Open University of Japan

International Symposium
7 February 2014
Makuhari International Training Centre

'Global Trends of Online Teaching and Learning'

MOOCs: What Will Be Their Legacy?

Sir John Daniel
Education Master: Beijing DeTao Masters Academy

Introduction

It is a pleasure to be at the Open University of Japan again. I have been involved in open and distance learning for over 40 years and have had many contacts with your University over those decades. I have a particularly good memory of being present at one of your degree awarding ceremonies some years back and I have known a number of your distinguished presidents. I also revere the memory of Professor Takashi Sakamoto, whom I first met an Engineering Education conference in London back in the 1970s. For several decades he was Japan's international face in the field of educational technology. He played a huge role in multi-media education in Japan in general and in OU Japan in particular. It was an honour to count him as a friend.

My title today is *MOOCs: What will be their legacy?* According to my Oxford dictionary a legacy is a 'material or immaterial thing handed down by a predecessor'. The theme of this talk is that MOOCs (Massive Open Online Courses) will steadily give way to other expressions of openness in higher education.

MOOCs have dominated discussions of online learning and higher education in the news media and in universities for the last eighteen months. But fashions pass, needs change and technology evolves. Today I will look back, pause on the present, and then look forward. Sometimes I may imply that the 'material and immaterial developments' creating 'global trends in online teaching and learning' will all be handed down by MOOCs. Certainly, MOOCs are a significant milestone on the road that online teaching and learning is following. But here at the Open University of Japan you know very well that distance learning started long before MOOCs. I shall argue that online learning will continue to grow in importance when MOOCs are just an interesting footnote in its development.

Cycles of Technological Development

The Gartner Hype Cycle

Let me begin to put MOOCs in context by recalling some general truths about new technological developments. One is summarised in the Gartner Hype Cycle, which describes the sequence of enthusiasm, disillusionment and sensible adoption through which new technologies often progress. This diagram represents the hype cycle. A new technology appears. It is adopted with enthusiasm but until people realise that it does not do everything that they anticipated. At that point we reach the peak of inflated expectations. My Vancouver colleague, Professor Tony Bates, considers that in the case of MOOCs we have been on this peak during 2013 and will stay there for a little while before sliding into the trough of disillusionment. This year, 2014, evaluations of MOOCs will start come in and institutions will ask why they are spending money on MOOCs but offering them to the world free.

But, of course, we won't stay there. With other technologies the hype cycle has led out of the trough of disillusionment up a slope of enlightenment to a plateau of productivity. Moving up the slope of enlightenment will develop the legacies of MOOCs and, we hope, bring us to a plateau of productivity in online learning.

Moore's Technology Adoption Cycle

Here I introduce another model of technological innovation, which complements the hype cycle. This is Moore's Technology Adoption Cycle. The key point here is that when a new technology appears it immediately attracts innovators and then a group of early adopters. With many technologies there is then a pause – labelled here as the chasm – before an early majority of potential users decide to join in.

Let's think about this technology adoption cycle not as a pattern for the adoption of MOOCs, but for the adoption of online learning generally. Some would argue that there has been a chasm in the adoption of online learning by institutions. This is not true of students, who seem to migrate to online learning as soon as it is available. However, many of their institutions have been reluctant to engage seriously with online learning for various reasons. One reason was the disruption it would cause to their normal operations. Another was that for many institutions distance learning had a poor image.

The most important impact of MOOCs has been to bridge that chasm. This will be is the most important immaterial legacy of MOOCs. Nearly all institutions will now engage seriously with online learning. This is because prestigious universities like Harvard, MIT and Stanford started the 2012 MOOCs craze. These institutions had no history of offering distance learning – and probably do not intend to have a future of offering distance learning leading to degrees – but they jumped into online learning with MOOCs.

Other elite institutions in the US around the world, which bracket themselves with Harvard and company, joined in. This was a copycat phenomenon. Even some universities that already had a good distance-learning programme decided to offer MOOCs too, but without linking them to their existing distance operations. There was a

herd instinct at work. Everyone was following the leaders but few, including the leaders, had any clear idea why they were moving or where they were going.

