to implement distance learning. Schools were given a significant amount of freedom, such as the choice of platform that they used. Croatia also recognized the importance of collaborating with commercial providers to enable a quick distance learning rollout. Like in other countries, even those teachers who were comfortable with using technology struggled with having to provide distance learning. However, evaluations showed that most teachers rose to the occasion, and through the experience acquired robust digital competencies and self-confidence. Although high numbers of students were successfully connected to distance learning, there was no evaluation of learning outcomes.

Evidence Based Effective Distance Learning Under Low-tech Contexts

This session focused on several initiatives from different countries aiming to enable distance learning in low-tech contexts during the COVID-19 school closures.

In Ghana, there were two main initiatives: broadcast TV and radio, supported by media houses and private partners, and the iCampusGH online platform that supported 1.2 million students.⁵ Since some areas of the country do not have internet connectivity, the 'iBox' was developed, which offers distance learning while offline.⁶ A similar product was developed in the Philippines and Indonesia called 'School in a Bag'.⁷ This allows students in fragmented geographical areas, due to there being thousands of islands, to have access to education. Another project was CVIF-DLP (Center Visaya Institute Foundation – Dynamic Learning Program), which was implemented before the pandemic, and aims to promote independent learning and parent-supported learning.⁸

In Latvia the project, 'Your Class', was established in only two weeks by the country's main television company working with more than 70 teachers.⁹ It used a television channel to broadcast educational programmes focused on a competency-based curriculum with the main goal of developing digital skills transversal to all fields of education.

The key feature was not to try to replicate online what is done in classrooms but to develop approaches specific to the medium. The success of the project was due to the involvement of multiple stakeholders. In addition, AI technologies were used to monitor student progress and to offer personalized learning paths.

In Egypt, 'IdeasGym', focuses on STEM learning by offering a variety of motivating content.¹⁰ Although shown to be an effective approach in classroom, transferring to an online environment was a huge challenge. This was especially true because of a lack of awareness how to use digital tools among parents and students, even those with online experiences before. The final initiative mentioned was 'Ruang guru', which provides interactive and high-quality content in an AI-driven personalized learning and accessible tool.¹¹ This initiative also works offline by means of a USB stick that connects with mobile devices.

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SPEAKERS

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Mr Muhammad Iman Usman
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⁵ <https://ghstudents.com/e-learning-platform-for-shs-students>

⁶ <https://www.instagram.com/iboxgh>

⁷ <https://smart.com.ph/About/learnsmart/programs-projects/school-in-a-bag>

⁸ <https://cite.edu.ph/dynamic-learning-program>

⁹ <https://www.izm.gov.lv/en/article/project-tava-klase-your-class-lessons-tv>

¹⁰ <https://ideasgym.com>

¹¹ <https://www.ruangguru.com>

Resources for Distance Learning in Higher Education

This session focused on how programmes around the world are providing resources to support distance learning in the higher education sector. Contributors shared innovative examples from their own contexts, including the Middle East, Africa and South-East Asia.

Some participants suggested that it is important to recognize that while learning content and curricula need to be localized, pedagogy is universal and can be transposed between countries and contexts. This opens up opportunities for capacity-building programmes to develop pedagogical expertise and the use of digital tools across different regions and countries. It is also key to recognize the importance of inclusive, quality professional development and shared resources for teachers in the Higher Education sector.

One example was the *'Teaching Online'* MOOC designed for university teachers in the Middle East and North Africa region to support their online teaching skills.¹² It was developed in just four weeks collaboratively by University College London and The Lebanese University. The MOOC is run in Arabic on the Edraak online platform and uses a combination of films about how to use digital tools in teaching, video tutorials and mentoring. There are practical and collaborative activities for participants, including discussion environments, videos and opportunities for teachers on the course to come together and share ideas.

A second initiative was the *'Institute of Online Education'* (IIOE), launched by the UNESCO International Centre for Higher Education Innovation (ICHEI), which is designed to support remote learning in developing countries.¹³ IIOE is an open access educational platform that provides more than 170 professional development courses for teachers focused on ICT capabilities. The aim is for the platform to help educators to better understand and apply ICT instruments in their own contexts.

COVID-19 has accelerated the transformation of learning in higher education institutions. Nonetheless, while online tools have provided numerous opportunities, it is essential to retain in-person interaction and to recognize the value of hybrid models, bringing together both technology-based and face-to-face learning in higher education.

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Ms Natalia Borozinets
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¹² https://www.edraak.org/en/course/course-v1:UCL_LU+TO101+T2_2020

¹³ <https://www.iioe.org>

Closing Ceremony of World Teachers' Day (WTD) and Best Practices of Supporting Teachers to Facilitate Distance Learning

A rapid analysis by the British Council of 150 countries revealed that teachers needed quick, practical advice as there was no time to learn theory before having to implement distance learning.¹⁴ There were many challenges associated with working with students online, and no book or manual to follow. A key problem experienced by many teachers was connectivity, and how to manage the different levels of access among students. In many countries, families have only one device and no internet connection. This is a major digital divide.

Teachers were also especially concerned about the quality of learning, inclusion, motivation and engagement. Critical thinking, literacy and motivation are all as important as improving technical skills in order to prepare teachers for situations like the COVID-19 pandemic. The importance of developing a learner-centred online classroom became clear, as well as the need to focus on teacher/student relationships before content. Learning is not only about the transfer of knowledge, or tools and resources, but about using those tools in very practical ways. Different ideas explored included gamification, contests, communities of practice and "sandboxes". These are places where developers can experiment and build EdTech from scratch, and where educators can explore and try things out.

The key to establishing a sandbox is teamwork. For example, the British Council '*COVID-19 Digital Task Force*' project in Uganda was a co-creation process, involving teachers, lecturers and the Ministry of Education, which developed the '*Teacher Training Education Project Sandbox*'.^{15, 16} The project was designed with five teacher training colleges, and involved support for infrastructure, pedagogy, ICT integration and institutional development, from digital transformation to human resources, and provided quality-assured free distance education lectures.

A similar approach was used in Mexico with the '*EDUDIGIT@L.MX: Open Laboratory*' initiative. In this initiative, university professors and school teachers co-created digital pedagogy and technical tools. During this, the professors learned how to adapt their resources so that they were more accessible for teachers.

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¹⁴ <https://www.britishcouncil.org/education/response-covid-19>

¹⁵ <https://www.vvob.org/en/programmes/uganda-active-teaching-and-learning-secondary-technical-and-vocational-education>

¹⁶ <https://www.enabel.be/story/even-times-covid-19-learning-shouldnt-wait>

Workshop of the Commonwealth of Learning: Learning While Locked Down: Financial and Digital Literacy for Rural Women Using Mobi-MOOC Technology Under the Global Pandemic 2020

This workshop focused on the application of Mobi-MOOC technology to help women in rural areas stay connected to learning during the COVID-19 crisis. The MobiMOOC technology blends the scalability of learning offered by MOOCs with accessibility and delivery options afforded by basic mobile phones. Built on a MOOC management platform, it can deliver audio lessons to anyone with a basic mobile phone. There is no limit to the number of learners who can use the platform, and it uses an interactive response system to record answers and leave voice messages. Originally developed and trialed by the Indian Institute of Technology Kanpur, the technology was rolled-out during the COVID-19 crisis to support women in rural areas where digital and data connectivity often do not exist.

The Mobi-MOOC platform has been used to support women in India who lost their jobs during COVID-19. The technology was used to run learning sessions on digital banking and digital marketing, once per day, over 45 days with each session lasting only 60 seconds. The technology was flexible enough to work around the women's busy schedules, and they could arrange a daily time to receive a call and listen to the audio clip on a basic mobile device.

The Mobi-MOOC technology was also used with farmers in rural areas of India, who typically do not have smartphones, computers or access to the internet. Using basic phones with SIM cards, the farmers were able to access short learning modules in agricultural domains via audio message. The messages were typically under a minute, and the platform also has functionality for SMS, voice calls and quizzes. An analytics interface also allows instructors to see the activity of each student.

SPEAKERS

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DAY 2: Innovative Solutions Showcasing Innovative Distance Learning Solutions

The focus of MLW 2020 Day 2 shifted to innovative technology solutions. It comprised a plenary session, two keynotes and breakout sessions. It also included shows presented by partner organizations, 'GIZ: *atingi*' by Deutsche Gesellschaft für Internationale Zusammenarbeit, 'Teaching AI for K-12' by Ericsson, 'Azure Lab Services' by Microsoft, and 'Link Now for Online Education' by Huawei, as well as a workshop, 'Sophya'.

Plenary Session 2: Innovative Distance Learning Solutions as Common Good

The plenary session began with an introduction to 'Giga', an ambitious initiative to connect every learner in the world to the internet launched by ITU and UNICEF in September 2019.¹⁷ Currently, around half of the world is not connected to the internet, which leads to a major disparity of opportunities. Accordingly, 'Giga' is about enabling all young people to get online, initially by connecting all schools to the internet, a key step on the road to achieving full connectivity. It has adopted an action-oriented country-based approach, and four pillars of development: map, connect, finance and empower.

