

Higher Education in a Decade of Disruption



*Council of College and Military Educators (CCME)
Annual Conference*

*14-16 February 2012
Orlando, Florida*

*Sir John Daniel
Commonwealth of Learning*

Abstract

Political, economic and technological trends are converging to create major change in higher education. This paper focuses on the impact of evolving technologies notably online learning, which will do far more than change pedagogy because it is a disruptive technology – and disruptive technologies rarely favour existing providers.

So far online is not causing major change. In public higher education institutions it is hiking rather than cutting costs, is not improving student performance, and is often of poor quality. However, this will change as online learning takes an ever larger share of student enrolments. More and more students are opting for the online mode and course enrolments in eLearning are expanding faster than in campus-based courses. Projections suggest that over 80% of US students will be taking courses online in 2014.

The disruptive paradigm will not be eLearning *per se*, but the combination of online technologies, lower-cost provision and for-profit corporate structures. Already in the US the for-profit higher education sector has a much higher share of the online market (32%) than of the overall market (7%).

Higher education will follow other business sectors in moving from full-service to self-service models of provision. An example is the new Open Education Resource University (OERU), described in the final section. Yet, in a reminder that history sometimes repeats itself, the OERU has distinct echoes of the University of London External System that was created over 150 years ago.

Introduction

Good morning. It is a pleasure to be here. I still have vivid memories of my first contact with US military education. I was at a conference of the National Home Study Council in the 1970s and there was a presentation by the US Marines of what they then called their work in correspondence education. I remember how the presenting team marched to the podium perfectly in step, stamped to a halt, saluted the audience, and began a presentation that shamed the academics present by its crispness and precision. I am looking forward to see whether things have changed.

My title is *Higher Education in an Age of Disruption*. But is it possible to disrupt higher education? Some of you will know this famous quotation from the report of Clark Kerr's Carnegie Commission 44 years ago:

Taking, as a starting point, 1530, when the Lutheran Church was founded, some 66 institutions that existed then still exist today in the Western World in recognizable form: the Catholic Church, the Lutheran Church, the parliaments of Iceland and the Isle of Man, and 62 universities.... They have experienced wars, revolutions, depressions, and industrial transformations, and have come out less changed than almost any other segment of their societies (Carnegie Commission on Higher Education, 1968).

These words should make us pause before predicting substantive change in universities! Here are just six examples of the dangers:

- 16 years ago the management guru Peter Drucker predicted that in 30 years the big university campuses would be relics (Lenzner & Johnson, 1997) – yet 14 years before his deadline few appear to be on their last legs and most are as vibrant as ever.
- Enrolment growth has been consistently underestimated, particularly of women. Forecasts suggest the addition of another 80 million students worldwide by 2025. The desire for access to higher education is stronger than ever.
- When higher education was declared a tradable commodity under the General Agreement on Trade in Services (GATS) a decade ago, academics panicked about imminent commercialisation – yet most of the world's universities are still public institutions with an educational ethos.
- Quite recently received wisdom held that the coming cohorts of students were a new breed of digital natives who would create a generational divide in study habits – yet recent research on thousands of students of all ages finds no such divide (Jones & Hosein, 2010).
- The hype around the dotcom frenzy in 1999-2000 claimed that all education would soon go online – yet today it seems that universities have absorbed the virtual world rather than letting it absorb them (Bates, 2011).
- Despite the efforts of some governments to restrict the research function to a limited number of institutions, most universities aspire to continue and expand the research function.

While this list supports the notion that higher education develops by gradual evolution rather than by revolution it is too soon to dismiss all these forecasts as illusions. We shall examine four drivers of change.

Drivers of Change

The Internet

The first driver of change is the Internet. Online and mobile communications (ICTs) have lessened the significance of national borders and disrupted many business models. When re-fuelling their vehicles, buying books or arranging travel, consumers are opting increasingly for self-service models made possible by ICTs. This trend is now impacting on universities.

