"Brave New World" that has such education futures

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Professor Asha Kanwar
President & CEO, Commonwealth of Learning (COL)

Distinguished Colleagues, thank you for the invitation to be part of this conversation on 'the futures of learning'. We are all together in this brave new world, where COVID-19 is, unfortunately, not the only crisis that we will face. How can we learn from our present experience and build resilient education systems prepared to deal with future challenges?

But first a word about my organisation, the Commonwealth of Learning. COL is an intergovernmental organisation with headquarters in Canada and a regional office in New Delhi. COL works in 54 Commonwealth Member States which span all regions of the world.

Our mission is to help Commonwealth Member States and institutions to use distance learning and technologies for expanding access to education and training.

In this presentation, I will begin by outlining some of the key issues that emerged during the pandemic and then share examples of how COL responded. I will then look at some of the potential futures of education that lie ahead and conclude with the essential elements that need to be part of the future we want.

Most of the Commonwealth Member States are developing countries. What were their challenges?

During the pandemic, we found the greatest challenge related to digital infrastructure—lack of access to devices, connectivity, electricity. Teachers were not prepared for the sudden transition to online learning. Existing inequalities in both developed and developing countries have been further exacerbated.

In a survey conducted at Stanford University, 16% of the undergraduate students did not have access to the Internet for half the time and 60% of students from low- income homes did not have a private space for study. What was the situation in the Commonwealth?

At the University of Hyderabad, India, while close to 90% of all students had a mobile phone, only about 37% could access online classes. The barriers included unreliable connectivity, high costs of data connection and 'unreliable power supply.'

Over 63 million teachers were impacted by COVD-19. Data from OECD countries indicates that only 60% of teachers had some training in ICTs.

In SSA, 64% primary and 50% secondary teachers had received minimum training and lacked the digital skills needed to offer quality distance learning.

The vulnerable are most impacted in crisis situations. It is estimated that the numbers of school dropouts will increase, with 11 million girls not likely to return.

Unemployment rates have touched a new high globally, with the urgent need to provide opportunities for skilling and reskilling for livelihoods.

The existing learning crisis is already showing signs of further deterioration. A study in the Netherlands records a learning loss of about 3% with higher losses among students from less-educated homes.

As an intergovernmental organisation, with the expertise and experience in open and distance learning, how did COL respond?

COL used a multi-pronged approach—providing guidelines and resources, building the capacity of teachers, providing tailored responses to requests from Member States and promoting collaboration for increased impact.

COL developed Guidelines for Distance Learning, new models of open schools, blended approaches for TVSD, and offered several self-learning courses for policy makers and practitioners.

There can be no future of education without trained teachers. COL has been running a series of MOOCs on ICT integration, OER use and cybersecurity for teachers.

During the pandemic, COL supported Nigerian universities to go dual mode and helped integrate distance and technology enabled learning in institutions in Antigua & Barbuda, Kenya and Malaysia. Support was also provided to integrate employability into the curriculum in Zambia and to develop online safety and privacy policies at the University of Rwanda. These examples give you an idea of what universities were prioritising during this time.

In partnership with the OER Foundation and ICDE, COL launched OER4COVID which attracted participants from 89 countries. The survey conducted found that people did not simply want access to repositories or general capacity building but rather sought urgent help with curated content aligned to the curriculum.

COL responded by developing a video-on-demand service in STEM subjects aligned to the curriculum in Fiji, Nauru and Samoa. This works particularly well in low-bandwidth situations.

In collaboration with Coursera, COL offered free training opportunities to over 125,000 persons around the Commonwealth. The greatest uptake has been in the Caribbean. Even though connectivity was often a challenge, learners used mobile devices or library facilities in what has been a life-changing experience for thousands.

Since less than half the world has access to the Internet, COL's mobiMOOCs help reach the bottom billion by providing simple technology solutions, such as basic mobile phone interface, social media integration and delivery in low bandwidth situations. In India, illiterate women farmers learnt financial literacy through their basic mobile phones even during lockdown.

Even though countries were forced to close borders, the future lies in collaboration. COL's call for a partnership attracted more than 60 organisations, institutions and associations. Open Door has become a vibrant platform where partners have shared over 200 courses, and regular interactions with global thought leaders are a popular feature.

Considering the current context, what are the futures of learning? Futurist Wendell Bell identifies three types: 'preferable futures,' 'probable futures' and 'possible futures.' Let us consider each of these.

First, the 'preferable future' that points to a more desirable state. Sustainable Development Goal 4, which aspires to ensure equitable access to quality education and lifelong learning for all by 2030 is the global community's preferable future. Five years down the line how close are we to this future? Trends indicate that even the slow progress achieved is likely to be further set back because of the huge disruptions.

SDG 4 aspires to leave no one behind. 15% of the world's population suffer from some form of disability, yet only a fraction have access to education at any level. Similarly, gender parity in education continues to elude us.