Pillar 1 is to map where schools are, and which schools have internet access, which is information that many countries do not have. With the support of partners such as Ericsson and Norad, this is already happening in fifteen countries across Africa, Asia and Central America. Pillar 2 aims to figure out how to connect the schools to the internet, which plays to the strengths of ITU and involves new types of technologies, such as satellite imaging, engaging with regulatory and infrastructure authorities, and tracking that connectivity is genuinely happening. Pillar 3 develops the financing by pooling demand across multiple contexts, and developing sustainable financing packages. Finally, Pillar 4 aims to empower young people with relevant skills, for which UNICEF is taking a lead with its experience working with children, digital skills and education. In many ways,

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Ms Magdalena Brier López-Guerrero

Managing Director, ProFuturo Foundation, Spain

Mr Wayne Holmes

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Mr Zhiqian Wang

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Ms Nandini Chatterjee Singh

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¹⁷ <https://gigaconnect.org>

'Giga' is a good example of what can be done: developing robust partnerships between sectors and neutral connectivity points between donors and affected communities.

Ericsson's contribution to 'Giga' is called 'Connect to Learn'.¹⁸ Ericsson recognizes that digital platforms will increasingly be the basis for future work and learning. However, the crisis has highlighted the lack of access in many countries around the world, and growing digital inequalities that must be bridged – which is only possible through cooperation and cross-sector partnerships. For these reasons, Ericsson was the first private-sector company to make a multi-million dollar commitment to the 'Giga' connectivity initiative. Under the "Connect to Learn" banner, they provide data science capability and software to help collect and map school connectivity in real time. This will also serve as an accountability measure for governments.

Ericsson considers that digital skills applicable to diverse contexts are at the centre of the requirements for the future workforce. However, children and the youth of today need more than just digital skills. They also need higher skills like programming and game development, the type of skills that will ensure higher order cognitive development. Accordingly, Ericsson also provides free access to content related to emerging topics, such as the Internet of Things, Artificial Intelligence and 5G. The aim is to support students with topics that supplement a university curriculum. The Ericsson digital learning platform also hosts content developed by partners, such as UNESCO's 'Teaching AI for K12' portal.¹⁹ Finally, Ericsson believes that computers cannot replace teachers. The support, motivation and inspiration provided by human teachers is necessary and cannot be replaced by even high quality digital libraries. This is why their contribution is not just technical. The company is also a member of the Global Innovation Coalition, through which 80 Ericsson employees have engaged in a mentorship project for girls in different countries.

Another initiative is the 'Global Book Alliance', which addresses the need to translate connectivity to learning.²⁰ In moving a lot of learning online, COVID-19 has provided both opportunities and risks. In particular, the shifting focus to providing learning at home has meant that governments needed to significantly increase meaningful access to suitable resources and use by both teachers and learners. Accordingly, the 'Global Book Alliance' seeks to ensure all children have access to quality reading materials in a language that the children understand because reading is basic to learning. This is where the 'Global Digital Library' (GDL) comes in.²¹ The GDL curates thousands of quality-assured, open-license reading resources for classroom and leisure reading that are available on digital devices. It has been designed as a digital public good, hence its license permits free use, adaptation and translation.

Partnerships are also critical and can be leveraged to improve impact and increase efficiencies and efficacy. For example, Norad is supporting seven governments to translate books into local languages, which reduces costs and fragmentation, and enables teachers to participate in curation more effectively. In addition, Norad is in partnership with ITU and the Norwegian government to support the 'Digital Transformation Centres' initiative in Ghana.²² This involves ICT education for artisans and young people, coding for children and teacher training on ICT. The aim is to help develop digital skills at community level. Partnerships like these can be leveraged by policy-makers, teachers and learners, to help rebuild a strong and inclusive teaching and learning system.

The contribution of the ProFuturo Foundation was also discussed.²³ ProFuturo has been working for many years towards transforming the education of at least 25 million children by 2030. The organization believes in the importance of access to education beyond the walls of the classroom

¹⁸ <https://www.ericsson.com/en/about-us/sustainability-and-corporate-responsibility/digital-inclusion/access-to-education>

¹⁹ <http://teachingaifork12.org>

²⁰ <https://www.globalbookalliance.org>

²¹ <https://www.globalbookalliance.org/global-digital-library>

²² <https://www.ghanaweb.com/GhanaHomePage/business/Ghana-to-benefit-from-Digital-Transformation-Centres-Initiative-1109545>

²³ <https://profuturo.education/en>

and the transformative power of digital education. For these reasons, their education proposal relies on technology and on innovative teaching-learning experiences: technology enables them to reach more people in less time, but they aim to promote the development of 21st century skills in the classroom and prevent the already existing education gap from worsening. Education is a powerful tool for overcoming socio-economic barriers and changing the world, which is why ProFuturo wants to offer equal learning opportunities to everyone, including parents who have a key role. In fact, ProFuturo has shown that it is possible to deliver quality education anywhere in the world. ProFuturo have ensured the continuity of teacher training, even in areas with poor connectivity both by means of podcasts and WhatsApp, and by television and printed materials delivered door-to-door.

According to Mr Wang, the Weidong Cloud Education Group (Weidong) is also making an important contribution.²⁴ They recognize that education is a complex ecosystem built from infrastructure, hardware and educational content, which are different in every country. In other words, different countries have different problems to solve. With that in mind, Weidong draws on its expertise and resources to support education systems around the world. For example, Weidong is an active member of the '*Global Education Coalition*' set up by UNESCO to support education during the COVID-19 crisis, offering digital learning platforms and learning content that were used by more than 9,000 institutions and 20 million students during the lockdowns.²⁵ The tools facilitated teachers to upload their own content, provided live-streaming teaching capabilities to enable teachers to connect with their students, and offered evaluation and statistical technologies. Weidong has also worked with policy-makers to build smart classrooms in countries such as Egypt, Cambodia, and Pakistan to supplement the teaching environment through the use of smart products in low-resource contexts. They have also run many conferences and more than 3,000 train-the-trainer sessions, helping more than 80,000 teachers to have a better understanding of how to maintain teaching and learning online. They also provide online masters and doctoral degrees, and have built vocational training centres and courses to ensure students and adults can access quality vocational training courses at any time.

The final initiative mentioned in this plenary was the '*Rethinking Learning*' programme from the UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP).²⁶ '*Rethinking Learning*' is firmly grounded in neuroscience research, which means that it takes an innovative approach to teaching and learning. Neuroscientists now know enough about how the brain learns, through neuroplasticity, and when it learns best. It is known how the brain matures, and why engaging in the right activities at the right time results in better learning. In other words, learning can be better positioned biologically than it currently is to harness the whole brain, so that educational content can be optimized for learning. It is necessary to leverage all this knowledge, to redefine education for the purpose of human flourishing, and to build an education system for thinking citizens who are enabled to work towards the common good.

However, current technologies, which target only the cognitive brain, cannot be relied upon. Instead, there is a need to build learning experiences that involve story-telling, play and discussion – all of which are central for successful learning experiences. It is important to recognize that learners are multisensory, and motivated by intrinsic rewards rather than just marks. Learning needs cannot be addressed by screen-based tools alone. In order to nurture the brain, the socio-emotional components of learning must be explored, rather than only the frontal cortex of the brain, which most current systems are designed to do. To help children realize their potential, their social and emotional brain needs to be nourished, as well as their rational brain. Although playful and immersive learning experiences can be effective, most digital learning neglects these aspects

²⁴ <https://www.wdecloud.com>

²⁵ <https://globaleducationcoalition.unesco.org>

²⁶ <https://mgiep.unesco.org/rethinking-learning>

so far. In addition, the COVID-19 pandemic has shown the need to teach young people to respond proactively and flexibly to challenges and unforeseen situations.

Despite the potential, children's use of digital platforms can generate large amounts of data, which raises many ethical issues. For example, how do corporations be prevented from misusing this information? For this and related reasons, the MGIEP have developed '*FramerSpace*', an alternative platform designed for young learners that combines dialogue, storytelling, emotional learning and games, and aims to develop active citizenship.²⁷ This is an example of the shift from the "teaching of ICT" to using ICT to optimize learning. '*FramerSpace*' enables teachers to build learning experiences, and students to engage in their choice of courses. Unlike many digital platforms, '*FramerSpace*' is fully GDPR compliant. It collects no personal data on users, so that no one can link the system ID to individual children.

This focus on EdTech and data also led the plenary to consider the impact of a specific set of digital technologies: AI. Two related questions were posed: what can AI bring to education, and what are the promises, implications and unique benefits of AI during COVID-19? Around the world, adaptive platforms that employ AI technologies were increasingly used during the pandemic. However, there is still little robust independent evidence that these technologies achieve what they claim. They may make learning more "efficient", getting students more quickly into predetermined boxes, and they can possibly better prepare students for examinations – but that should not be what education is all about. Education is about helping young people develop their own capabilities, to self-actualize, to build upon social interaction and collaboration – the opposite of what these tools provide. Having said that, as an emergency response, AI-powered tools could help learners catch up, and they could be useful when human teachers are not available. However, a reliance on such tools can distract from the more important work of recruiting, training and paying for more teachers.