The cost of higher education

The second force for change is a greater concern, across society, about the cost of higher education. President Obama mentioned it in his State of the Union address. You know the figures. Since 1986 college fees there have risen by 467% compared to inflation of 107% in the economy overall (Archibald & Feldman, 2010). The impact of the post-2008 recession on household incomes, combined with public concern about the debt burdens on students and graduates, is finally putting downward pressure on fees and creating incentives to offer less expensive options.

It is pointless, however, to exhort institutions to charge less unless they can cut costs without losing quality and limiting access. Online learning provides one means to do this.

Private higher education

A third driver of change is the growth of private higher education, including institutions that operate for profit. This is changing the pattern of corporate structures in higher education. Private provision is now the fastest growing sub-sector worldwide with some 30% of students enrolled in private higher education institutions globally. At the top of this chart is the Philippines with over 80% of enrolments in the private sector and Korea, Japan, Belgium, Indonesia, Columbia and India are at 60% or over (PROPHE, 2012).

A key feature of the private higher education sector is its diversity. Large private providers of distance education, such as Phoenix Online with over 100,000 students, are the exception rather than the rule. Most private institutions are relatively small and conduct teaching face to face, although this is changing fast as in the case of India's Symbiosis Centre for Distance Learning, which is barely ten years old but now enrolls 250,000 students in some 40 countries.

Internationalisation

Internationalisation, the fourth driver, has been a feature of universities from their earliest days. Xuanzang was one of many Chinese Buddhist scholars who studied in India in the 1st millennium at Nalanda University. This, the world's first international university, is today being re-established by the governments of India and Bihar with foreign support. Erasmus of Rotterdam, who studied at the University of Paris, the great international academic centre of the 2nd millennium, and also travelled to other European seats of learning, has given his name to the student exchanges that are helping to re-integrate academic Europe.

For most of the 20th century internationalisation referred primarily to students taking degree courses in other countries. I was one of them when I did my doctorate at the University of Paris and experienced the famous events of 1968, but a more recent trend is to move the courses to the students' home countries instead.

Numerous universities now offer their courses overseas by creating branch campuses in other countries. The Observatory on Borderless Higher Education reported that there were 200 degree-awarding international branch campuses in 2011 and the number was continuing to grow.

There has also been a steady growth in international distance learning. The founding document of my own organisation, the Commonwealth of Learning, declared in 1987 that:

“Our long term aim is that any learner, anywhere in the Commonwealth, shall be able to study any distance teaching programme available from any bona fide college or university in the Commonwealth”.

That aim was ahead of its time 25 years ago but is beginning to be achieved, thanks in part to the creation and re-purposing of Open Educational Resources (OER) and the emergence of the Open Education Resource University, a mechanism for co-operative partnership to which I shall return.

The disruption of higher education

These four drivers, operating in combination and feeding on each other, are likely to recast the higher education systems of most countries. We can best understand their interplay by examining them individually.

Trends in eLearning

In his report *2011 Outlook for Online Learning and Distance Education*, Bates (2011) identified three key trends in US higher education.

The first trend is the rapid growth of online learning. Enrolment in fully online (distance) courses in the USA expanded by 21% between 2009 and 2010 compared to a 2% expansion in campus-based enrolments.

Despite this growth his second finding is institutional goals for online learning in public sector higher education lack ambition. He argues that the intelligent use of technology could help higher education to accommodate more students, improve learning outcomes, provide more flexible access and do all this at less cost. Instead, he found that costs are rising because investment in technology and staff is increasing without replacing other activities. There is little evidence of improved learning outcomes and often a failure to meet best quality standards for online learning. It seems that the traditional US public higher education sector seems has little heart for online learning. Some institutions charge higher fees to online students, even though the costs of serving them are presumably lower, perhaps to discourage this development.

A third finding, which should stimulate the public sector to take online learning seriously given its rapid growth, is that the US for-profit sector has a much higher proportion of the total online market (32%) than

its share of the overall higher education market (7%). Seven of the ten US institutions with the highest online enrolments are for-profits. For-profits are better placed to expand online because they face less resistance from academic staff and need not worry about exploiting an earlier investment in campus facilities. Furthermore, the for-profits adopt a team approach to the development of online learning courses and student support, whereas most public institutions simply rely on individual academics to create and support online versions of their classroom courses.

