

Address to leaders of New Zealand's Higher Education Community  
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**Are MOOCs the Long-Awaited Revolution in Higher Education?**  
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Introduction

It is a pleasure to be back in New Zealand again. I have been a regular visitor over the years in the various jobs that I have held and greatly admire your country.

I particularly appreciated the support of New Zealand and its government when I was Assistant Director-General of UNESCO for Education and then President of the Commonwealth of Learning. How good it is that a New Zealander, Linda Sissons, is now chair of the board of the Commonwealth of Learning, which is a remarkable and highly performing little intergovernmental agency.

You have given me a wide brief for this talk so I shall move briskly over a number of topics. First, having observed that higher education is in a state of turbulence in most of the world, I shall identify the key drivers of change. I hope to demonstrate the inevitability of change but I shall also argue that change in higher education proceeds by evolution not revolution.

My title is: *Are MOOCs the Long-Awaited Revolution in Higher Education?* Although you must think that I have answered that question negatively right off the bat that does not diminish the challenges ahead. Managing evolutionary processes is trickier than being carried along by a revolution. MOOCs are opening up new evolutionary niches for higher education and making some of the existing niches less comfortable, so they are significant.

Second, I shall situate the use of technology in higher education in a broader context than MOOCs and give you my theory of the iron triangle. This will lead me to talk about revolution and evolution and then about collaboration within the higher education sector, specifically with regard to open and distance learning or ODL. Finally, I shall explore the changing landscape of quality assurance, noting two guides to quality in the online world that I have helped to produce.

First then, these are turbulent times for higher education. I come from Canada so I shall use a Canadian analogy to set the scene. This boat making its way through turbulent waters, which looks to have a lot of people on board, can stand for many over-crowded universities around the world that are trying to make headway in stormy seas.

You take this boat – some of you may have done so – if you want to get close to the bottom of the Niagara Falls and are prepared to get a bit wet. The boat is called *Maid of the Mist*. You can think of the water pouring over the falls as the challenges dropping down on higher education. Then think of yourselves as the people in the boat and note

two features. First, they are surrounded by mist. They can hear the falls but cannot always see them. Second, there is a rainbow, signifying hope and reward somewhere. That summarises nicely the situation of those working in universities.

The turbulence that higher education faces manifests itself in three key drivers of change: graduate unemployment and underemployment, weak economies and Internet technology.

### Generation jobless

The first driver is the scourge of unemployment and inactivity among young people, expressed graphically by this cover of *The Economist* newspaper last year.

The accompanying chart detailed a sorry picture. *The Economist* calculated that the world total of inactive young people is nearly 300 million – or one quarter of the world's youth. Yet at the same time employers complain that they cannot find graduates with the right skills and competences. There is a serious gap between education and the job market.

New Zealand, as you know, fares better than most. This chart shows that your unemployment rate is below the OECD average. You are doing better than Canada but not quite as well as Australia. However, you do share the problem of higher rates of unemployment for young people. This chart shows that the under-25s are less likely to be in work than older people, whereas if the education system was doing a good job of giving the next generation the new knowledge and skills necessary for earning livelihoods in the 21<sup>st</sup> century you might expect it to be the other way around.

Of course New Zealand is not alone. Graduate unemployment rates are at record levels in the US. Moreover, countries as different as the US and China have serious problems of graduate underemployment.

In the US the underemployment rate for recent graduates is now higher than in the previous two decades. From 34% in 2001 it rose to 44% in 2012. That means that nearly half of recent American graduates are taking jobs that don't require a college degree – such as bartenders or retail clerks. However, those reporting this data still stress that people should not dismiss the value of higher education, because many folk without degrees do even worse.

This should encourage those attending university to continue through to graduation, but here again the picture is discouraging. Although the data is not easy to find, fewer than half of students in the US public university system graduate within seven years of starting. Ontario claims a figure of three-quarters. You may know what the figure is for New Zealand. While some partial experience of university may leave a useful trace, low degree completion rates must still represent a waste of resources on the part of both

students and institutions. They also call into question the appropriateness of the content and length of some programmes.

### The economic driver

The second driver of change is economic. Most of the world has yet to recover from the crisis that struck six years ago, which put an end to some unsustainable trends. The situation in the US provides a cautionary tale.

Tuition fees in America have increased at more than five times the inflation rate for 30 years and this has been an accelerating process. Yet at the same time, adjusted for inflation, the average middle-class American family earns \$400 less than it did in 1988.

Nevertheless in 2012 US universities raised fees by a record 8.3%, making a 46% increase over the last ten years. Of course, one reason for this is that state funding declined a record 9% in 2012, down 30% per student since 2000. For that reason tuition fees as a share of total public university revenue rose 62% over the last decade.

