

# *Emerging Developments in ICT Based Learning: The Implications for Higher Education*

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*Keynote speech*

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Distinguished Colleagues, It is an honour to be here and I am very grateful to the organisers, in particular the Vice Chancellor Prof Haribabu, and Dr S Jeelani, Director, Centre for Distance and Virtual Learning (CDVL) for this opportunity to speak to you. It is a special privilege to be here at the University of Hyderabad, one of the premier teaching and research institutions in our country.

Let me also say a word about my organization. The Commonwealth of Learning, an intergovernmental organisation, is based in Vancouver Canada with a regional office, the Commonwealth Educational Media Centre for Asia or CEMCA in Delhi. Our director Dr Sanjaya Mishra is with us today. We are the only Commonwealth organisation located outside the UK. We believe that access to learning is the key to development.

We help Commonwealth Member States and institutions to harness the potential of educational technologies for expanding access to education and training.

My topic today is 'Emerging Developments in ICT Based Learning: the implications for higher education'. I will first look at three emerging developments, namely the phenomenal rise of online learning; the OER movement and the more recent popularity of Massive Open Online Courses or MOOCs. I will then briefly reflect on the implications of these developments for higher education.

Let us first review the emerging developments in ICT based learning.

There has been a phenomenal increase in online provision in the last ten years. In 2010, 6.1 million students were taking at least one online course accounting for 31% of all US Higher Education students. This Slide gives you an idea of this increasing trend. As technologies become more accessible, both developing and developed countries will move towards online and distance provision.

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In fact, Asia has the highest percentage of online enrolments in the world at 17.3 % with Vietnam leading at 44% followed by Malaysia at 39.4 %. We will see an increasing convergence of campus-based learning and distance education in the coming years.

Yet there is a clear digital divide across the Commonwealth, if you look at the proportion of households with access to computers and the internet. With less than 10% in sub-Saharan Africa and 8 Commonwealth Member States in Asia, it is over 80% in Europe and North America.

This divide can be turned into a dividend because of the phenomenal growth of mobile devices, which are more affordable, accessible and available.

As you can see from this chart, the growth of mobiles in developing countries has far exceeded the development of mobiles in developed countries in the last five years. There is nearly four times increase in the growth of mobiles in developing countries during this period. Any discussion of ICT based learning must take this into account.

With the rise of social media, there has been a global movement towards collaboration in the development and sharing of content. At a meeting in 2002 at UNESCO, Paris, the term Open Education Resources or OER was first coined to promote the development and use of free materials for education.

As we know, OER are educational materials which are free and freely available, are suitable not just for higher education but for all levels including primary and secondary education. OER can be reused and repurposed to suit different needs and could be available in any medium, print, audio, video, digital. One key difference between OER and other educational resources is that OER have an open license, which allows adaptation and reuse without having to request the copyright holder.

OER can help address the issue of access to learning resources in a significant way. OER penetration in the developing world has been slower than in the industrialized countries. Yet there are emergent examples which give an indication of how OER are being used in low-resource contexts. The students of Bunda College of Agriculture, Malawi, had no text book on Communications Skills and were entirely dependent on lecturers. Now they have a textbook, 75 % of which is based on OER harvested from the web and supplemented with locally relevant activities, examples and assignments. A lecturer at the University of Jos, Nigeria discovered this textbook and has adopted it, an instance of south-south collaboration.

Can the use of OER help improve quality? As you know, the Indian Institutes of Technology or IITs, in partnership with the government, have made their engineering and technology courses available as OER. These are being used in over 600 institutions, most of them in remote locations with very limited resources. Both teachers and students are using the free IIT resources to improve the quality of their teaching and learning.

What of costs? The Teacher Education in Sub Saharan Africa, a partnership between the Open University UK and 18 institutions in 12 African countries has developed OER for teacher training in four languages: English, Kiswahili, Arabic and French. These were used by 320,000 teachers last year alone, and the free materials as well as the sheer numbers of users have radically reduced the costs of providing quality teacher training to about \$ 10 per teacher.

So what impact are OER having on universities? Let me first take the example of the OERU, a consortium of 18 universities which includes the University of Southern Queensland, Otago Polytechnic and Athabasca, among others. The consortium is using OER to open up education to anyone anywhere in the world.

The participating universities are putting a percentage of their courses on their websites as OER so students anywhere in the world can access them. They will then recruit retired teachers and volunteers, who will provide free tutorial support to the students. Students pay only if they wish to take exams towards a qualification. This will cost students only 20-25% of what they would normally pay thus making higher education more affordable and accessible to anyone in the world.

Let us now come to the third major development in ICT based learning. This is the phenomenon of the Massive Open Online Courses or MOOCs. Started at the University of Manitoba in 2008, this has spread like wild fire in the ivy league institutions of the United States. What is a MOOC? According to the evolving definition on Wikipedia ... *a MOOC is a type of online course aimed at large scale participation ...MOOCs are a recent development in the area of distance education, and a progression of the kind of open education ideals suggested by OER.*

But MOOCs are not only a North American phenomenon. Recently, the Open University UK along with 11 UK universities has launched FutureLearn, a MOOC company that will reach out to learners across the globe.

A recent Observatory of Borderless Higher Education report sums up that MOOCs are usually free of charge; designed for large numbers; designed to encourage peer to peer learning and meant to award completion certificates rather than course credits.

Stanford University offered a free course in artificial intelligence last year which registered 160,000 students from nearly all countries of the world, of which 23,000 completed the course.

MITx offered its first course on Circuits and electronic in May this year at which 155,000 students from 160 countries registered, of which 7157 passed the course. Even though the pass percentage is well below 10%, the edX president Prof Anant Agarwal says ‘ if you look at the number in absolute terms, its as many students as might take the course in 40 years in MIT’

What is the business model if the institutions do not charge fees? You can see that the three MOOC companies that have recently developed, the costs are being shifted from the student to the institution or to future employers. Even when fees are charged for exams, they are minimal.

What implications do these developments have on higher education? The sign of the times is that institutions will either change or be changed.

What can institutions in the developing world gain from MOOCs? First from our perspective, MOOC, is simply a platform; it is a platform to organize an event. When a course is offered on this platform, it is still an event where participation is free and open. The core interest for ODL institutions may be extensively test the viability and usefulness of select MOOC technologies for learner profile and data management and basic delivery and assessment techniques. MOOCs can become a viable option as

connectivity increases and open source platforms are adapted and deployed. Second, developing world institutions can modify the MOOC model to offer more blended approaches and better learner support services towards degrees and diplomas. Third, the research results from the pioneers in MOOCs will provide excellent data for developing world institutions to review their teaching learning practices for better quality and outcomes.

From these developments, we can see that

- There is a delinking of where we learn from where we could receive qualifications;
- More institutions will diversify provision from full services to services that the learner can choose, increasing flexibility;
- There is an increasing tendency towards collaboration rather than competition.

What institutional mechanisms and processes need to be put in place to facilitate the growth and mainstreaming of ICT based learning in educational institutions? Some of the initiatives need to include:

- developing an ICT policy
- elaborating a policy on copyright
- providing incentives for faculty members such as increments and recognition of OER-development towards promotions
- flexible arrangements for the recognition of credits towards qualifications

Online learning, OER and MOOCs will radically change the landscape of teaching-learning in the twenty first century and contribute to the creation of genuinely inclusive knowledge societies.

Thank you for your kind attention.