So today, to use another animal analogy, there is a large flock of institutions offering MOOCs in various ways – some 1,100 MOOCs at last count. But we are now in 2014 and the sheep have had time to think. They realise that there is no business model for MOOCs. MOOCs cost money to produce and offer, but no revenue comes back in return. However, by offering MOOCs institutions have realised the power of online learning and want to take advantage of it.

Professor Tony Bates, the commentator on educational technology whom I most respect, said two important things last year. First, he predicted a shake out in MOOCs this year, 2014. Second, he observed that in 2013 the teaching of regular programmes online had finally come of age. Previously much online programming had been of poor quality but in 2013 institutions started to take it seriously and do a much better job. So many of the MOOCs sheep are coming to the obvious conclusion. The way up the slope of enlightenment, after the experience with MOOCs, lies in offering regular programmes online and getting much better at it as they strive towards the plateau of productivity.

Online learning taken seriously

This is what I mean by saying that MOOCs have helped online learning to bridge the technology adoption chasm. We are now in a phase when an early majority of institutions are taking online learning very seriously. They are building on a solid base.

Two weeks ago I was in Ontario. With a population of 14 million it is Canada's most populous province. It did a thorough survey of the status of online learning in the province in 2010. This showed that 15% of postsecondary courses and programmes were offered online. These 20,000 courses attracted 500,000 student registrations. Completion rates were over 70% in the colleges and over 80% in the universities.

That was four years ago. Things have moved on steadily since then. To reinforce the trend the Ontario Ministry of Education announced last month that it was investing $42 million in a Centre for Excellence in Online Learning. This 'will give students across the province one window of access to high-quality, transferable online courses while reducing course duplication'.

Although it is impossible to get good figures it is likely that the numbers of students around the world taking regular credit courses online is already much larger than the numbers taking MOOCs, even though the MOOCs' numbers make the news. But that does not alter my point that MOOCs have played an important role in bridging the chasm between the early adopters of regular online learning and the majority of institutions.

Components of the MOOCs legacy

What will be the other legacies of MOOCs? This is where it is useful to go backwards to pick up other threads that are being woven together to create the legacy of MOOCs. I choose just two.

Open universities

The first is open universities. You know the history but I recall it briefly. People sometimes assume that technology came into higher education with the Internet. But even by the 1960s, the blending of technologies had begun to offer universities a rich communications environment. At the foundation ceremony of the UK Open University in 1969 its Chancellor, Lord Crowther, captured this in these words: *"The world is caught in a communications revolution, the effects of which will go beyond those of the industrial revolution of two centuries ago. Then the great advance was the invention of machines to multiply the potency of men's muscles. Now the great new advance is the invention of machines to multiply the potency of men's minds. As the steam engine was to the first revolution, so the computer is to the second."*

It is hard to overstate the impact of the UK Open University in laying the groundwork for the use of technology in higher education. Established with strong political support, it attracted worldwide attention. It certainly influenced the planners of the Open University of Japan. Today the UK Open University has 250,000 enrolled students. Yet despite its size it ranks 5th, one place above Oxford, in national assessments of teaching quality. Note also that the Open University came top in last year's nation-wide assessment of students' satisfaction with their universities.

We conclude from the history of the Open University that we can use technology to deliver high-quality education to large numbers. I stress too that the Open University has evolved as this slide suggests. The way it implements its mission of being open to people, to places, to methods and to ideas has changed, notably to take advantage of advancing technology.

For example, the UK Open University is now the leader behind the UK's FutureLearn MOOCs consortium. It has shared its knowhow on distance learning with the other members of the consortium, which are the top 25 UK universities. FutureLearn says that its MOOCs set a new standard for quality and pedagogy. I am going to take one of the FutureLearn MOOCs this month to find out whether that is true. Meanwhile I asked Martin Bean, the Vice-Chancellor of the Open University, why they were investing in MOOCs when there was no business model. He replied that no amount of money could have bought the Open University the leadership role that it is now playing in the UK system. I am sure that my OU Japan colleagues will understand what he means. An important question that I leave with you is whether the other open universities around the world can also lead their countries into the online world after MOOCs.