Bates calls this the ‘Lone Ranger’ model and argues that it is less likely to produce sustainable online learning of quality than the team approach (Bates & Sangra, 2011). Finally, Bates projects that over 80% of US students are expected to be taking courses online in 2014, up from 44% in 2009. The for-profit providers that are already well established in this delivery mode are likely to reap the advantage.

Bates concludes his report by saying: "If public institutions do not step up to the plate, then the corporate for-profit sector will" (Bates, 2011). This statement suggests that online learning could disrupt higher education systems. Might they split over the coming years into a public sector focused on research and a private sector doing most of the teaching online? Would this matter? Some governments would like to distinguish between research universities and teaching institutions. An extrapolation of these trends could make this wish come true, with the added difference that research would take place in public institutions while most teaching would be carried out by for-profit enterprises.

Why does higher education cost so much?

Let me turn now to the related issue of costs. US tuition fees have been rising faster than inflation for several decades. Other rich countries where fees used to be zero or nominal have either introduced or raised them.

Parents and students have begun to object to rising fee levels, which inspired Robert Archibald and David Feldman (2010) to justify high fees in their book *Why Does College Cost So Much?*

These economists place the higher education enterprise in the wider economy and make careful comparisons with the evolution of prices in a range of industries over half a century. The prices of manufactures have gone down in real terms; those of many services, such as hair dressing, have stayed roughly constant; whereas the prices of personal services by professionals with high training requirements have risen. They cite academics, dentists, horn players and stockbrokers as examples of such professionals.

Are such comparisons valid?

The link between the high prices of certain services and the cost of training the professionals who deliver them was labelled the ‘cost disease’ in the 1960s by William G. Bowen and W.J. Baumol in research on the economics of the performing arts (Baumol & Bowen, 1965). They argued that salaries in such areas are pushed up, even if productivity remains static, by productivity-linked salary increases in other sectors of the economy. Archibald and Feldman (2010) adopt this reasoning in their book, dismissing summarily the possibility of increasing productivity in higher education with technology.

Bowen himself, however, is no longer so sure. In a foreword to Taylor Walsh’s book *Unlocking the Gates: How and Why Leading Universities are Opening Up Access to Their Courses*, he writes that he is

rethinking his scepticism about the potential of new technologies to improve productivity in higher education (Bowen, 2011).

It is not surprising that the price of dentistry rises faster than inflation because, despite increasingly sophisticated equipment, it is a personal service with little scope for automation.

The case of horn players, as examples of orchestral musicians, is more debatable. They are rare and specialised professionals, but technology has increased their productivity dramatically because most people now listen to them, with equal enjoyment and at much lower cost, on iPods and CDs instead of in concert halls.

The most interesting comparison is with stockbrokers. Their prices went up more rapidly than those of higher education until the 1980s and then fell steadily to a relatively much lower level. This was when brokerage services went online, giving individual punters more control. Brokerage services are a better comparator for higher education.

Technology now allows institutions to deliver their programmes through media and to give students more control as distance learners. This can cut costs substantially without loss of effectiveness and the cost advantage of distance learning is increasing steadily. This is because in large distance education systems the cost of learning materials production has remained almost constant as a proportion of the total cost while that of learner support services has almost doubled (Naidu, 2007).

How does technology cut costs?

Most governments want to widen access to education while improving its quality and reducing its cost. We can visualize this challenge as a triangle of vector, which makes the simple point that in conventional classroom teaching there is little scope to alter these vectors advantageously. Improving one vector worsens the others.

Pack more students into the class and quality will be perceived to suffer. Improve quality by providing more learning materials or better teachers and the cost will go up. Cost cutting may endanger both access and quality.

We call this the ‘iron triangle’ and it has constrained the expansion of education throughout history by creating in the public mind an insidious link between quality and exclusiveness. If this were the end of the story, Archibald and Feldman would be correct that the cost of higher education must rise inexorably.

However, technology is able to stretch this triangle to achieve, simultaneously, wider access, higher quality and lower cost. Asian studies show that costs per learner in technology-based distance learning systems are a third of those for conventional learners (Dutt & Gaba, 2006).