During the COVID-19 pandemic, many companies offered their adaptive tools for free, and many reported huge increases in user numbers. However, there has been little evidence that *usage* increased by anywhere near as much as *registrations*. Many schools and teachers were understandably desperate to show that they were still providing education, which is why user registrations went up so dramatically. However, many students did not or could not engage, perhaps because they had no equipment, no internet access, nowhere quiet and safe to work, or uninspiring tools. The problem is exacerbated by the lack of robust evidence that these tools have led to any significant learning achievement. Nonetheless, policy-makers had 'pat themselves on the back' because continuity of education had apparently been maintained, although there was no evidence to support this claim. Despite these current limitations, AI might still have positive potential for education. So long as educationalists and learning scientists are part of future developments, AI can be developed to support rather than replace teachers, and people are kept at the centre.

In conclusion, the need for change in education has been mentioned by many. However, the message that the United Nations is sending is clear: "we have been moving too slowly to achieve SDG 4". COVID-19 struck making the situation worse, a challenge that was becoming a crisis to the point of no-return. However, COVID-19 has also been a catalyst for change in education. It has become ever clearer that partnerships are key to the delivery of quality education, and ensuring quality education reaches all corners of the world. In short, humanity is at the beginning of the first intelligent revolution, rather than the fourth industrial revolution. The question is how to harness the best of science and promote education that is owned by none but accessed by all?

²⁷ <https://framerspace.com>

Innovative Distance Learning Solutions as Common Good

Key Messages:

- An initiative called '*Giga*', supported by ITU, UNICEF, Norad and Ericsson, aims to connect every learner in the world to the internet.
- An initiative called the '*Global Digital Library*' aims to ensure that all children have access to quality reading materials, and so curates thousands of quality-assured open-license reading resources.
- Areas with poor connectivity can be supported by means of podcasts, tools like WhatsApp, and printed materials delivered door-to-door.
- An initiative called '*Rethinking Learning*' programme from the UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development, aims to ground pedagogy in robust neuroscience research.
- Artificial Intelligence platforms have been increasingly used in education during the pandemic, but there is still little robust independent evidence that these technologies achieve what they claim.

Keynote 2:

‘From Response to Reimagining. Creating Positive Change for the Future of Learning.’ by Ms Barbara Holzapfel, Vice-President, Microsoft Education, Microsoft

Ms Barbara Holzapfel, Vice-President, Microsoft Education, Microsoft, began her presentation by identifying a convergence of three crises: health, economic and humanitarian; and by noting that education was overlapping all three. Because of the health crisis, schools had to close; meanwhile the economic crisis affects equitable access to education; and the humanitarian crisis is likely to lead to a negative impact on lifelong learning. On the flipside, education can also serve as a powerful engine for a better future. During the pandemic, at least 1.6 billion students were affected around the world. However, in many ways, COVID-19 is proving to be an accelerator, encouraging schools to rethink their delivery of education.

Education systems have always been in a state of continuous change, but during the pandemic digital transformation that was expected to take years happened in a matter of weeks. The pandemic also revealed even more clearly multiple challenges. How, Ms Holzapfel asked, can equity be ensured, to provide all students with an opportunity for quality learning? What is the best way to ensure student engagement? How do we ensure social connectedness and community? What is the role of technology, and how can we best integrate pedagogy? How can technology play the role of an enabler in hybrid scalable settings? How do we move from emergency response to reimagining the future?

In fact, the transformation of education in this time of COVID-19 involves three steps: respond, transition and reimagination. ‘*Respond*’ refers to making an emergency response to the immediate challenges, specifically the closure of schools, to ensure that all students continue on their learning journeys. It requires good preparation and moving quickly. For example, Senegal was able to respond quickly by putting pre-existing plans into action and by leveraging an existing partnership with Microsoft and UNESCO. The second step, ‘*Transition*’ involves using remote and hybrid approaches to teaching and learning, which included the limited opening of schools, while ensuring a safe environment for all staff and students. For example, the island country of Curacao used Microsoft Teams to train teachers how to teach using a hybrid approach. Finally, ‘*Reimagination*’ involves taking everything that has been learned to feed into what our education system should look like in the future. What are the best traditional approaches and what are the best new practices, and how should they be blended to move forward?

Whichever approaches are adopted, it is important to leverage the available data, tracking access to the eLearning and understanding student engagement and progress, all in order to drive equity in education. From Microsoft’s perspective, education of the future should also address questions of digital access and the impact on learning outcomes, should be student centric, should be built on a clear pedagogical strategy, should be powered by technology at scale, and should be personalized, embedded, inclusive, safe and secure.

Keynote 3: 'Khan Academy, Past and Present.' by Mr Salman Khan, Founder, Khan Academy

Mr Salman Khan, Founder, Khan Academy, in conversation with **Mr Borhene Chakroun**, Director, Division for Policies and Lifelong Learning Systems, UNESCO, began by introducing the organization that he leads. Khan Academy is a not-for-profit that aims to answer the question: 'what if we can make all academic material available to the world?' Beginning as a provider of educational videos, Khan Academy now aims to be the world's free tutor. To achieve this, it focuses on three pillars. First, being online. Second, focusing on personalization and mastery of learning. Third, enabling learners to prove their achievements to the world. To that end, it already makes available all levels of mathematics, suitable for pre-K to top grades, and in multiple languages; while high school science is currently being developed for any student in the world.

However, catalyzed by their experience during the COVID-19 pandemic, Khan Academy recognizes that a human who personalizes learning is much better than an AI tool. Accordingly, they have established the '*One World Schoolhouse*', which pairs students with teachers from around the world to deliver one to one tutoring. The amazing thing is that the pairings are age-agnostic, and happen across country boundaries. For example, Mr Khan mentioned, Khan Academy know of a 40 year old from one country who is being tutored by a 13 year old from another country! We are also using this to accredit our learners because if you complete and upload a calculus unit moderated by tutors, you can get accreditation; or if you can tutor calculus, you can get accreditation.

During the COVID-19 pandemic, traffic on Khan Academy grew 300%, with as many as 90 million learning units being completed in any one day. "When we knew the crisis was going to be longer, we added daily schedules, and offered training for parents and lesson plans". A lot of the learning took place over video conferences, with some students at home, and some small groups in schools wearing masks. Most schools will want to retain "hybrid" capability, which is something Khan Academy intends to support. COVID-19 also highlighted that the biggest problem is the digital divide, but even those who were able to connect too often chose not to engage. All of these young people, those who cannot connect and those who do not connect, fell behind academically, which is something the world is going to be dealing with for years to come.

Mr Kahn finished by speaking about high-stakes assessments: "We know that some students are capable but do not test well, sometimes it is the wrong timing, sometimes it is anxieties". But Kahn Academy believes that the future of assessment no longer involves everyone sitting in a room, saying that "people will be able to take an assessment wherever they are". Here, barriers such as cheating must be considered. In the old system, if someone wanted to cheat, they probably could. For example, impersonation is very common at universities, but if you have to film yourself and talk out loud while you take an assessment, it is more difficult to cheat. Explaining out loud is a powerful way to learn, and it can also be captured in real time. "Person X has mastered topic Y, here's the video, it shows that you really know the topic. This is the future of assessment."

Breakout Sessions and Workshop

Global Education Coalition Partners Global

This session focused on the work of UNESCO's Global Education Coalition: a new initiative focused on supporting Member States in their COVID-19 crisis education responses.²⁸ The Coalition is a multi-sector partnership designed to support inclusive distance learning opportunities for all learners; help countries to scale up their distance learning practices; manage the recovery process, and mobilize knowledge and resources from different coalition resources. Over 160 partners have joined the Coalition, from UN agencies and civil society through to philanthropic and private organizations. The Coalition's work focuses on the least developed countries and three core strands: supporting connectivity; developing teachers' capacity, skills and pedagogy; and reaching the most marginalized women and girls.

The session began with an introduction to the Coalition's '*Global Learning House*' initiative, which draws on the Coalition network to offer remedial learning in STEM/STE(A)M to the most disadvantaged. The initiative aims to reach one million learners by March 2021 through remedial learning, tutoring and coaching, and free access to remote learning resources. It offers support in several languages and uses a range of high-to-low-to-no tech platforms.

A range of organizations that are working to support the Global Learning House shared the work of their programmes during lockdown and reflections on what needs to be done to make the notion of 'leaving no one behind' a reality. One example is '*Kolibri*': an open source learning platform and toolkit focused on fostering innovative pedagogy and effective learning, increasing the availability of relevant learning materials and overcoming infrastructural barriers preventing equitable access.²⁹ The platform contains a library of STE(A)M content that can also be used offline and in low-resource environments. Another example was '*Sesame Workshop*', which has been reaching children remotely in Latin America during COVID-19.³⁰ '*Caring For Each Other*' is a Sesame Workshop initiative to ensure that young people have access to resources that support their learning and social and emotional well-being during the COVID-19 crisis.³¹ It uses a range of platforms, including television, radio and mobile platforms such as WhatsApp. These flexible delivery models allow for easy self-adoption in homes and outside formal learning contexts, as students can learn when they want and how they want.