Open Educational Resources

The second historical thread that we must weave into the story is Open Educational Resources. Open Educational Resources are another development on the theme of intellectual openness that began with Open Source Software and continued through Open Access to research publications. The concept of Open Educational Resources, OER, emerged in the late 1990s when MIT started putting its lecturers course notes on the Web.

UNESCO held a Forum on the topic in 2002 and that Forum coined and defined the term Open Educational Resources. Ten years later in 2012 UNESCO organised a World OER Congress. It voted, by acclamation, the Paris Declaration on OER. Its key paragraph, its punch line, was to encourage the open licencing of educational materials produced with public funds.

I am proud that my own Province of British Columbia followed up quickly by offering free, online open textbooks for the 40 most popular postsecondary courses. Already each student is saving $150 a term on the cost of textbooks.

OER were also the long fuse that detonated the MOOCs explosion and to MOOCs I now turn.

MOOCs past and present

A MOOC is a Massive Open Online Course. They dominated news coverage of higher education in 2012 and were widely hailed as a revolution. MIT created the concept of OER with its OpenCourseware project over a decade ago. Then in 2012 it also put MOOCs on the map, although in fact the term MOOC was first coined for a course offered free to the public in Canada in 2008. But MIT turned MOOCs into a craze. Let's look at its first offering, which was very different from the Manitoba MOOC.

With 155,000 registrations it was certainly **massive**; it was **open** in that it was free, but free as in free beer, not as in free speech. The materials in most US MOOCs are not explicitly open educational resources, so they are closed in that sense. It was offered **online** worldwide. Was it a **course**? Not really. If you took and passed all the tests, which very few learners did, you could pay for a certificate of completion but you certainly could not get credit to use in any regular programme at MIT. That is the first snag. In our view MOOCs are not really higher education at all, because higher education does not just require teaching and learning, but also the awarding of useful credentials.

What are some of the other difficulties with early formats of MOOCs that we must solve if MOOCs are to leave a sustainable legacy? In September 2012, during a fellowship at your neighbouring institution, the Korea National Open University, I wrote a paper entitled *Making Sense of MOOCs: Musings in a Maze of Myth, Paradox and Possibility.* Apart from the absence of credentials the paper identified the following other issues.

No business model

First, MOOCs do not have a viable economic framework. They cost money to produce. Indeed the cost of producing a MOOC is increasing steadily as new players compete to make their MOOCs more attractive. In the early days a MOOC cost from $20,000 to $50,000. Today universities are spending upwards of $200,000 on each MOOC.

The only idea for enabling a university to make money from a MOOC actually takes us backwards. Although MOOCs grew out of Open Educational Resources, the learning materials in the early MOOCs were not openly licensed as OER. Institutions hoped to sell this copyrighted material. There is little evidence of such sales, but the effect is to make these MOOCs closed on an important dimension.

Huge dropout

Second, the early MOOCs had enormous dropout rates, as in the MIT course that I showed. You would be ashamed if you had dropout rates like that at OU Japan! One reason for these high dropout rates was that the early MOOCs attracted lots of 'tourists', staff from other institutions who were curious to see what all the fuss was about. Today completion rates have increased a bit as more people choose a MOOC for the purpose of learning about the topic, but MOOCs are still 'recreational learning' for most of those who register.

Infrastructure requirements

Third, the early MOOCs depended on powerful cloud computing infrastructure that could handle very large numbers. This meant that universities wanting to offer MOOCs had to partner with commercial companies such as Coursera. Because these firms charge fees to the universities the companies have the elements of a business model although the universities do not. However, this is now changing too. An institution wanting to offer a MOOC today has less need to pay a commercial partner.

On the one hand, open source solutions, such as Open edX, are available, but on the other, fully integrated learning management systems are less necessary for offering MOOCs today. Most learners already have the habit of surfing the Web to find different resources, so an organisation offering a MOOC can simply direct them to the various elements of the course: a YouTube video here, and OER there, etc. An appealing option is use an open-source MOOC platform in combination with OERs, so that local instructors have the flexibility to adapt curricula to meet the unique needs of their learners. To take full advantage of the MOOC format, implementers should plan to use existing technologies such as radio and mobile phones. Instruction designed for mobile phones has a similar pedagogical

underpinning to the instructional design of MOOCs, meaning that students can receive high-quality instruction on devices they are familiar with.