Increasing fees appears to be an easy way to try to balance the books.

But something had to give and by June last year, the total of discounts given for tuition fees exceeded the total amount paid by parents. That is to say a 50% reduction from posted rates. Nevertheless, student debt has doubled since 2007. This is a now huge factor in the US economy because student loans have topped one trillion dollars, more than all the credit card debt, total car loans or total household debt in America.

Furthermore: last year default rates on student loans reached a high of 17%. In the US a student loan is one form of debt that you cannot wipe out by declaring bankruptcy. Some students will drag this debt to their graves.

I am not suggesting that this show is coming soon to a theatre near you, but it is a cautionary tale. The global trend is for governments to decrease the allocations of public funds to higher education, not to increase them. It seems illusory to think that in tough economic times universities can all make up the difference by increasing student fees. In many jurisdictions fees may have reached what the market will bear.

Stronger appeals to philanthropists may help some institutions, but most of higher education must face the hard reality of cutting its costs. Even with the current classroom teaching model substantial economies are possible. One of the problems in US universities is that the growth in the number of administrative positions has far outstripped the increase in academic posts. Furthermore, research that was done years ago showed how better timetabling of lectures could save large sums of money. But saving money was not on the agenda at the time.

### The Iron Triangle

In other areas of human life it is technology that has enabled us to increase both the efficiency and the effectiveness of products and services. That is my third driver of change. How does this apply to education? I give you the iron triangle.

The many ministers of education that I met while working for UNESCO and the Commonwealth of Learning nearly all had three common aims. They wanted to increase access to education, improve its quality and cut its cost. We can represent these as three vectors. The ministers want to stretch the triangle like this to give more access, better quality and lower cost. But with conventional classroom teaching methods you can't easily do that. That is why I call it the Iron Triangle.

Pack more students into the classroom to raise access and you will be accused of damaging quality. Try to raise the quality with more or better teachers and learning resources and the cost will go up. Cut costs directly and you may threaten both access and quality.

This iron triangle has created in people's minds an insidious link between quality and exclusivity in education. That link has lasted for centuries, but finally there are signs that it is being broken.

To stretch the triangle and achieve, simultaneously, wider access, higher quality and lower cost you need technology. The evolution of open and distance learning reflects the arrival of a succession of technologies that have helped to offer better education to millions of people through space and time at reasonable cost.

I shall not take you through the history of open and distance learning or ODL.

Let me just say that it goes back at least to St. Paul's epistles to the young churches in the 1<sup>st</sup> century. It then speeded up with the inventions of printing and the steam engine. They combined to make possible postal services, which allowed correspondence education to play an important role over the next century, not least in countries with scattered populations like New Zealand. In Britain Isaac Pitman jumped on the possibility right away and offered a correspondence course in shorthand in the mid 19<sup>th</sup> century.

The reason for being aware of this history is that it gives us a better understanding of the true nature of technology. The key to the successful use of technology in education is not in having smaller and smaller devices with prettier and prettier images coming to their screens.

These are a nice bonus, but the key to achieving the technological revolution in education is the adoption of the fundamental principles of technology that were articulated over 200 years ago by Adam Smith: division of labour, specialisation, economies of scale and the use of machines – nowadays ICTs.

This is what has made possible the many open universities around the world that now enrol millions of students between them. 20 years ago I coined the term 'Mega-

universities' for these institutions. Their key feature for today's discussion is that they offer complete programmes across the range of academic disciplines and award credible degrees and diplomas at all levels. When the UK Open University pioneered large-scale multi-media ODL nearly fifty years ago it was hailed as a revolution.

I shall argue in a minute that higher education doesn't do revolutions and the open universities are a good example of that. They prospered, but life on the traditional campuses went on much as before. Indeed, one wag in Britain remarked that the effect of the opening of the Open University was to close the other universities even more firmly, because they felt relieved of the responsibility of worrying about adult and part-time students.

### Making sense of MOOCs

However, around 2012 the news media, especially in North America, declared that there finally was a revolution in higher education and it was called MOOCs: Massive Open Online Courses.

I was fortunate to be a visiting fellow at the Korea National Open University during that year and had time to attempt a sober assessment of MOOCs that was lucky enough to hit the Internet right in the middle of the media frenzy. The paper's title, *Making Sense of MOOCs: Musings in a Maze of Myth, Paradox and Possibility* made me popular and unpopular in equal measure.

So did the comment with which I prefaced the text, Hans Eysenck's remark about Freudianism: "what is new is not true and what is true is not new". I meant, first, that the wild claims that MOOCs were the answer to the challenges of higher education in the developing world were simply nonsense and, second, that much of what the MOOC community thought it had discovered about teaching at a distance was old hat for institutions with years of experience in the field.