MODERATOR

Mr Borhene Chakroun

Director, Division for Policies and Lifelong Learning Systems, UNESCO

PRESENTATION:

Global Learning House initiative

Mr Valtencir Mendes

Senior Project Officer, Division for Policies and Lifelong Learning Systems, UNESCO

PANEL

Mr Said Yasin

Director of Educate a Child Technical Department, a programme of Education Above All, Qatar

Ms Lauren Lichtman

Partnerships Lead, Learning Equality, United States of America

Ms Anna Molero

Chief Government Officer at Teach For All, People's Republic of China

Mr Lewis Kofsky

Vice President & General Manager, Latin America and Executive Producer, International, Sesame Workshop, United States of America

Ms Anna Berns

Senior Program, Operations, and Product Manager, Khan Academy, United States of America

Mr Leonardo Ortiz Villacorta

Vice President of International Partnerships, Code.org, United States of America

²⁸ <https://globaleducationcoalition.unesco.org>

²⁹ <https://learningequality.org/kolibri>

³⁰ <https://www.sesameworkshop.org>

³¹ <https://www.sesameworkshop.org/what-we-do/caring-each-other>

While many examples of innovative practice were shared, a theme that emerged was the ongoing importance of teacher/student interaction, which cannot be fully replicated or replaced by technology, particularly when it comes to supporting young learners' social and emotional development. Responding to a survey of their experiences, the *'Teach for All'* network of 75,000 educators suggested that it is not necessary to wait until everyone has high-speed internet to teach well online.³² To give just one small example, a teacher in Morocco successfully reached out to students and families via WhatsApp videos and assignments. In addition, to keep students learning with technology, particularly to support areas like social and emotional wellbeing, more and not fewer teachers are needed. It is necessary, more than ever before, to prepare teachers to be able to teach more than just academic subjects, including skills in social, emotional and self-management.

³² <https://teachforall.org>

Workshop of Huawei on Using Technology to Develop Children's Digital Intelligence

Huawei surveyed 21,000 parents from 47 countries about the effect of the pandemic. The survey outcomes were both encouraging and worrying. For example:

- parents handled the experience well, despite having to juggle work and home learning;
- teachers had inadequate pedagogical strategies;
- learning focused on core subjects, rather than on other critical skills;
- remote learning is unmotivating – it lacks excitement and interaction;
- internet connectivity was often a problem; and
- the lack of social interaction impacted on children's wellbeing.

SPEAKERS

Ms Janice Richardson

Content developer on the SmartBus, Huawei, Luxembourg

Ms Zeyi Huang

Operations Manager, EU Public Affairs & Communication team, Huawei, Belgium

In anticipation, Huawei developed the SmartBus, a fully accessible, mobile interactive classroom, which aimed to provide an engaging, interactive and fun learning environment for children between the ages of 11 and 15 in Spain and Portugal.³³ The SMART in SmartBus stands for **S**ocial sense, **M**y footprint, **A**ccess to opportunities, **R**ights and responsibilities, and **T**rust.

Typically, SmartBus sessions begin with a question. For example, “Is there anything you’d want removed from the internet?” might lead to a discussion about digital footprints. Often, the SmartBus teaches through a magic show, so that students experience the effects of their online interactions in an engaging way. The children might learn what happens when they put pictures online - that anything they post online remains there even when it is removed; even if it is taken down just one minute after posting, it is still there. Other topics include trustworthiness, all about data, cyberbullying, rights and responsibilities.

The SmartBus aims to provide a model of how learning can be made exciting. The hope is that a one-off experience will encourage teachers and their children to experiment. It does not claim to have all the answers, and it will not correct all the problems in learning. It simply aims to suggest ways to avoid ‘chalk and talk’ teaching methods, and to try to compensate for those areas that have suffered in distance learning, which is likely to continue: being safe online; reflecting on practice; talking about learning with parents, information versus values; soft skills and empowering learners.

The SmartBus also points towards a future of blended learning, students as independent learners and learning networks. Building on all the research, learning has to be blended, bringing together the best of online learning and the best of face-to-face learning. At the same time, if the teacher takes on the role of a mentor and coach, students become independent learners. The SmartBus approach draws on these ideas and more, helping children find the best way to learn.

³³ <https://huawei.eu/what-we-do/smartbus>

Workshop on Distance Learning Programmes: from Low-tech to High-tech

This workshop featured two initiatives that implemented distance-learning solutions in different settings and for various types of learners during the COVID-19 pandemic. The first was *'Tiny Totos'*, a Kenyan social enterprise that works with informal caregivers in lower income neighbourhoods.³⁴ They employed a holistic, practical, market-based approach that recognizes the carer context and limitations. They use low-tech opportunities to support vulnerable pre-school children on a budget. Examples include videos and audio clips, text messages, mini peer group meetings, a YouTube channel and bi-weekly radio programs. Key outcomes have included children reaching their learning milestones, and parents receiving the affordable childcare that they need.

'Tiny Totos' recognized that while physical materials are important, so is parental engagement. Accordingly, they developed social networks for parents and carers, particularly to encourage parental engagement in child learning, while reducing parental stress. They also created a distance learning programme, with a blend of low- and high-tech, and incorporated digital materials that are neither content-heavy nor expensive. Other elements included a play-based learning pack, daily education and nutrition texts, short weekly video training clips, WhatsApp parent groups, competitions and a monthly gift, such as a free packet of porridge.

The second featured initiative was *'Mindspark'*, a personalized technology based in India that notices students' misconceptions and provides exercises to tackle them.³⁵ The programme is adaptive, it gives immediate feedback to students' errors, and it is contextualized for different learners through interactive exercises. There is also a teachers' tool, which includes a dashboard giving data insights, information on students' misconceptions, to inform teacher decisions. The also offer training on misconceptions and on how to use assessment data.

At the start of the COVID-19 pandemic, students were given their Mindspark userIDs and passwords by their schools, so that they could continue building on what they already knew. To minimize costs for the students, the company optimized their data usage, which was especially helpful for children using mobile phones or the internet to connect with the platform. For children without internet access, the company also organized a toll-free number for listening to Hindi stories or mathematics concepts, while worksheets were provided via WhatsApp. Mindspark also shared educational videos, both academic and health related, for teachers. The company is currently working with parents and communities to help parents with learning at home.

MODERATOR

Ms Iaroslava Kharkova
Associate Project Officer, Unit for Technology and AI
in Education, UNESCO

SPEAKERS

Ms Emma Caddy
CEO, Tiny Totos, Kenya

Ms Mildred Obuya
ECD Expert Advisor, Tiny Totos, Kenya

Mr Ritesh Agarwal
Senior Manager, Growth and Partnership
Department, Educational Initiatives, India

³⁴ <https://www.tinytotos.com>

³⁵ <https://mindspark.in>

Norad and the Global Digital Library: COVID 19 is changing the landscape of foundational literacy and digital literacy skills

This session introduced the *'Translate a Story'* initiative that aims to promote early age reading during the COVID-19 crisis.³⁶ UNESCO and partners are coordinating the translation of books in the most vulnerable countries that are undergoing school closures, such as Ethiopia and Nepal. *'Translate a Story'* has already resulted in the translation of 6,000 books, thanks to more than 12,000 participants voluntarily joining the effort. The translated books are published on the Global Digital Library (GDL), which was launched to increase the availability of high quality early grade reading resources in underserved languages, where they can be accessed for reading on digital devices or in print format.

The availability of distance learning resources is especially important in countries like Cambodia. During the school closures caused by the pandemic, more than 1,200 digital learning materials were developed by the Government of Cambodia, while an educational television station was set up. This offered video-based teaching in line with the national curriculum covering grades 1-12 to complement the digital content. However, challenges remain with only a sixth of all students visiting digital resources per day.

As GDL illustrates, learning resources must also be available for communities in low-bandwidth and offline contexts. In response to learners around the world out of school, the organization *'Learning Equality'* developed the open source learning platform and toolkit *'Kolibri'* to support continued learning during COVID-19.³⁷ This platform can overcome the lack of internet connectivity, foster effective learning and increase the availability of educational materials.

A second organization, *'Curious Learning'*, offers education materials by curating open source early learning apps. These localized apps reach children via family smartphones, helping them learn to read. *'Feed the Monster'*, one such app, teaches fundamental literacy skills.³⁸ Currently available in 50 languages, the app can monitor the learning impact while distribution at scale. Of the children who have tried the app, 70% completed it while 30% progressed to reading books.

MODERATOR

Mr Christer Gundersen
Chief Technology Officer, The Global Digital Library (GDL), Norway

Mr Fengchun Miao
Chief, Unit for Technology and AI in Education, UNESCO

SPEAKERS

Mr Christer Gundersen
Chief Technology Officer, The Global Digital Library (GDL), Norway

Mr Sok Tha
Director of Department of Information Technology, Ministry of Education Youth and Sports, Cambodia

Ms Shivi Chandra
Global Curriculum Specialist, Learning Equality, United States of America

Mr Tinsley Galyean
Co-Founder & Executive Director, Curious Learning, United States of America

³⁶ <https://translateastory.org>

³⁷ <https://learningequality.org>

³⁸ <https://www.teachyourmonstertoread.com/classroom-toolkit/tabletop-phonics-board-games/feed-the-monster>

Resources for Teaching AI for K12, presented by UNESCO

This workshop introduced UNESCO's work developing resources for the teaching of AI to K-12 students. The session was co-presented by UNESCO and Ericsson. The project covers three interlinked actions:

1. Design and Development of an AI Skills Framework for K-12 students.
2. A web-portal of resources for teaching AI to K-12 students, which is the product of a collaborative project between UNESCO and Ericsson.
3. Supporting countries to develop their own bespoke AI curricula for K-12 schools.