Outdated pedagogy

Finally, some of the 2012 MOOCs were criticised for having an old-fashioned behaviourist instructional pedagogy. Computer scientists, not educators, developed the big MOOC delivery systems. Only after criticisms surfaced did the MOOC pioneers even become aware of the prior research on distance learning conducted over decades by open universities and others. In those early days people confused university brand with pedagogical quality: they assumed that if it's from Harvard it must be good. Today people are more sophisticated. They recommend MOOCs to each other on the basis of their intrinsic interest and pedagogical quality rather than on the brands of the institutions behind them.

Newer players

Since those early days MOOCs have evolved rapidly. First, there are now many more organisations working with institutions to offer MOOCs. Here are some of them:

FutureLearn is an ambitious British MOOCs play that was launched in September. It claims that it will draw on the experience of the Open University and the BBC to bring much better pedagogy to MOOCs. It also says that it will give credible recognition to student learning. I am going to take a FutureLearn MOOC this month.

OpenUpEd is a venture of the European Association of Distance Teaching Universities and offers 60 courses in 12 languages.

Schoo is a Japanese MOOC platform, funded with venture capital, which aimed to capture one million learners by the end of December. You will know whether it did.

Open2Study is a partnership of eight Australian universities offering an eclectic range of courses.

Veduca, in Brazil offers a MOOC from the University of Sao Paolo and curates educational videos from the US, adding subtitles in Portuguese.

Iversity offers ten MOOCs in Germany and offers prizes for the best proposals.

NPTEL, in India, brings together the prestigious Indian Institutes of Technology and Science (IITs and IIScs). It already offers 200 courses, has 1,000 planned and will certify students on a large scale.

From supply driven to demand led

This expansion of activity is producing much greater diversity. Someone remarked that the meaning of every letter in the acronym MOOC is now negotiable! Many

organisations are now offering one or two MOOCs to respond to the needs of particular groups of people. I give two examples of such MOOCs. Then I shall examine the principles that will determine the MOOCs legacy.

The first example is an alliance between my former organisation, the Commonwealth of Learning, and the Indian Institute of Technology, Kanpur. The course is on *Mobiles for Development.* They ran it at the end of last year. Dr. Balaji, the course director at COL reported that: *"At the time of launch we had 2282 registrants from 116 countries. The top five are: India, Nepal, Mauritius, Grenada and South Africa. The large presence of registrants from two small countries (totaling 187) was not expected. We have about 500 registrants in all from Sub-Saharan African countries and the Caribbean. From the Pacific, Solomon Islands has a noticeable presence."*

This seems to me a very intelligent use of MOOCs and the course is clearly reaching its intended audience. However, it is interesting to note another comment from Dr. Balaji: *"Our original intention was not to have quizzes. There is a constant demand for that kind of assessment of progress and so we have offered a quiz (MCQ)."*

Although this is not the same as the formal credentialing I mentioned earlier, it does show that students want the assurance that they have learned something, if only for their own satisfaction.

Dr Balaji also drew the second example to my attention. So far it is fair to say that most MOOCs have been supply driven. I mean that a professor or a whole department were enthusiastic about the subject they taught and offered to do a MOOC. Now we are seeing a trend to design MOOCs to respond to the needs of particular groups in society to have more knowledge on specific topics. Call this a demand-led approach. A nice example of this comes from the University of Tasmania, in Australia, which realised that there are now large numbers of people, both professional carers and family members, caring for people with dementia. So their Wicking Centre offered a MOOC on understanding dementia.

It attracted 10,000 learners from 60 countries. 89% were women, 70% were over 40 and only 17% had more than a bachelor's degree. They provided online technical and teaching support and achieved a completion rate of 39%, which is much better than the early MOOCs.