The first generation of MOOCs was certainly massive. This MIT MOOC registered over 150,000 learners, even though only 7,000 made it right through. They were open – free to anyone around the world with a networked computer and a government that didn't block the Internet – and they were online. Whether you think they were courses depends on whether you expect a course to include institutional recognition of student learning or whether you are happy to use the term for a display of learning materials. I favour the former. Higher education means teaching, learning and credentialing. If you accept that, then the early MOOCs were not really higher education and certainly not a revolution.

The second key paradox was that there was no business model. MOOCs cost money to produce but bring in no revenue, so they are not a sustainable activity for universities that are not rich enough to engage in long-term philanthropy. But in the copycat mood of 2012 such considerations were set aside. Universities piled into MOOCs. A herd instinct

was at work. Although given the onomatopoeic acronym MOOC, cattle might be a better analogy than sheep.

### Evolution not revolution

I've already argued that universities don't do revolutions and cited the case of the open universities that joined in the evolutionary progress of higher education in the last century rather than setting it off in new directions. Let me digress for a moment and give two other examples.

In the early 1800s, Wilhelm von Humboldt urged that universities be more liberal and research focused than previously. Seminars and laboratories started to evolve because Humboldt envisioned university education as a student-centered activity of research. He expressed this by stating that: *"The university teacher is thus no longer a teacher and the student is no longer a pupil. Instead the student conducts research on his own behalf and the professor supervises his research and supports him in it."*

These were new ideas but they did not create a revolution. Certainly they had a big influence on universities in the US and in Britain – and had even loosened up the tightly controlled French system by the end of the 19<sup>th</sup> century – but this was evolution.

Later in the 19<sup>th</sup> century, in 1862, the Morrill Act created the Land Grant colleges and universities in the United States. The Act enjoined these new institutions to focus on the teaching of practical agriculture, science, military science and engineering, although without excluding classical studies. It was a response to the industrial revolution and changing social class. Certainly this mission contrasted with the historic practice of higher education to focus on an abstract liberal arts curriculum but, once again, it was not a revolution.

Ultimately, most land-grant colleges became large public universities that today offer a full spectrum of educational opportunities. Some, such as Cornell and MIT, have become private schools. The bursting of the tuition fees bubble may have a dire effect on some of these institutions today.

So, if we accept that MOOCs are not a revolution but part of the steady evolution of higher education, where are they going to take us? It is helpful to recall 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 until people realise that it does not do everything that they anticipated. At that point we reach the peak of inflated expectations. In the case of MOOCs, we were on this peak during 2013.

This year, 2014, evaluations of MOOCs are coming in and institutions are doing their sums and asking how they can make MOOCs part of their future in a sensible way. There is a degree of disillusionment. But we won't stay there. With other technologies the hype cycle leads out of the trough of disillusionment up a slope of enlightenment to a plateau of productivity. Moving up the slope of enlightenment will take on board the good features of MOOCs and, we hope, bring us to a new plateau of productivity in higher education.

Meanwhile evolution proceeds apace as the number of MOOCs on offer worldwide has reached almost 4,000. This has meant tremendous diversification. There is even a MOOC on MOOCs offered by the Commonwealth of Learning.

The meaning of every letter in the acronym MOOC is now open for negotiation. The numbers taking most MOOCs today are a far cry from the hundreds of thousands we saw in 2012. Some are less open, whilst others combine face-to-face sessions with online work. And an increasing number are now real courses in the sense that they carry credit – and also charge fees, at least for assessment, to make the operation viable for the institutions. Indeed, the term MOOC is tending to become a synonym for online learning, which is perhaps a pity, but we can't help the way our vocabulary evolves.

### Sector collaboration

One good thing about craze for MOOCs is that it has led to a greater degree of collaboration within the higher education sector than we saw with the earlier manifestations of ODL. This may be because the advance of information and communications technology has made cooperation easier than it was in the days before everything was digital. It may also be that collaboration is easier because institutions don't see an easy way to make money out of MOOCs and are more prepared to share costs and losses. Cooperative ventures around MOOCs are happening at country and regional level.

I find the FutureLearn consortium particularly revealing. I declare an interest because I am currently taking my third course from FutureLearn. It is a consortium led by the UK Open University that includes most of the best-known UK universities – the Russell Group – and a number of universities overseas, including the University of Auckland – over 40 members in all. While each partner is autonomous there has been a real attempt to share the good practices in ODL that the Open University has learned and refined in its four decades of existence. Learner satisfaction is extremely high.

I find my current MOOC in Creative Writing extremely well done, although as you can see I have fallen badly behind. I hope to catch up a bit during my time in New Zealand! As a partial excuse for my lamentable progress I should explain that I was in China when the course started and couldn't access it through the Chinese firewalls.