SPEAKERS

Ms Helen Crompton

Associate Professor of Instructional Technology, Director of the Virtual Reality Lab and the Technology Enhanced Learning Lab, Old Dominion University Virginia, United States of America

Mr Fengchun Miao

Chief, Unit for Technology and AI in Education, UNESCO

Mr Wayne Holmes

Principal Researcher (Education), NESTA, United Kingdom

Mr Paul Landers

Program Manager, Ericsson, Sweden

The project explores the connection between AI and education, which might be conceptualized as involving i) learning *with* AI: using AI tools in the classroom to teach subjects; ii) learning *about* AI: understanding how AI works, what it can do, and how it can be built; and iii) preparing *for* AI: including biases, fake news and fairness of AI.

The '*Teaching AI for K12*'³⁹ portal focuses on resources for teaching about AI and preparing for AI. It includes resources exploring, applications of AI, AI techniques and AI technologies. Examples include: '*Quick Draw*', '*Teachable Machine Program*' and '*Akinator*'.⁴⁰ It also covers ethical and social implications of AI, risks and challenges, and resources aiming to demythologizing AI. In its current alpha version, resources can be filtered by age, AI topic, language and medium. The portal will be refined and improved over common months.

To support countries to develop their own AI curricula for K-12 schools, the project is exploring: (i) categorizing AI skills; (ii) identifying learning objectives; (iii) designing and identifying curricular and extracurricular activities that can be used to teach AI for K-12'; (iv) selecting appropriate pedagogical approaches to teach those activities, with a particular focus on active learning methodologies; and (v) preparing teachers with support and training on delivering these resources and pedagogies, and create national curriculum standards or syllabus for scaled implementations.

The project will provide workshops on curriculum development, technical support and the standardization of an AI curriculum. However, the current skills gap of K-12 teachers to deliver the curricula has already been identified as the main challenge facing the project.

³⁹ <http://teachingaifork12.org>

⁴⁰ <https://quickdraw.withgoogle.com>; <https://teachablemachine.withgoogle.com>; and <https://en.akinator.com>

Workshop on Distance Learning Solutions for Refugee Learners

This session focused on distance learning solutions for refugees and forcibly displaced communities that have shown themselves to be effective during the COVID-19 pandemic. One key initiative is the Humanitarian Education Accelerator (HEA) and its COVID-19 Challenge. The HEA was created to address the evidence gap about what does and does not work in humanitarian education. It aims to support promising humanitarian education programmes by means of research and evidence, and by investments for improving capacity.

The HEA recognized that, during the COVID-19 pandemic, there was a need for innovative learning solutions in remote and/or low-resource settings which were being left out of national distance learning programmes. The HEA identified four programmes to receive support: *'Mosaik'*,⁴¹ which works with organizations in Jordan and Lebanon to help refugees reach university; *'Amal Alliance'*,⁴² which empowers displaced children through social development programs at refugee camps and informal settlements around the globe; *'M-Shule'*,⁴³ which has developed an adaptive mobile learning platform for primary school learners from low-income areas in Kenya; and *'Ustad Mobile'*,⁴⁴ which provides a free, open-source mobile learning app that enables conflict-affected and marginalized youth to access and share educational content offline.

The breakout session continued with the story of *'Jusoor'*, that developed the online learning programme *'Azima: Determined to Learn'* for Syrian children in Lebanon.⁴⁵ Learning and teaching is usually done in person. However, the programme was redesigned for COVID-19 to make it available online while addressing the limitations, such as lack of access to hardware and the internet, poor parental literacy and low digital skills. As most of the students had mobile phones and WhatsApp, that is how the project communicated with them. The children were happy to send and receive messages, content, photographs, videos and links. To start the project, teachers were trained how to condense the curriculum, which meant identifying priorities, while not forgetting problem-solving, critical thinking and psychosocial skills. Teachers then designed lessons and sent them to the learners, who would perform the tasks, take a photo and send it back to the teacher. This was not easy for all activities, such as listening to children read. Similarly, group work did not take place, and motivating students was challenging. Nonetheless, this approach was shown to be a good way to continue learning.

SPEAKERS

Ms Jacqueline Strecker
Connected Education Lead, Education Section,
UNHCR

Ms Charlotte Jenner
Communications and Reporting Officer, UNHCR

Mr Ben Webster
Founder & CEO, Mosaik, United Kingdom

Ms Danielle De La Fuente
Founder & Executive Director, Amal Alliance, United
States of America

Mr Mike Dawson
CEO, Ustad Mobile, United Arab Emirates

Ms Claire Mongeau
Co-Founder & CEO, M-Shule, Kenya

Ms Suha Tutunji
Academic Director, Jusoor, Lebanon

⁴¹ <https://mosaik.ngo>

⁴² <https://www.amalalliance.org>

⁴³ <https://m-shule.com>

⁴⁴ <https://nlgedtech.com/ustad-mobile>

⁴⁵ <https://jusoor.syria.com>

Workshop of Microsoft on How to Use Technology More Effectively for a Remote and Hybrid Learning Response

The COVID-19 crisis required an ‘emergency pedagogy’, and many education institutions tried to find ways to organize learning online. During the second phase of the pandemic, schools re-opened but there was no linear progression from the emergency response to the new normal.

This session asked: what are the ways we can map inclusion onto remote learning? First, by having hybrid and online learning strategies. Second, by considering access to devices. However, not only access to devices is important but also connectivity is a challenge. These problems are present in the developed world as much as in developing countries. For example, local councils in the United Kingdom asked the public to donate spare computers to families in need.

According to the OECD, the most resilient responses to COVID were those that built on a strategy that was already in place. Instead of starting from scratch, these initiatives built on an existing community of expert teachers who became mentors and supported other teachers. Centralizing some of the decisions, such as what platform to use, was also frequently helpful. The choice of devices was not straightforward as it might increase the digital divide. Devices needed to be accessible, secured and frequently updated. Choosing low-cost devices can be a false economy.

Learning in isolation is challenging for teenagers but also for younger students, while online video lessons are tiring. A critical question is: how to design an interface so that children feel less isolated and learn more effectively? As a solution, Microsoft proposed their ‘*Education Transformation Framework*’, which offers an evidence-based approach to the integration and appropriate use of technology. Students are encouraged to spend some time with their teacher and some time at home to complete their learning. The system also enables them to connect with experts and professionals. The project learns from students who have been successful, so that their experience can be made available to everyone.

SPEAKERS

Ms Alexa Joyce

Future-Ready Skills Lead, Europe, Middle East and Africa, Microsoft, Belgium

Mr Mark Sparvell

Education Leader, Microsoft Education, United States of America

Workshop on Digitalization of Curriculum Experience in Lebanon (GIZ)

The main goal of GIZ is to help fill the gap in the curriculum while focusing on autonomy and 21st century skills, principally through the use of high quality eLearning.

The work of GIZ in Lebanon was highlighted. This is a country in which the curriculum had not been updated for many years, which posed a huge problem, making it exceedingly difficult for teachers to deliver quality education. However, according to Ms Galeitzke, Lebanese teachers have been heroes in the face of multiple crises. The main challenges that Lebanon now needs to tackle are the lack of internet access across the country, an outdated curriculum, a lack of national strategy, a lack of devices and eclectic imported solutions. To address such challenges, GIZ offers an offline solution with internet-free resources. These aim to fill the skills gap, and are adaptive and flexible.

Almost all educational systems around the globe are facing serious problems, although especially those for children who are refugees. One of the challenges in developing eLearning environments is that the content is fragmented. Even so, it is still important to learn from the lessons of the COVID pandemic to listen and pay attention to different scenarios and contexts. Other lessons include the need to focus on global access, to harmonize different initiatives, to synergize and share experiences, to reach learners with different forms of learning, and to give value through connecting ecosystems. Perhaps the most important challenge in education, exacerbated by the pandemic, is not to forget the context where the solutions are going to be implemented for local educators to develop contextualized content.

MODERATOR

Ms Alexandra Galeitzke

Advisor, Sector Programme Education, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany

SPEAKERS

Ms Nayla Zreik Fahed

Co-founder and Chief Executive Officer, Lebanese Alternative Learning, Lebanon

Mr Ismael Nouns

Team leader of project "Sustainable Facility Management in Public Schools", Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany

Mr Dominic Orr

Senior Expert Digital Learning, Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany

Workshop on a Whole Child Approach to Radio-Based Distance Learning

Radio-based distance learning requires a whole-child approach, nurturing all areas of children's development and learning, including their basic needs, social skills, and core competencies and skills.

Two radio distance learning projects from Haiti were presented as examples of good practices: *'Read Haiti'* and *'Strong Beginnings'*.⁴⁶ Both projects focused on four dimensions: the *'L3 Learning Lab'*, learning in the home, church and school; early grade reading skills; early childhood development, through parent workshops and mothers' empowerment initiative; and social and emotional learning.

