

# *Can the Ugly Duckling of ODL be Transformed into a Swan? The MOOC effect*

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## **Transcript**

It is a real pleasure to be at UNISA again after my first visit in 2011. I am very grateful to Prof Mandla Makhanya and to Prof Narend Baijnath for the kind invitation and the opportunity to speak to you. The Commonwealth of Learning or COL has always shared a close relationship with UNISA and this has been further enhanced with the appointment of Prof Baijnath to the International Board of Governors of COL to represent the Government of South Africa, which is a major donor to COL's budget. We are very grateful to South Africa for its continued financial and intellectual support and look forward to working with Prof Baijnath. Today I will speak about the MOOC effect and its relevance for ODL. As you know the Massive Open Online Courses or MOOCs have emerged in the past three years and have generated a great deal of interest internationally both in the media and in higher education circles. Will MOOCs transform higher education?

Or more pertinently for us, 'Can the ugly duckling of ODL be transformed into a swan? What is the MOOC Effect? As you know, as distance educators we have been constantly working towards 'parity of esteem' with a system of higher education which goes back 900 years. In many developing countries ODL is still regarded as a second chance and second choice option. MOOCs, a form of distance learning has captured global media attention in the past two years. Will some of this high profile rub off on more traditional ODL provision?

South Africa has had a long history of opening up access to education through its correspondence course institutes. You will recognize many of the names in this list which goes back a hundred years. As the name implies, correspondence education usually meant mail going in two directions: the institution mailed study materials to the student; and the student mailed back assignments to the tutors which would then be assessed and returned to the student. Borje Holmberg, called this process a 'guided didactic conversation', a pillar of good distance education practice.

The University of South Africa is the oldest open university in the world. UNISA started its distance education operations in 1946 and was inter-racial even during the apartheid years. It is highly – rated in South Africa and is one of the world's mega-universities.

Forty years ago, the Open University, UK was launched to open up education to large numbers of people. That was when the term ‘open education’ became popular and the model captured the imagination of policy makers around the world. The success of the British Open University led to a huge expansion in open universities, particularly in the developing world. Asia alone has over 70 open universities and the numbers continue to grow.[1]

Let us look at the growth of open universities in the Commonwealth. In 1988, when COL began its operations, there were only 10 open universities in the Commonwealth—3 in Canada and only one in Africa, that is UNISA.

Twenty five years later, that is in 2012, the number of open universities in the Commonwealth increased to 28. You can see that only one remained in Canada, the other two having merged with campus universities to become dual-mode.

On the other hand, the growth has been phenomenal in developing countries as governments struggle to increase access to higher education. South Africa enrolled over 300,000 distance learning students in 2009, accounting for nearly 38 % of all higher education students in the country. India has 14 open universities which cater to 25% of all higher education enrolments. Nigeria, Tanzania and Zambia all established open universities during this time. The Open University of Mauritius is the most recently established institution with others being planned in Botswana, Namibia and Kenya.

There has been a growth in the number of mega universities globally. In 1994, there were 11 with an enrolment of 3 million students. By 2008, the number of mega universities increased to 23 catering to over 9 million students.

Paradoxically, in spite of this massive expansion, there seems to be an increasing resistance to ODL in many developing countries. Even as distance education continues to grow, we see an opposition that seeks to raise barriers in various forms.

A recent legislation from Ecuador illustrates the constant struggle for recognition and ‘parity of esteem’ that ODL institutions continue to face. The call for no government employment for ODL graduates is surely a paradox, since most of the institutions have been established by the governments in the respective countries.

The Ethiopian government also announced a ban on all distance education institutions in the country saying that ‘distance learning education is unnecessary at this stage in the development of the education sector’. This when the Prime Minister himself was a graduate of the Open University UK.

However, a happy solution was found when the ban was lifted two months later, with the introduction of a QA system.

It is interesting that on the one hand, governments are establishing ODL institutions to enhance access to tertiary education, on the other they create barriers which continue to relegate distance education to secondary status. Take the case of China. Research findings show that there is ‘no significant difference’ between distance and traditional classroom instruction in terms of learning outcomes; yet there is a

lingering perception, especially in the developing world, that distance education is not just as effective or adequate as formal education. When will this ugly duckling of ODL be transformed into a swan?