The 'learning crisis' is assuming massive proportions. A study in West Africa indicates that only 45% students in Grade 6 achieved competency level in reading and math. The situation is not much different in South Africa or India.

The 'preferable future'—which must be based on equity, inclusion, quality and lifelong learning for all—can only be achieved through alternative and innovative approaches.

Second, the 'probable future' is what is more likely to happen based on current trends. Developments in technology will continue to drive changes in the way we teach and learn, and technology adoption has been further accelerated due to the pandemic.

AI is being mainstreamed in education. Intelligent Tutoring Systems use AI techniques to simulate one-to-one human tutoring, provide timely feedback, all without the presence of a human teacher. Machine Learning helps to analyse and summarise the discussions in online courses so that a human tutor can guide the students towards fruitful collaboration. Are there opportunities for reaching persons with disabilities?

A popular example of AI in education is a Virtual Teaching Assistant that can offer personalized assistance to learners. AI-powered systems can be deployed as robots with human-like speech. According to Anthony Seldon, the use of robots will change the role of teachers in the next ten years. The teacher will become an overseer, who monitors the progress of learners, leads non-academic activities and provides pastoral support.

Another example of AI in education is the Intelligent Textbook. Inquire is an iPad App that combines a popular biology textbook with an AI system that answers questions about the content. How can these technologies help us improve learning outcomes?

Assessment has been a great challenge during the pandemic. AI-based assessment constantly provides feedback to learners, teachers and parents about how the students learn, the support they need and the progress they are making towards their learning goals. In South Africa, mobile based assessments were used to reach those in the most remote shanties. The crisis is generating creative ways of assessment and evaluation.

The third is the 'possible future'-– something visionary that may or may not happen. The climate crisis is one of the defining issues of our times. Especially for small island states which are disproportionately affected by climate change. Over the past 40 years, the number of climate-related disasters globally has tripled, a trend that is expected to continue.

How does the climate crisis effect the education sector? According to UNICEF, more than 3,000 classrooms and over 330,000 students were affected when Cyclone Idai hit eastern Mozambique last year. Hurricane Dorian destroyed 90% of the infrastructure in The Bahamas.

Climate-related natural disasters have major, detrimental impacts on education. Entire schools can be destroyed, leading to thousands of displaced students. Critical data and student records may be wiped out entirely, leading to the collapse of entire systems.

The education sector, from primary to tertiary, contributes to both direct and indirect emissions, with an impact on environmental degradation and associated economic costs. If we look strictly at contributions to emissions, the achievement of SDG4, under the current paradigm, could potentially worsen the climate crisis.

The SusTEACH project, supported by the Open University, UK compared the carbon emissions of ICT-enhanced and face to-face courses and found that distance teaching models had significantly lower environmental impacts (Caird et al. 2013; Caird et al. 2015). COL conducted a similar study in Botswana and found that the average learning-related carbon footprint of the face-to-face group is nearly three times greater than that of the distance learning group. Is the world ready to mainstream distance learning?

In conclusion, let us look at some of the key elements that will help us achieve the future we want.

The future will be a blend of online and in-person with a range of technologies that are affordable, accessible and available. Because of the digital divides and the uneven development of technology, COL believes that technology to be effectively harnessed, must be placed in an appropriate social, cultural and political context.

Governments and institutions need to develop policies for leaving no one behind. We need policies that address the needs of the last person in the queue—women, girls, those in remote regions and persons with disabilities. The policies that target the margins are also effective in serving the centre. Policies on ICT infrastructure and governance will determine how technology can close rather than widen divides.

The pandemic has forced the world to adopt self-directed learning—how can we build on these foundations to promote lifelong learning for all? Building learning societies continues to be an aspiration but this can be realised if there is a clear direction for how lifelong learning can be implemented. Learning approaches, credentialing and recognition strategies will need to change.

Respect for the planet needs to be integrated into our education systems. Studies have shown that countries where individualist orientations are stronger tend to have higher per capita carbon emissions. Research shows that people having 'interdependent selves' were more likely to engage in pro-environmental behaviours than 'independent selves'. By linking learners to their communities, we can build this sense of interdependence. Community-based learning gives meaning, relevance and context to learning, and helps to inculcate a greater sense of responsibility.

Education for the brave new world must empower people to live together. Mahatma Gandhi believed that relationships can only be built on the principles of 'respect, understanding, acceptance and appreciation'. Education must address the needs of society as a whole, with tangible positive impacts on the world.

What can we do differently? A successful outcome of education today is the acquisition of skills and competencies. A transformative approach would go beyond that to empowering individuals not just to be prepared for change but to also shape the course of that change. There is a great deal of emphasis on education leading to employment or entrepreneurship. The transformative approach would integrate the values of environmental conservation and global citizenship. Finally, the dominant educational paradigm values achievement rather than accomplishment. Marc Prensky explains the difference—achievement benefits only the individual and her personal goals while accomplishment goes beyond individual

achievement and benefits others and society leading to transformation. The pandemic may be the moment when we transform our futures.

On that note, let me thank you for your kind attention.