With more households in Haiti having radio access (52%) than electricity (40%) or the internet (15-32%), radio-based distance learning had the potential to support greater numbers of children across the country. Accordingly, three distance learning programmes were created in collaboration with the Catholic Education Alliance, which were broadcast on twelve radio stations, and which received positive feedback from parents. The most significant issues for implementing radio-based distance learning were identified as radio bandwidth competition with other radio station frequencies. Finding appropriate slots in radio stations was a major challenge; not being able to reach all students due to the limited bandwidth of some of the stations; the outdated parent contact lists in local authorities for encouragement and follow-ups; and limited access to radio in certain parts of the country.

The success of the implementations was mainly thanks to donor confidence and a network of partners; developing good relationships with community radio stations; school leadership and parent buy-in; and devising a strong curriculum. Context-relevant activities and the creativity and ingenuity of all partners, such as recording programme audio with a mobile phone app, were also critical for working effectively in the Haitian context.

In summary, the effective implementation of radio-based distance learning requires a focus on the development of the whole child, such as considering their mental health, rather than on only academic achievement. In addition, the particularities of context, the timeframe and the budget should be well thought through in advance, while all available resources that are already in place for adaptation should be used. Last but not least, the identification of organizational partners in the local context who could help with the implementation of the radio-based distance learning initiative is key for success.

SPEAKERS

Ms Anasthasie Liberiste-Osirus

Associate Director, Global Center for the Development of the Whole Child, University of Notre Dame, United States of America

Ms Anna Hart

Communications Associate, Global Center for the Development of the Whole Child, University of Notre Dame, United States of America

⁴⁶ www.go.nd.edu/globalchild

Workshop: where people come to collaborate, learn, and hang out together having fun (Sophya)

This workshop introduced a new virtual platform called '*Sophya World*', which was founded in the Harvard Innovation Lab in the United States of America.⁴⁷ Sophya World aims to redefine remote learning for learners and educators, providing a platform which facilitates small and large group work, tutoring, peer-to-peer learning and 'labs'. The platform is designed to make learning social and fun, recreating the teacher-student connections that were often lost during COVID-19.

SPEAKER

Mr Vishal Punwani
CEO, Sophya, United States of America

The platform enables educators to build a virtual world, including simulations of real classrooms and science labs. Teachers and students are represented on the platform using virtual simulations, allowing them to move around learning spaces and interact via video link. It also features tools to facilitate collaboration, such as pop-up whiteboards and shared note-taking tools.

The technology's potential was illustrated with the example of a virtual science lab, where a teacher can set up stations with different microscope slides for groups of students to work with. Students can indicate when they need additional support by placing a 'question mark' above their virtual person, allowing the teacher to 'walk over' to the group and support the learner. The Sophya World platform has been used across the world during COVID-19, including by Monash University in Australia.

⁴⁷ <https://sophya.world>

DAY 3: The Future. Setting Out Policy and Research Agendas to Build Back Better

MLW 2020 Day 3 was an opportunity to take stock of what still needs to be learned and to explore how education systems can emerge from the crisis stronger and more resilient to future disruptions. It comprised a plenary session, a high-level panel, breakout sessions, and shows presented by partner organizations: *“Ready-to-use” content and educational methodologies to support a better and more inclusive digital education* by ProFuturo, *‘GIZ: atingi’* by Deutsche Gesellschaft für Internationale Zusammenarbeit, *‘Ericsson Educate’* by Ericsson, *‘Minecraft for Education’* by Microsoft and *‘Multi-modal AI English Teaching Assistant’* by Emotech.

Plenary Session 3: Technology Enabled Future of Lifelong Learning

Although quality lifelong learning for all is a goal of policy at national and international levels, notably as part of SDG4 on education, it remains no more than an aspiration in most places in the world. The COVID-19 pandemic has caused major disruption to education at every level right across the globe, but it has also highlighted the importance of fostering a culture of lifelong learning in supporting societies to build the capacities necessary to cope with and respond to such crises. As the experience of multiple countries and communities attests, the better prepared people are to learn, the better able they are to adapt their behaviour and contribute to collective efforts to reduce infections and support public health interventions.

The plenary began with an introduction to the recent *‘Embracing a Culture of Lifelong Learning’* report from the UNESCO’s Institute for Lifelong Learning (UIL).⁴⁸ The report presents a new vision for education and learning, focusing on a paradigm shift rooted in the potential of existing practices, technologies and approaches. To achieve this vision, the report proposes various action points, including:

- Understanding that lifelong learning is a necessity at all stages of life, and in all places of learning;

MODERATORS

Mr David Atchoarena
Director, UNESCO Institute for Lifelong Learning

Ms Jonghwi Park
Programme Specialist, UNESCO Institute for Lifelong Learning

SPEAKERS

Mr Daniel Baril
Executive Director of the Institut de coopération pour l’éducation des adultes, Canada and Chair of the UNESCO Institute for Lifelong Learning

Mr Neil Selwyn
Professor, Faculty of Education, Monash University, Australia

Mr Lee Wee Chee
Director for Learning and Professional Development, Institute for Adult Learning, Singapore

Ms Paola Leoncini
Director, Cultural Policies and Development Entity, UNESCO

Mr Thierry Coilhac
Director e-Éducation Groupe, Orange, France

Mr Sobhi Tawil
Director, Future of Learning and Innovation Team, UNESCO

⁴⁸ <https://unesdoc.unesco.org/ark:/48223/pf0000374112>

- Recognizing the importance of transdisciplinary and intersectoral collaboration, to ensure that lifelong learning meets the complex and interrelated challenges facing humanity;
- Placing vulnerable groups at the core of the agenda;
- Establishing lifelong learning as a common good, with democratic and participatory governance, and free open educational resources;
- Making learning accessible for all through technology;
- Transforming existing institutions into agents of lifelong learning;
- Leveraging the collective dimension of learning to take advantage of peer to peer learning, intergenerational learning and learning in public and local spaces; and
- Recognizing lifelong learning as a human right.

The UIL report also proposes a new initiative, *'Towards 2050: Digital learning technology for the common and public good'*. To reach this goal, it will be critical to leverage digital platforms to manage learning pathways within a complex and diversified ecosystem, and to create a dialogue with the private market. Nonetheless, it is possible that too much of current technology is based around private, proprietary interests and ecosystems. Accordingly, a new culture of technology design focused on values of collective community engagement and open and free software development is needed for the public good. If technology is to play a useful role in addressing SDG4, key issues include digital literacy, 'ease of use' and financial sustainability. It is also essential to account for and protect cultural diversity and expression. In other words, technology as a common good must take into account the needs of multifaceted societies, and adapt hardware to celebrate and accommodate cultural diversity, if it is to be successful in facilitating learning for all.

A number of actionable recommendations were proposed. Some were specifically targeted at governments who could facilitate the national promotion of lifelong learning as a concept through public education campaigns, collaborate with private agencies to explore new platforms and break-down barriers to access, and explore how regulations could manage and guard against potential harms and health concerns that could accompany tech-based lifelong learning. Other recommendations included carrying out a comprehensive review of the scope of technology-based lifelong learning around the world to understand the diversity of practice, which could be supported by a citizen-science approach to document what and how individual citizens are learning. Finally, integrating multilingualism in the content of online curricula is also critical, along with diversifying knowledge, research and technology to take account of different cultures and contexts.

Technology Enabled Future of Lifelong Learning

Key Messages:

- A new technology design culture is needed, prioritizing technology that is developed for the common good.
- Technology for the common good must take into account the multifaceted needs of societies, must celebrate and accommodate cultural diversity, and must facilitate learning for all.
- Governments should promote lifelong learning as a concept for the common good.
- Technology-based lifelong learning around the world should be robustly surveyed, to understand the diversity of practices.

High-Level Panel 2: Global Policy, International Cooperation, and Way Forward

It is important to understand the magnitude of this present crisis. As is now well known, the COVID-19 pandemic had immediate disruptive effects across education, undoing much of the progress that had been achieved in some areas. In particular, it worsened the problems of child labour, hunger, extreme poverty and loss of income. At the height of school closures during spring 2020, 90% of the population of school children were affected. In October 2020, around two-thirds of the global student population still faced some type of disruption, such as school closures or other types of unresolved disruptions. As a consequence, almost 10 million children might drop out of schools,⁴⁹ around 60% of children might not be able to read and understand text, and as many as 50% of children might not have been reached, despite the multiple modalities.⁵⁰ For example, only 35% of students have access to technology in Ecuador – it has therefore been essential to maintain communications with teachers, students and parents by other means. Accordingly, as **H.E. Ms Monserrat Creamer**, Minister of Education, Ecuador, explained, 15,000 printed guides were distributed in 12 local languages to indigenous populations.

In addition, apart from disruptions in learning, school closures have interrupted many educational services for the most vulnerable children, such as school feeding programmes, protection from child labour, early marriages, early parenthood and other forms of abuse as well as the psychological and social support that schools offer.

However, COVID-19 has shown that change is possible since the move to technology occurred overnight, and collectively there is the opportunity to reimagine what education will look like. Change is possible but only when the approach is realistic and the severity of the challenges ahead are understood. The urgency and the opportunity of the moment should be balanced. The first lesson of the pandemic is that many things are happening now that were expected to happen in 10 years' time. Another lesson is around the combination of technology with the human factor. Technology will never be the whole solution: it is essential to invest in teachers.

During this period, understanding of technology use shifted to a blended approach that incorporated traditional and technological aspects of educational processes. In fact, this crisis has given opportunities to rethink and experiment with curriculum content; the teaching and learning process; assessment; the role of exams; validation; and so on, transforming our understanding of the school model.