The open universities have been exploiting this advantage for years. They enrol millions of students and some achieve impressive ratings for the quality of their teaching. For example, the most recent national quality assessments for teaching in England put the UK Open University in fifth place out of a hundred institutions, one place above Oxford [1]. The Open University has also come top – and never lower than third – in national surveys of student satisfaction conducted with a large sample.

This revolution of providing high quality teaching to large numbers at low cost was originally achieved with traditional learning technologies (print, audio, video and stand-alone computers).

It was based on the principles of industrial production, which were identified two centuries ago by Adam Smith as division of labour, specialisation, economies of scale and the use of machines and media (Smith, 1776).

Today's new generation of digital technology is characterised by the concepts of networks, connectedness, collaboration and community. As well as increasing economies of scale, since digital material costs almost nothing to distribute, this technology also speeds up and intensifies the interactions possible between students and their teachers.

More and more students are opting for this form of teaching and forecasts that digital technology would create a generation gap, with young 'digital natives' seeking online learning while older students avoided it, have been proved wrong. Research on UK Open University students shows that although older and younger people use technology differently, there is no clear break between two separate populations (Jones & Hosein, 2010).

The research was conducted on 7,000 students aged between 21 and 100 with 2,000 between ages 60 and 69; 1,000 aged 70 and over; and, for comparison, four 1,000-member groups of students in their twenties, thirties, forties and fifties respectively. The results showed that while there are differences in the use of digital technology with age, the change is gradual from group to group. There is no coherent 'net generation'.

One important discovery was a correlation – independent of age – between attitudes to technology and approaches to studying: “Those students who had more positive attitudes to technology were more likely to adopt a deep approach to studying, more likely to adopt a strategic approach to studying and less likely to adopt a surface approach to studying.” This evidence that, at any age, a good attitude to technology correlates with good study habits is also important in giving the lie to the view that online learning tends to trivialise instruction. The intelligent use of technology can improve the quality of learning.

Changing corporate structures

A key question is whether these changes herald a new – and less costly – business model that will transform corporate structures in higher education as the for-profit sector expands. What does an expanded role for the for-profit sector imply? It has room to cut fees and still make good profits, so as the public sector starts to reduce fees it will be able to follow suit.

Public institutions aim to break even and re-invest any surpluses. How are these surpluses spent? All institutions make cross subsidies between units but the private sector may be more disciplined about investing for the future and pay more attention to student perceptions of the balance between costs and benefits. Hence the interest of the private sector in taking advantage of online technology to cut costs and in trying to ensure that its graduates secure employment.

The private sector can be either home-grown or international. Indeed, all providers, public and private, become private providers once they offer programmes across borders. A public university is a private provider when operates in another country, even though it may not initially repatriate its surpluses. The

growth of private provision is essential for the expansion of postsecondary education in many countries. No government can any longer fund all the postsecondary education its citizens want, so the choice is either a public-sector monopoly giving inadequate provision or meeting the demand through a diversity of public and private institutions.

The World Bank's private-sector arm, the International Finance Corporation, estimated the private higher education market worldwide to be already worth some \$US 400 billion in 2006 (UNESCO, 2009). The current challenge, if the aim is a major expansion of postsecondary education, is that most private providers, both local and foreign, still cater expensively to an elite market. They do not contribute much to expansion because they are not usually scalable.

This is the central dilemma of private higher education: can it be combined with equity of provision? This role of the private sector in expanding equitable provision is a question that exercises many developing country governments.

The key question is whether governments can regulate the private sector without strangling it. Is it possible to develop some common principles of accountability and transparency for all providers of higher education? The issue is whether public and private institutions should be treated in the same way for QA purposes. Ownership is important for the tax authorities but is not, in principle, relevant to quality. There are good and bad actors in the public sector and there should be the same quality thresholds for all.

Legitimate for-profit institutions welcome strong quality assurance frameworks but ask that they be applied fairly across the whole higher education sector. Legitimate areas for regulation are the avoidance of excessive student loans, ground rules for acquiring accredited institutions, and processes for eliminating bad actors. The main plea is for a level playing field.