The legacy of MOOCs

So, I've talked about origins of MOOCs and the present situation. What about the legacy? MOOCs will evolve in the direction of being more useful to more people. That means two things. First, we need MOOCs on employment related topics at all levels. Second, people need credible qualifications for successful study. Both are happening. The range of topics is diversifying fast and various bodies are giving

recognition for MOOCs, even where they did not offer the course themselves. This is an example of the wider trend of the 'unbundling' of higher education, with different organisations handling different parts of the process.

Four trends in higher education are being accelerated by MOOCs. These trends are the steady move online, shorter courses, new types of awards and partnerships for teaching.

More online programmes

The greatest impact of MOOCs *per se* is to accelerate the trend to online learning and I've already talked about that. One very positive impact of MOOCs is that by rushing into online learning, Harvard, MIT, Stanford and company have shaken the traditional belief that distance learning is inferior.

Online teaching and learning is now part of the future of all universities. MOOCs should be seen as a pilot project for the offering of regular credit programmes online at scale. Online learning has been spreading steadily for years and its growth has been well documented by Tony Bates in his annual surveys of the scene. He believes that 2013 was a breakthrough year for both the volume and the quality of regular online offerings as I noted earlier.

So let me end by asking what must happen for MOOCs to stimulate rapid developments in the teaching of regular programmes online? The simple answer is that universities must stop focusing on MOOCs and develop policies for teaching more and more of their regular programmes online. In doing this they must pay close attention to quality, which means not just – indeed not mainly – the quality of the course materials, but the effectiveness of student support and the relevance, rigour and security of the student assessment systems.

Shorter courses

The second legacy of MOOCs will be shorter courses. Online courses seem to work best – that is to say students succeed in them better – if they are between five and six weeks in duration. This favours intense concentration on a particular topic. Most MOOCs are short, but now credit-bearing online courses are also increasingly shorter.

New awards

A third and related trend is new awards. As people grapple with the challenge of formally recognising what people learn by taking MOOCs, the awards that recognise the output of higher education are being put into new bottles. Old wine is being put into new bottles and new wine is being put into new bottles.

A good example is Open Badges. These badges, which are placed on the Web, carry more information about what was studied and how it was assessed than the usual university transcript. They allow learners to get recognition for short-cycle studies on economically relevant topics and to aggregate a series of badges into a conventional qualification such as a degree or a diploma.

Partnerships

A fourth trend is that institutions offering MOOCs – and sometimes also those offering traditional online learning – often partner with external enterprises (both for-profit and not-for-profit) to help them. Just as the early MOOCs required IT systems that could cope with very large number of learners, so those offering traditional programmes online may need help with setting up distance learning systems.

I am an advisor to one of these commercial partners, Academic Partnerships or AP. It works mainly in the area of traditional online programmes, assisting institutions with the transformation of their courses into online formats, the organisation of student support, and the management of a model with lower tuition fees and larger enrolments. It also offers ready-made online programmes called Specialisations. These are one-year programmes on advanced employment-related topics. They are made up of three certificates and have been developed by well-known universities for offering by other universities.

A Guide to Quality in Online Learning

To help its partners AP commissioned *A Guide to Quality in Online Learning.* Two distinguished South African experts, Neil Butcher and Merridy Wilson-Strydom wrote the Guide, which I edited with my colleague Stamenka Uvalić-Trumbić. It is available in English and Chinese and is an OER that you can translate, adapt, distribute and use as you like.

In the light of the success of this Guide to formal online learning, and given the steady growth in post-traditional forms of higher education, the same team is now engaged in preparing a guide for quality in online learning of this type, covering topics such as OERs and MOOCs.

Conclusion

My title was *MOOCs: What will be their legacy?* What are my conclusions?

MOOCs have shaken the complacency of higher education more than any other development in years. This does not mean that MOOCs are the future of higher education. The number of MOOCs being produced may start to decline and their formats will certainly diversify, often coming to resemble more closely traditional online courses that lead to credentials.

But this will not all be old wine in new bottles. As well as moving steadily online, higher education will offer many shorter courses with different awards. The higher education enterprise will be unbundled. That will mean more partnerships between institutions and also much greater freedom for students construct their own higher education by using the courses, content and services of a variety of providers.