SPEAKERS

Ms Stefania Giannini
Assistant Director-General for Education, UNESCO

Mr Sobhi Tawil
Director, Future of Learning and Innovation Team, UNESCO

H.E. Ms Monserrat Creamer
Minister of Education, Ecuador

Mr Tariq Al Gurg
CEO and Member of the Board of Directors, Dubai Cares, United Arab Emirates

Mr Stephen Bereaux
Deputy Director, Telecommunication Development Bureau, ITU

Mr Jaime Saavedra
Global Director, Education Global Practices, The World Bank

Mr Rob Jenkins
Chief, Education and Associate Director, UNICEF

Ms Magdalena Brier López-Guerrero
Managing Director, ProFuturo Foundation, Spain

Ms Ethel Agnes Pascua-Valenzuela
Director, Southeast Asian Ministers of Education Organization, (SEAMEO) Secretariat, Thailand

⁴⁹ https://resourcecentre.savethechildren.net/node/17871/pdf/save_our_education_0.pdf

⁵⁰ https://data.unicef.org/wp-content/uploads/2020/11/RemoteLearningFactsheet_Updated.pdf

The digital divide remains one of the greatest challenges, but closing it is very complex, and learning in the future requires the continuation of learning from the school into the home. There are inequities across technological solutions which create learning divides. Even the more accessible television and radio broadcasts have their limits, and there is little evidence that children using these modalities were actually learning. The digital divide is not only a technical issue based on connectivity and access to devices or to digital online platforms. It also includes the challenge to have appropriate digital content, the required digital skills for teachers, learners and parents - especially for younger students - and the specific social and cultural factors that determine access to technology and how it is used, especially from a gender perspective.

Digital learning will not replace physical classrooms since the social space is also important. The challenge is to rethink what is best suited to learn with technology from a distance, and what needs to be learned with others in the physical space. The effectiveness of digital learning strategies so far are inconclusive since there are data gaps in terms of reach; engagement; actual results in terms of learning; monitoring the provision; and measuring the long-term impact of the extended use of remote learning.

During this crisis, the very right to education has been challenged. Accordingly, for the future, a broader understanding of the right to education and how technology can help fulfil this right is needed. In addition to being flexible, inclusive and connected, distance learning approaches have to ensure that the most marginalized children are supported and engaged. These include children with SEN and minority groups in every society. Inclusivity also relates to connectivity and technology, especially for rural areas in developing countries that only have access to low- or no tech, or that lack access to the right devices. A proper policy on connectivity also requires inclusivity.

Meaningful connectivity is not only for education but for other social dimensions. Opportunities and synergies between education and ICT policies are needed to move beyond the education silo and partner with other sectors. Today, the understanding of connectivity needs to shift from being an enabler of social inclusion and economic growth into being a necessity. The risk of leaving people behind has increased significantly due to COVID-19. Strengthening the national infrastructure should no longer be considered a luxury, but a requirement to succeed in leaving no one behind. Connectivity and schools are essential enablers of social cohesion. Schools are at the centre of communities and they can develop into digital hubs. At the same time, home connectivity has become essential due to home online schooling. To address the global connectivity challenge, the report *'The digital transformation of education: connecting schools, empowering learners'* is timely despite the fact it was published before COVID-19.⁵¹ Furthermore, the *'Giga'* initiative aims to connect schools and every young person to the internet.

However, investing in technology should not stop at connectivity; there should be investment in the infrastructure; pricing for connecting to the internet; devices at school and at home; access to the right software; integration of the digital tools to the curriculum; and teacher training to use technology effectively. Connectivity alone cannot solve the problem if all the other issues are not addressed. Even if one million devices are distributed there must be ways to sustain them otherwise these investments will be lost.

Learning is increasingly taking place in the home, where many parents require support to be good facilitators of learning. It is also important to recall the complexity of the learning ecosystem. Indeed, change is possible, and there is an opportunity to reshape the dialogue, as Tariq said. Balance between financing, through international help but also domestic resource mobilization, and generating evidence of what works – which also needs resources – is required. Partnerships in

⁵¹ <https://unesdoc.unesco.org/ark:/48223/pf0000374309>

international organizations are also crucial, as they can support continuity and acceleration of learning, building on the evidence.

Meanwhile, financial resources for education also need to be protected and increased. While health receives a lot of funding, SDG4 remains the prerequisite to succeed in the other SDGs. Even if funding did stay the same, millions of children will not be educated by 2030. However, UNESCO has identified a 12% drop in international support for education. Households and governments all face financial pressure because of resources limitations. Indeed, there is a gap between the potential of education and the need, and our collective capacity to respond.

Panelists identified multiple ambitions – approaches, policies and regulations – that together will help enhance education post COVID-19. These include:

- Capturing and sharing best practices;
- Enhancing teacher capacity, for online teaching, coaching and online assessment, by focusing on the professional development of teachers;
- Fostering a learning environment that is free of disruption and social conflict;
- Sustaining the development of resources, especially OER;
- Focusing on the 3Rs: Recovery from learning loss, Rehabilitation and implementing remediation plans, and Resurgence Planning;
- Enhancing inclusivity, by providing support for disadvantaged learners and transforming low expectations;
- Re-prioritizing objectives of educational plans, based on the crisis' challenges;
- Providing psycho-emotional support;
- Ensuring access to education with an emphasis on the most vulnerable;
- Ensuring continuity of learning through hybrid learning; and
- Developing strategic partnerships, to expand the voices of multiple communities.

Finally, the need to change education was recognized collectively. The required transformation needs to be faster and coordinated to reach homes, connect the unconnected and keep on training teachers. Training and educational content must remain free, alternatives are needed for the unconnected, and governments and international institutions need to work together. Most importantly, re-imagining education to improve its quality for all must continue.

Global Policy, International Cooperation, and Way Forward

Key Messages:

- COVID-19 has shown that change in education is possible.
- Collectively, there is the opportunity to reimagine what education should look like.
- Digital learning will not replace the physical classroom; the social space is also critical for learning.
- Closing the digital divide, both between and within countries, is very complex.
- The digital divide is not only a technical issue, involving connectivity, access to devices, or the availability of digital online platforms.
- The digital divide is also about digital skills for teachers, learners and parents.
- Addressing the digital divide also requires a focus on the social and cultural factors which determine who has access to technology and how it is being used.

Breakout Sessions

Workshop on Managing Distances in Education – Indian and Finnish Solutions during COVID-19

This session explored the challenges of managing distance in education during COVID-19 in two very different contexts: India and Finland.

In India, the school shutdown had a significant impact in rural areas during the COVID-19 pandemic. Accordingly, the project '*Lockdown Learning in Rural Areas of India*' was established. However, since as few as 14% of families in these areas have any access to the internet, the project had to reach almost all the children through a teacher. In fact, 35,000 children across 2,600 villages received two visits every week from a teacher, who did everything from bringing learning resources to hearing the children read, or helping them with artwork.

Learning content was redesigned to make it both highly engaging and accessible, leveraging both local and internet resources. Every week, tasks integrating multiple subject areas and addressing a range of skills were sent digitally to the teachers, who carried their mobile phones to the children's homes. The teachers helped children with tasks on the first visit, and assessed their work on the second. Activities included developing maps of their local village, observing science in nature and in the kitchen, and finding mathematics in everything around them. Many teachers reported that children became self-directed, as learning became more practical and connected with daily life, while parents became involved in their children's learning, often for the first time.

Finland began with a well-organized, decentralized educational system. However, they still found the impact of COVID-19 very challenging. Nonetheless, a study of 50,000 students confirmed that more than 70% of students were engaging online for between two and five hours a day, while 95% of students completed almost all of their assignments. Learning activities included video teaching, group discussions and collaborative projects, internet-based games, thinking and learning to learn, and cultural competencies. However, despite the successes, distance learning did increase inequalities among students in Finland. Learning difficulties grew for many, and motivation weakened over time – although notably some children did better than usual. Nonetheless, the reality is that studying at home can be very demanding, which led to well-being problems for some. In addition, many teachers needed pedagogical, technical and mental-health support.

SPEAKERS

Ms Sari Muhonen
National TTI eNorssi UNESCO ASPnet Coordinator,
Finland

Ms Smita Agarwal
Head of Education Corporate Social Responsibility,
Tata Steel Ltd, India

Ms Hannele Niemi
Professor, Research Director, UNESCO Chair on
Educational Ecosystems for Equity and Quality of
Learning, Finland

Workshop on Guiding and Supporting Teachers and Parents/Caregivers to Facilitate Home-Based Distance Learning - Get the Full Collaborative Experience of Learning in Only 60 Minutes (Varkey Foundation)

This workshop began by introducing '*Comunidad Atenea*', a social network for teachers in Latin America, where teachers can collaborate to create projects.⁵² It aims to confront teachers' isolation and is free and open access from any device. To date, it has welcomed more than 36,000 unique visitors from 99 countries, and has 13,000 community members.

SPEAKER

Mr Agustin Porres
Regional Director of Varkey Foundation, Argentina

The remainder of the task focused on creating digital content with TikTok. This is a new way of connecting with students through a powerful and free tool to empower teachers as content creators, that proved to be particularly effective during the pandemic.