In order to examine this question, let us look at the context of higher education today and the three major developments that led to the emergence of MOOCs. I will conclude with the implications that MOOCs have for transforming ODL and giving it the credibility that it has struggled for in the past four decades.

Let me briefly touch on 3 factors that impact HE today: the unprecedented demand, the escalating costs and the unimaginable pace of technological change.

In 2007, there were 150 million tertiary students globally, a 53% increase over 2000. We find that the number has increased to 165 million in 2012 with an estimate that this is expected to rise to 263 million in 2025.

In spite of this huge expansion in Higher Education, the APRs in the developing world are far below those in the OECD countries. For example, in South Asia, the APRs remain at about 15% and in sub Saharan Africa the percentage drops to below 10.

Tertiary enrolments in sub Saharan Africa have doubled in the last ten years.

In addition, Africa is the most youthful planet in the world with 65% of its 1 billion people under the age of 35. If we are to accommodate the children who will reach enrolment age between now and 2025, we will need to build four universities with a capacity of 30000 every week

Second, the costs of HE have risen exponentially. An article in *The Economist* asks whether higher education is still worth it? The costs of higher education have risen way above inflation rates in the past three decades, making HE increasingly unaffordable. This may be the American situation but quality HE is still beyond the reach of many in the developing world.

If we look at access to ICT in the Commonwealth, we find the digital divide is the widest in sub Saharan Africa and South Asia.

In SSA, for every 100 households, there are only 7.8 with computers at home. Internet access is only available to 5.3 of every 100 households. The digital divide seems insurmountable.

The unanticipated and rapid rise of cell telephony and affordable Tablets, are making a contribution towards turning the digital divide into a dividend. As of June 2013, more Tablet computers and powerful and affordable smartphones were bought than laptops and desktops.

As you can see from this chart, the growth of mobiles in Africa is now up to 63% and access to mobile broadband has gone up to nearly 11 per cent.

The issues of demand, affordability and accessible to technology have all come together to generate a response in the form of MOOCs, something which was not possible during the days of the Dotcom boom, just a decade ago. Started at the University of Manitoba in 2008, MOOCs have spread rapidly to the ivy league institutions of the United States.

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’.

MOOCs are at an early stage of development. Several terms are still used in a flexible way. This slide shows a number of frequently used terms and their broadly accepted meanings in practice. A key characterization relates to scalability or community networking. Emphasize scalability and you get xMOOC; with the emphasis on community one talks of cMOOCs. There is no particular definition of what is massive. We see it more as the theoretical capacity of a MOOC platform to handle large to very large numbers of sign-ups, in thousands if not in tens of thousands.

Three well-known MOOC platforms are the edX, Coursera and Udacity, all operated from the USA. FutureLearn, to be launched later this year, is designed and operated by the OU UK. This is the only MOOC platform per se to be offered by an ODL organization. It is interesting that MOOCs are being led by technologically well-endowed research institutions rather than Open Universities with the sole exception of the OUUK. COL’s WikiEducator platform was used to provide services to hundreds of learners under its Learning for Content training initiative way back in 2007, a modest precursor of the present MOOC.

An 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. This was in 2012—some of these elements, such as the awarding of course credits are already beginning to change. This is such a rapidly evolving terrain that its difficult to generalize.

To share just one example, 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. This is a 15% pass rate. In general MOOCs have registered low pass rates of 10-15%.

The MOOC effect is unexpected in some sense. 270, 000 people signed up for the Computer Science (CS) course offered by Udacity which is much larger than the total number of learners who aspire to do CS courses in nearly 3000 degree granting institutions in the USA. So the potential to reach the unreached is certainly there.

A study in early 2013 in IRRODL surveyed MOOCs in 2012 and summed up the distribution of subjects covered. The Science Technology and Business topics were predominant and the survey showed that the maximum number of learners came from the US and from European countries.

In a more recent article in Nature, it is interesting to note that of the learners signing up for the big three MOOC’s, while the US leads in terms of numbers, developing countries such as India and Brazil contribute about 14 percent of the sign ups. While MOOC’s may not yet have caught up in Africa, their viability for emerging economies is becoming clearer. It is significant to note that China is not yet present in a significant way, possibly because of the language barrier, ie English.