A disruptive model: the OER University

I shall end with a proposed model that combines online learning with lower costs and new corporate structures. This is the Open Education Resource University that is being explored by an international group of public universities (WikiEducator, 2011).

Open Educational Resources, or OER, are materials used to support education that may be freely accessed, reused, modified and shared by anyone (Butcher, 2011). COL and UNESCO have just published a *Basic Guide to OER* and *Guidelines for OER in Higher Education*, which you can download from our website.

OER may well be the most radical technology-based tool poised to disrupt higher education. How might they help to widen access and cut costs? Some institutions already have policies that encourage the use of OER so that teachers do not have to re-invent each of their courses from scratch.

For example, once professors at the Education Faculty of the Asia eUniversity have agreed on course outlines they do not develop any original learning materials because good quality OER for the topics they require is already on the web and they simply adapt them. Similarly, Canada's Athabasca University will not approve development of a course until the proposing department has shown that it has done a thorough search for relevant openly licensed material that can be used as a starting point.

But some would go much further. Paul Stacey has outlined the concept of *The University Open* (Stacey, 2011). He believes that the combination of open source software, open access publishing, open educational resources, and the general trend to open government creates the potential for a new paradigm in higher education.

In February 2011 the Open Education Resource Foundation convened a meeting in New Zealand to operationalize the *Open Educational Resource University*, a concept developed from this thinking (WikiEducator, 2011).

The idea is expressed here (Taylor, 2011). Students find their own content as OER; get tutoring from a global network of volunteers; are assessed, for a fee, by a participating institution; and earn a credible credential.

Such a system would reduce the cost of higher education and has echoes of the University of London External System that innovated 150 years ago by declaring that what mattered was performance in examinations, not how knowledge was acquired. That programme has produced five Nobel Laureates.

Open educational resources are unquestionably being used. Millions of students and informal learners access the OER put out by MIT, the UK Open University, the Open Courseware consortium and others to find good teaching. 32 Commonwealth small states work together within the *Virtual University for Small States of the Commonwealth* to develop OER that they can all adapt and use (West & Daniel, 2009).

The UKOU's OpenLearn site has 11 million users. Hundreds of courses, some 80,000 hours-worth of study, can be downloaded, some as interactive eBooks. With 300,000 downloads per week, the UKOU alone accounts for 10% of all downloads from iTunesU and there is a worldwide viewing audience of hundreds of millions for OU/BBC TV programs. UKOU Vice-Chancellor Martin Bean argues that universities should provide paths from this informal cloud of learning towards formal study for those who wish to take them (Bean, 2010).

To examine how the OERU would work we juxtapose Martin Bean's remark about leading learners gradually from the informal cloud of learning to formal study with Jim Taylor's representation of the steps in the OERU.

The first step, access to OER, is increasingly solid. The OER pool is growing fast and it is progressively easier to find and retrieve them. The solidity of the top step, credible credentials, depends on the involvement of existing, reputable, accredited institutions that espouse this

What of the three intermediate steps? For the first, student support, distance teaching institutions have the skills necessary. They already manage extensive networks of tutors or mentors. A few institutions, such as the State University of New York's Empire State College, also have long experience of mentoring students to develop their own curricula.

Taylor (2011) envisages the emergence of a body rather like *Médecins sans Frontières* or *Engineers without Borders*, which he calls Academic Volunteers International. Furthermore, social software is enriching the possibilities for student support and interaction.

The UKOU's OpenLearn website, for example, is not just an OER repository but a hive of activity involving many groups of learners. Digital technology is breathing new life into the notion of a community of scholars and social software gives students the opportunity to create their own academic communities. Some of this social learning activity involves various forms of informal assessment that can be helpful in preparing students for the formal kind.

At step three, assessment, payment is essential but this is well-travelled territory. It takes us back 150 years to recall the University of London External model. With credible assessment by reputable institutions the next step, the granting and transfer of credit, is straightforward and leads to the top step of credentials.