First participants were given a demo of TikTok, and its functionalities were explained, such as liking or disliking a video, looking into the profile of a user, choosing the length and speed of a video, choosing different effects, changing the background and deciding on the filter. Participants were then split into groups and set a task: how can you explain the meaning and importance of the SDGs to a teenager?

The session ended with the participants being given some useful tips:

- Create a brief script that serves as a roadmap.
- Find a quiet place with a good light.
- Record short videos (30 seconds maximum).
- Use effects only if really necessary.
- Use hashtags before posting the video, as they cannot be changed later.

⁵² <https://www.comunidadatenea.org>

Building Back Equal: Addressing the Gender Dimensions of COVID-19 School Closures through Technology

This session explored efforts to address the gender dimensions of COVID-19 school closures and to ‘build back equal’ through technology. Based on past crises, girls are particularly vulnerable during prolonged school closures. The absence of schools heightens the risk of gender-based violence, early and forced marriage, early and unintended pregnancy, and sexual exploitation and abuse. Girls’ and women’s unpaid care work is also exacerbated, limiting the time to learn at home.

Accordingly, the session showcased some technology-based initiatives that are addressing girls’ holistic education, health and protection needs. The first was the ‘*UNESCO-Technovation*’ pilot, which explored how to empower girls to tackle community problems with AI during COVID-19. The programme connects girls with virtual mentors for them to learn how AI works and how these tools can be used to solve problems. The pilot demonstrated that mentoring is one of the most effective ways of empowering girls to learn and use technology. A second initiative was the ‘*EQUALS Digital Skills Hub*’, an online platform that provides practical recommendations for organizations on the design, implementation, and evaluation of projects to promote digital competencies for women and girls. The Hub also highlights what is being done around the world to bring women and girls online.

The third initiative presented in the session was an application, led by VSO International, on gender-based violence in Nepal which is designed to empower teachers, caregivers and volunteers. Since the lockdown, cases of gender-based violence have increased across the country. Accordingly, VSO researched and developed three separate projects focusing on well-being during the pandemic by surveying 2,354 primary actors, mainly girls and learners with disabilities. The next programme introduced in this session, called ‘*You&Me*’, is delivering sexuality education online to young people between 4 and 24 years old in China. The aim is to expand comprehensive sexuality education in China with a particular focus on ensuring accessible programmes for young people with disabilities. Courses are available face to face, live streaming and via a mobile app. Finally, the ‘*UNESCO STEM Mentorship Programme*’ has educated young girls in Kenya through STEM camps of excellence during one-week with on-site training. Due to COVID-19, the programme had to adapt and try to maintain student interest in STEM at home. Accordingly, the programme transformed itself by using local and national radio and television channels to broadcast STEM related topics.

MODERATOR

Ms Justine Sass

Chief, Section of Education for Inclusion and Gender Equality, UNESCO

SPEAKERS

Mr Purna Shrestha

Education Lead, VSO International, United Kingdom

Ms Tara Chklovski

Founder & CEO, Technovation, United States of America

Ms Therese Littleton

Communications Officer, EQUALS, Switzerland

Ms Qingyue Li

Project Officer, Marie Stopes International China, People’s Republic of China

Ms Alice Ochanda

Programme Specialist and Coordinator for STEM Education, UNESCO Regional Office for Eastern Africa

From Something on Mind to Something in Kind: EdTech for Inclusive Change in Education

This breakout session focused on international examples of how learning institutions and organizations have supported inclusive education during COVID-19 by facilitating access for learners with special needs and disabilities. The panellists acknowledged that the COVID-19 crisis has had a particularly profound impact on this group of learners: destabilizing their daily routines, removing opportunities for socialization and adding additional pressure for parents.

One example that was shared of an innovative approach to supporting these learners is the *'Nisai Virtual Academy'*, which has been working for many years to support disadvantaged young people, those in challenging circumstances or with disabilities and SEN.⁵³ The focus of the Academy is on providing learners with structured and self-paced learning activities, including extracurricular activities and ongoing assessment, to support their needs. A learning hub also offers a complementary blended approach combining academic and vocational learning online with a physical setting with Nisai-trained practitioners onsite.

Participants also learned about a project from Shanghai Open University, where students with SEN are provided personalized support. For example, they are helped to establish personalized learning objectives, using screen reading software to support blind or visually impaired students, and ensuring the supply of key learning resources such as basic equipment for online learning and open course access. The project also provides short online courses for parents, for example on how to support children with Autism Spectrum Disorder at home.

Representatives from UNESCO's International Bureau of Education (IBE) shared their reflections on IBE's priorities for inclusive education.⁵⁴ They noted that inclusive education and technology can work hand-in-hand to support learners with special needs, for example by using education technology as a tool for ensuring personalized education, learning and assessment, and for addressing the diversity of learners' expectations and needs. They acknowledged that in many developing countries, students with disabilities have been 'forgotten' in national education continuity solutions during the COVID-19 crisis. One of the key areas that IBE is working on is inclusivity in the curriculum in terms of access for people with disabilities to digital skills. The Director of IBE also spoke of the importance of ensuring that inclusion accounts for the quality – physical inclusion is not enough if students are not making sufficient progress and learning gains.

MODERATOR

Ms Natalia Amelina

Senior National Project Officer in Education, UNESCO Institute for Information Technologies in Education

SPEAKERS

Mr Dhruv Patel

Founder and CEO, Nizai Group, United Kingdom

Mr Renato Opertti

Senior Consultant, UNESCO International Bureau of Education

Mr Brian Itai Mutimbanyoka

Limkokwing University of Creative Technology, Botswana

Mr Hong Wang

Professor and Vice President, Shanghai Open University, People's Republic of China

Ms Yulia Sachko

Vice Director of the Department of the State policy in the Area of Children's Rights Defence, Head of the Unit of Education of Children with Special Needs, Ministry of Education, Russian Federation

Mr Yao Ydo

Director, UNESCO International Bureau of Education

⁵³ <https://www.nisai.com>

⁵⁴ <http://www.ibe.unesco.org>

Learn from Lebanon - Rapid Digitization of Educational Content and Pedagogy - Making It Work in Low Resource Communities

The final breakout session looked at Lebanon's response to the overlapping crises of COVID-19, the destruction of large parts of Beirut due to an explosion, and a deepening economic and political deterioration, as well as high poverty, corruption, migration and social unrest. Together, this has led to increasing numbers of children, from low resource areas and refugees, becoming even more vulnerable.

Many of the existing divides have deepened. There are now more people experiencing divides, and the base of the pyramid has widened. The key question is: what can partners do to build a better future for the far too many children who will suffer the consequences for many, many years?

Participants were told about the '*Lebanese Alternative Learning*' (LAL) initiative which has been working with teachers and students to provide educational content and pedagogy support.⁵⁵ Unfortunately, Lebanon suffers from a lack of government stability, no long-term educational strategy, poor internet infrastructure and many recent protests and strikes. When the schools closed because of the pandemic, this put education and students in Lebanon in a very challenging position. To help address these multiple problems, LAL provides free digital resources and supports teachers who are obliged to follow the curriculum, last updated almost 25 years ago. LAL also tries to innovate from the bottom up by listening to teachers and making them part of the solution.

One especially innovative LAL initiative is '*Tabshoura in a Box*', an educational platform that works independent of the internet and electricity, yet provides a hotspot where students can connect computers and access digital learning resources.⁵⁶ This allowed LAL to provide content to remote areas. LAL also created a programme for teachers, enabling them to create and adapt content while offline, using a technology similar to a Raspberry Pi (a small single-board computer).⁵⁷ Quite quickly, many young teachers and young people emerged who have shown themselves to be especially creative and have thought of incredible innovations. The Tabshoura platform offers pedagogy in a discovery-based approach in French, Arabic and English, along with videos and check-in points. It allows students to learn by exploring and playing as they progress along an autonomous learning journey. Students are given the opportunity to think and provide answers to activities. Students are also enabled to choose which learning outcomes they think they have achieved, helping to put agency in their hands. Finally, the platform also hosts a community of educators, which provides virtual and in-person spaces for the exchange on information and know-how.

MODERATOR

Ms Dorothy Gordon
Chair, Information for All Programme, Ghana

SPEAKERS

Ms Nayla Zreik Fahed
Co-founder and Chief Executive Officer, Lebanese Alternative Learning, Lebanon

Mr Patrick Habib
Product Developer, Lebanese Alternative Learning, Lebanon

Ms Souhaila Nassar
Chemistry teacher and an educator, Lebanese Alternative Learning, Lebanon

⁵⁵ <https://lal.ngo>

⁵⁶ <https://hundred.org/en/innovations/tabshoura-in-a-box>

⁵⁷ <https://www.raspberrypi.org>

UNESCO – a global leader in education

Education is UNESCO's top priority because it is a basic human right and the foundation for peace and sustainable development. UNESCO is the United Nations' specialized agency for education, providing global and regional leadership to drive progress, strengthening the resilience and capacity of national systems to serve all learners. UNESCO also leads efforts to respond to contemporary global challenges through transformative learning, with special focus on gender equality and Africa across all actions.



The Global Education 2030 Agenda

UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to *“ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.”* The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.



Stay in touch

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