We must hope that the habit of collaboration acquired in MOOCs will carry over into greater sector cooperation in online learning generally. Governments can help to encourage this with suitable incentives, although experience shows that when governments stop providing incentives inter-institutional cooperation immediately stops too.

But in today's world it does not make sense for each instructor and each institution to develop their own online content and digital learning materials. Much good content is available free as Open Educational Resources and the experienced ODL institutions have excellent courses available. This is part of a trend towards the unbundling of higher education. Activities that used to all carried out by the same institution can now be split up among several specialised contributors.

I cite an example from the company Academic Partnerships, to which I act as an advisor. It acts as a broker for the exchange of short, self-contained and stand-alone online learning packages called Specialisations. A Specialisation certificate in, say, International Business, can be earned in just four weeks.

Three of them can be put together as a Specialisation Diploma to augment a student's regular programme. Here is a real example: students in the MBA programme at the University of Johannesburg can embed into their programmes a Specialisation Diploma in International Business from the University of South Carolina.

Just as my iron triangle was a metaphor for the purpose of ODL, a three-legged stool is useful way of thinking about the means by which it is conducted. There is no logical reason why the three key ODL functions of developing learning materials, supporting students and providing administrative and logistic backup cannot be done by different organisations.

But experience shows two things. First, the task of each contributing organisation must be clearly defined so that it can do it as autonomously as possible. Second, one of the organisations must take overall responsibility for the quality of the student experience. The difficulty of resolving the tensions between these apparently contradictory requirements explains why there are so few successful examples of multi-institutional sector collaboration.

### Quality Assurance

This brings me to my final comments, which are about quality assurance.

When I arrived at the Open University as Vice-Chancellor in 1990 the UK was just beginning the process of reform that would give the polytechnics university status and bring all of higher education into a single funding and supervisory framework. Previously there had been separate bodies for the universities and the polytechnics, whilst the Open University had been supervised and funded directly by government.



The new framework also made the UK into a federal state in higher education – but that is another story. During the preparation of the reform the Open University argued, strongly and successfully, that there must be a single quality assurance framework for all institutions and all delivery modes. I consider this to be vitally important, because quality higher education is quality higher education, no matter how it is delivered.

The new QA system delivered this single framework and it worked well. One aspect of the UK's multi-faceted quality assurance regime was a quality assessment programme for teaching, which ran for a decade, assessing the quality of teaching discipline by discipline in all institutions.

Six areas were assessed:

- Curriculum Design, Content and Organisation
- Teaching, Learning and Assessment
- Student Progression and Achievement
- Student Support and Guidance
- Learning Resources
- Quality Management and Enhancement

I think you will agree both that these are reasonable measures of quality and that they are expressed in ways that are independent of institutional type or delivery mode. The assessment teams had to allocate up to four points in each of six areas so a discipline could score up to 24 points.

The UK press naturally created rankings out the results and here is where the Open University ended up at the end of the programme. The University's teaching was assessed as 'excellent' in two-thirds of the subjects assessed and those excellent subjects included several with a strong practical component such as General Engineering, Music, and Earth Sciences. These results gave many people a new perspective on ODL.

My final comment is that there is no conflict between having a common QA framework for all institutions and delivery modes and also having specific ways of looking at quality in different aspects of the teaching and learning system, particularly for internal QA purposes.

It was in this spirit that I assisted Academic Partnerships in the editing of a *Guide to Quality in Online Learning* that was published simultaneously in English and Chinese last year. That Guide deals with conventional online learning, by which I mean online programmes leading to credits and certification.

Given the rapid growth of learning opportunities and materials that do not necessarily lead to certification, such as MOOCs and Open Educational Resources, we followed this up with a second Guide, published also in English and Chinese earlier this year, called a *Guide to Quality in Post-Traditional Online Higher Education*.

I commend these two guides to you. Both are published as Open Educational Resources so you can download them, distribute them, translate them and adapt them as you wish. Both are written in the form of responses to frequently asked questions and include comprehensive bibliographies.

### Conclusion

In this talk I have tried to touch briefly on a number of topics related to the challenge of guiding the higher education systems through turbulent times.

I have tried to remain at the level of principles rather than going into the means to implement them, since those will always differ from jurisdiction to jurisdiction.

New Zealand has an enviable record in higher education. Not only do you have institutions that enjoy a worldwide reputation for quality, but you also initiated open and distance learning before most other countries. You have also encouraged innovations based on technology, such as the Open Education Foundation.

I suggest that the challenge today is to ensure that the system as a whole becomes stronger than the sum of its parts. I hope the some of my remarks have nourished your thinking about how to achieve that and I thank you for your attention.