

# Sustainable Education: Hybrid, Blended, e-Learning?



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Distinguished colleagues, let me begin by thanking Prof Mukhopadhyaya for the invitation to join you today. My topic today is ‘Sustainable Education: hybrid, blended, elearning?’

This aligns well with the mission and mandate of my organization the Commonwealth of Learning. COL helps 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 of our times in education. I will then look at what we mean by hybrid, blended and elearning followed by a discussion of how technologies can support sustainable education. Finally, I will conclude with some lessons that we can draw from the pandemic to build sustainable education that leaves no one behind.

Let us first look at three key issues that impact education in both developed and developing countries.

The global community has committed to achieving SDG 4, has been battling the pandemic over the past two years and dealing with climate-related disasters.

SDG4 aspires to ensure inclusive and equitable quality education and lifelong learning for all by 2030.

Even before the pandemic, it was clear that the global community was far from achieving the targets it had set for itself in providing access to primary, secondary and tertiary education. If we are to achieve SDG4 by 2030, we need to move beyond the ‘business as usual’ approach and the ‘brick and mortar’ mindset which assumes that learning is only possible within the walls of a classroom.

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 have been further exacerbated.

In a survey conducted at the University of Hyderabad indicated that while close to 90 per cent of all students had a mobile phone, only about 37 per cent could access online classes. The barriers included unreliable connectivity, high costs of data connection and ‘unreliable power supply’.

Teachers are central to our mission—over 63 million teachers were impacted by COVID19. Data from OECD countries indicates that only 60% of teachers had some training in ICTs.

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.

The climate crisis is one of the defining issues of our times. Especially for the Commonwealth, with its 32 small states disproportionately affected by climate change.

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.

Can hybrid, blended and e-learning help us to address these major challenges?

At COL we use e-Learning as an umbrella term to refer to the use of any digital device or multi-media for teaching and learning. e-Learning can take place without any reference to a network or connectivity. The digital device used by the learner need not be connected to a digital network. The connection can be to a local area network or the Internet. Blended learning is a combination of online and face-to-face interaction. Some examples of blended learning are the flipped classroom, online interaction followed by face-to-face teaching, or in person practicals. Hybrid learning is often used interchangeably with blended learning primarily in the USA and was used more frequently during the Pandemic. At a more granular level, hybrid learning is a combination of online and in-person teaching and learning at a programme level, where different courses could be offered in either face-to-face or online or blended mode creating a multi-modal approach to teaching and learning.

Blended and hybrid modes provide opportunities for learning to those who cannot access purely online provision. ODL has always adopted a blended approach keeping in mind issues of social justice. The UGC (India) has issued a concept note on blended learning in May 2021 seeking inputs from stakeholders. Research shows that blended learning is more effective in developing countries (John Baggaley). It is also more cost effective as data from open universities shows.

Similarly, a study found that while face to face costs per participant in a teacher training course were USD 6.7, the same training was offered online at half the costs with comparable outcomes.

A recent COL study on the social return on investment showed that every dollar invested resulted in returns of 4 to 5 dollars of benefits for students and also led to the improved performance of teachers.

Research shows that there is 'no significant difference' between distance and traditional classroom instruction in terms of learning outcomes; yet there is a lingering perception, that distance education is not as effective as class-based education. In fact, the research shows that students in blended learning performed marginally better than those in the classroom.

One silver lining at this time has been the global acceptance of distance and online learning. A recent study in the UK found that the majority of HE students rated the quality of online learning as excellent. What implications does this have for the promoting sustainable education?

But first let us look at how COL uses distance learning and technologies to promote learning for sustainable development.

COL believes that learning must lead to sustainable development which means that learning must contribute to economic growth, social inclusion and environmental conservation. Let me share examples of each.

One example of economic growth was the COL-COURSERA workforce recovery collaboration, where over 150000 Commonwealth citizens were offered free skilling and reskilling opportunities from some of the top universities in the world. Even though connectivity was often a challenge, learners used mobile devices or library facilities in what has been a life-changing experience for thousands.

We know that a large percentage of those graduating from the educational system lack the skills for employment. During this time, COL supported universities to integrate employment pathways into their systems.

As part of social inclusion, COL uses affordable and accessible technologies to reach the bottom billion. Open Educational Resources are another solution to improving the quality and reducing the costs of education.

In partnership with the OER Foundation at the Otago Polytechnic, COL launched OER4COVID which attracted participants from 89 countries. The survey conducted found that participants did not simply want access to repositories or general capacity building but rather sought urgent help with curated content aligned to the curriculum. For low bandwidth contexts, COL responded by developing a video-on-demand service using OER, in STEM subjects aligned to the curriculum in Fiji, Nauru and Samoa.

Finally as part of its environmental conservation agenda, COL supported the development of a Green Teacher programme in Nigeria which helps teachers inculcate environmental concerns among learners. COL offered MOOCs on Business for Sustainable Development and on the Blue Economy with universities in Mauritius and the Seychelles.

In the past three decades, several initiatives have emerged to promote sustainability in higher education. As Caird and Roy sum up, these are related to greening the curriculum, greening the campus and using distance and online learning. Let us look at examples of each.

Several universities including the Australian National University and Groningen have strategies in place to green the campus and reduce emissions through adopting renewable energy and promoting resource conservation.

Adopting distance and online learning can promote environmental sustainability. 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.

What have we learnt from these different initiatives in promoting sustainable education? One, that the sustainability agenda has to move from pilot phase to become a mainstream. Two, in countries where resources and incentives were provided, this agenda was more successful, as in the US. Partnerships and platforms have been effective in helping advocacy efforts and sharing best practice. For these initiatives to achieve scale, we need committed leadership at management, student and community levels.

These are concrete examples of what worked in different contexts. How can such interventions be integrated into sustainable education?

First, we have seen that purely online options do not work for everyone. The future will be a blend of online and in-person approaches, using a range of technologies that are affordable accessible and available. Because of existing digital divide, technology to be effectively harnessed, must be placed in an appropriate social, cultural and political context.

Second, as the climate crisis assumes greater urgency than ever before, we need to integrate key sustainability concepts into the curriculum. This would mean adopting a green learning agenda. This agenda would focus on developing the skills for green jobs that would help make the transition to a low carbon economy; green life skills for a more sustainable future and skills for a green transformation that addresses social justice.

Third we need to build the capacity of teachers by providing just in time and on site training in technology integration for teaching and learning and in addressing the key issues of our times.

Fourth, in order to address the growing inequalities, governments and institutions need to develop 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.

What then is sustainable education? It is education that is affordable and accessible for all. Institutions need to align more closely with the needs of their societies and promote research that leads to sustainable development. And finally learning must result in modelling sustainable behaviours that lead to the prosperity of the people and the planet.

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