A more up-to-date examination of subject matter of MOOC courses (July 2013) shows that about 28 percent belong to arts and humanities. Predominance of STEM and Business topics is along the expected

lines and the presence of a significant number of arts and humanities courses is worth noting. This shows that there are no subject-related barriers to MOOC offerings.

What about MOOCs in the Commonwealth? FutureLearn is an ambitious and large initiative of the OU UK. It has secured partnerships from 23 universities and non-academic organisations such as the British Council have also joined this Consortium. Expected coverage is 13 million in five years starting later in 2013. This effort is premised on offering a rich user experience and can be expected to deploy media techniques significantly and to build on the expertise of the Open University in offering quality distance learning courses. Will the MOOC effect transform perceptions of distance education globally?

Pakistan, has commenced a coordinated effort to make use of MOOCs and to offer them via high-speed video links provided by the Pakistan Education and Research Network- one Gigabyte to every college. They plan to host MIT OCW locally, to use the Coursera platform and to offer credits. One significant feature of the Pakistan initiative is their adoption of quality assured free content like the Khan Academy materials especially in Urdu.

India's NPTEL project has announced plans to offer Massive Open Online Certification. Initial courses, built on NPTEL's published materials, will focus on three industry-relevant IT topics. This is a joint effort of academia- five IIT's coordinated by IIT-Madras and several IIIT's- and Industry- NASSCOM, TCS (among the largest software services companies in the world) and Cognizant (second largest software services company in India). Unlike MOOC's in the USA, this initiative will offer online mentoring and will source expert-mentors from among senior managers in the industry. Certification is offered through industry-standard proctored examinations that are scheduled to take place several times a year in multiple locations. A learner can appear in the examination at her own choice of time and location. Will MOOCs transform the way learning is certified?

MOOCs have so far been offered in HE. What about MOOCs in Learning for Development (L4D)? To explore this, COL is partnering with IIT-Kanpur to offer a MOOC on mobiles-for-development. Participation in this MOOC will be certified by IIT-Kanpur. The offering will be compatible with mobile devices (Android) and will provide online mentoring using experts in different development domains. This offering will use the flipped classroom method to enhance user experience.

This MOOC4D, launched two days ago will cover essentials of technology and will offer case studies on banking and credit, m-learning and agriculture extension. Part of the content will be generated afresh and another part will be based on transformed or adapted OER from a number of quality-assured sources. Learners from over 90 countries have signed up for this course. An Open-Source LMS, Canvas, is being used.

What is the business model if the institutions do not charge fees? Even when fees are charged for exams, they are minimal. What emerges is that venture capital or generous endowments are required to build and launch MOOC services on scale. User-derived revenue streams have been identified for edX and Udacity but the actual figures as of now are not available.

In the absence of published revenue information, a few models are emerging. From the three MOOC companies that have recently developed, fees are being charged for services, the costs are being shifted

from the student to the institution or to future employers. Will students pay less for HE in the future? Will HE become more inclusive and affordable?

Will MOOCs transform the way we teach and learn? The question of pedagogy in MOOC based learning has generated a great deal of discussion. Tony Bates characterises MOOC pedagogy as essentially behaviorist. Sir John Daniel points out that MOOCs may serve to draw the attention of research universities to the quality of their teaching - a dimension they are known to have paid low attention to for decades.

Critical observers have made a distinction between xMOOCs and cMOOCs. xMOOC's focus on scale, present the teacher as expert and are behaviorist.

cMOOC's can be thought of as connectivist, relying more on student-student interaction. Both methods have their own advantages and it would be difficult to sustain such distinctions.

A significant difference in MOOC-based learning is the emergence of the flipped classroom as the standard practice. Another significant development contributing to teaching is the availability of huge masses of learner data that can be analysed for continuous improvement and better outcomes. This also allows a teacher or mentor to personalize the interaction with a learner. Could this lead to a transformation of ODL?

Credentialling is still an open concern in this early stage of MOOC's. Some options available are presented. While badges might suit certain types of courses, credit might require invigilated examinations. Does it mean that we can offer more entry and exit options in ODL systems?

HE institutions are divided about offering credit to MOOC learners. A recent survey conducted by the Chronicle of Higher Education asked the professors running the MOOCs if they believed that students who succeed in their MOOCs deserve course credit from their institution, 72% said no. What does this say about the quality and rigour of the MOOC offerings?

But since MOOCs are offered globally and to a diversity of learners, the question is can one size fit all? What of student verification and academic integrity? Is a peer reviewed assessment acceptable? Is there a delinking of the institutions which teach and the institutions which credential? Will this result in the rise of Degree Granting Bodies or DGB's?

Will MOOCs result in a pizza effect for ODL? As we know, pizzas were food for ordinary Sicilian people until adopted and popularized by the US and the West and then reimported as a delicacy back to the place of origin. We also know of the yoga effect, when the Beatles popularized an age-old Indian practice and led to its popularity on home soil. So will MOOCs, with the massive global enthusiasm, make ODL more popular in the developing world?

Would offering MOOCs attract potential learners to join ODL institutions? Or would this make the institution a global player in certain niche areas? Students who have completed a MOOC may wish to translate the certificate of completion into a qualification. Would our institutions have the flexible frameworks for credit transfers, and recognition of qualifications?

In which ways can ODL benefit? One, the MOOC platform can help us reach large numbers of learners more effectively—esp in the mega universities where materials production and dispatch is such a massive and time-consuming operation. It also allows ODL institutions to innovate by developing low cost educational technology solutions. In addition, it is a valuable and visible public service.

MOOC platforms today provide for excellent online networking opportunities among the learners and between the learner and the tutor. In addition, good quality OER can enhance the learner-content interaction.

ODL institutions can modify the MOOC model. One, the free and open source platforms like Open edX can be configured to enhance the learning experience of large numbers through peer to peer and teacher-learner interactions. Two, use the Learning Analytics, a component of the MOOC platform, to improve teaching-learning by providing more personalized and customized learning pathways. Three, use the data generated through the Learning Analytics to develop effective and flexible systems for credit transfers and the recognition of qualifications.

Learning analytics can help us to collect and analyse data about how learning is taking place. Because of this, predictive systems can be developed to identify potential dropouts and provide the necessary support to help them overcome their difficulties. It can also highlight those areas where many students struggle so that the tutors get the feedback to take remedial measures.

Here is a screen shot of how Khan Academy shows how students have focused on exercises and topic areas on a daily, weekly and monthly basis.

The advantage is that this creates a more personalized learning experience by providing continuous feedback and has resulted in improved outcomes.

Adopting MOOC technologies can help ODL institutions provide more effective and rigorous registration control. One constant worry for online provision is the verification of identities. The ODL contact centers can be advantageous in authenticating learner ids and the use of existing services lower costs significantly

At the moment we have the big three MOOC companies. There is NO compulsion for developing world institutions to join these. Any University can set up its own or shared platform based on Cloud services or reliable local hosting services. OER can be used, wherever possible to lower costs, and provide high quality content.

What is important is the Brand and credibility of the offering Institution, the Quality of the learning materials, the quality of instructors, the availability of specialists as speakers and online mentors.

In HE, the challenges would be relatively minor. There is increasing access to connectivity and the presence of young people on Facebook and You Tube have reduced threats of cultural gaps in online learning.

The constraints of access to devices and connectivity are being addressed at many levels by governments who are providing free low-cost devices and connectivity at affordable costs. ODL institutions can ‘unbundle’ their services and offer smaller more needs-based options. There is a division of opinion among the faculty regarding the value of MOOCs—will only the rock stars of academia be able to offer

successful MOOCs or will the average faculty member ride the MOOC wave to stardom? Either way, what will count eventually is the quality of the teaching-learning experience and will separate the ‘best’ from the ‘rest’.

However, at the moment, the MOOCs space is largely dominated by elite North American research institutions and ‘star’ professors. Most ODL institutions would find it a challenge to compete with these global ‘brands’. But instead of allowing this to deter them, the institutions in developing countries must separate the ‘brand’ from the ‘technology’ and seize the opportunity to harness the power of the platform to offer needs-based programmes. Ultimately the transformation can only happen if we can use MOOCs to address the issues of access, quality, costs, relevance and equity.

Because of the big Western names now in the business of MOOCs or distance learning, there will be enhanced credibility for ODL in our part of the world. We can use the technology to enhance learner experience especially through the use of mobile devices. The learning analytics will certainly help improve teaching through constant feedback and data. With all this, the ugly duckling is certainly poised to become a swan.

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[1] C Latchem & Insung Jung: Distance and Blended Learning in Asia, NY London: Routledge, 2009, p.xiii