The discussions around the OERU assume that it will not be a single institution, but rather an umbrella organization for a network of participating universities. No established institution is likely to adopt the OERU model for its core operations in the foreseeable future since the revenues – and the costs – would be much lower conventional approaches. Ten institutions have come together to test the waters. For example the University of Southern Queensland, which has a strong track record in open, distance and blended learning, intends to do this by offering study on this model initially as part of its community service function.

Conclusion

Let me conclude. Historically higher education has progressed by evolution rather than revolution. That pattern will likely persist but we have argued that the steady expansion of online learning will severely disrupt current arrangements and practices. An ever growing proportion of higher education will be provided online in response to student demand for more convenient and personalised instruction and this will have a much broader impact, notably on the nature of academic work and the corporate structures of institutions. This will make it possible to offer quality options at low cost to address the burgeoning demand for higher education.

Once higher education does most of its teaching online a new and much lower cost structure will emerge. By the time this happens connectivity will be effectively global, which will make it possible to bring higher education to the billions at the bottom of the pyramid (Pralhad, 2004) for whom it is now only a faraway aspiration.

[1] These national assessments of teaching quality were discontinued, at the request of the 'elite' universities, after this table was published, so there is no more recent data.

References

- Archibald, R.B. and Feldman, D. H. (2010) *Why Does College Cost So Much?* Oxford University Press.
- Bates, A.W. (2011) *2011 Outlook for Online Learning and Distance Education*, Contact North, Sudbury. [http://search.contactnorth.ca/en/data/files/download/Jan2011/2011 Outlook.pdf](http://search.contactnorth.ca/en/data/files/download/Jan2011/2011%20Outlook.pdf)
- Bates, A.W. & Sangra, A. (2011) *Managing Technology in Higher Education: Strategies for Transforming Teaching and Learning*, Wiley.
- Baumol, W. J. and Bowen, W. G. (1965) On the Performing Arts: The Anatomy of Their Economic Problems, *The American Economic Review*, Vol. 55(1/2), pp. 495-502
- Bean, M. (2010) *Informal Learning: friend or foe?* <http://www.cloudworks.ac.uk/cloud/view/2902>
- Bowen, W. G. (2011) Foreword to *Unlocking the Gates: How and Why Leading Universities are Opening Up Access to Their Courses*, by Taylor Walsh, Princeton University Press, pp. vii-xvi.
- Butcher, N. (2011) *A Basic Guide to Open Educational Resources*, Commonwealth of Learning, Vancouver and UNESCO, Paris. <http://oldwebsite.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf>
- Carnegie Commission on Higher Education (1968) *Quality and Equality: New Levels of Federal Responsibility for Higher Education*, McGraw-Hill, New York.
- Commonwealth of Learning/UNESCO (2011) *Guidelines for Open Educational Resources in Higher Education*, Vancouver/Paris. http://oldwebsite.col.org/PublicationDocuments/Guidelines_OER_HE.pdf
- Commonwealth Secretariat (1987) *Towards a Commonwealth of Learning (The Briggs Report)*, p. 60.
- West, P. & Daniel, J.S. (2009) The Virtual University for Small States of the Commonwealth, *Open Learning: The Journal of Open and Distance Learning on OERs*. Vol. 24(2) pp. 67-76.
- Dutt, R. and Gaba, A. (2006). Cost of dual mode and single mode distance education. In S. Garg, V. Venkaiah, C. Puranik, & S. Panda (Eds.), *Four decades of distance education in India: Reflections on policy and practice*, Sage, India, pp. 380–391.
- Jones, C. and Hosein, A. (2010). Profiling University Students' Use of Technology: Where Is the Net Generation Divide? *The International Journal of Technology Knowledge and Society* Vol. 6 (3) pp 43-58.
- Lenzner, R. and Johnson, S. S. (1997). *Seeing things as they really are*, March 10, *Forbes*, 122-131. http://www.forbes.com/forbes/1997/0310/5905122a_7.html
- Naidu, C. G. (2007) *Manual on Financing Distance Education*, Commonwealth Educational Media Centre for Asia, New Delhi.
- Prahalad, C. K. (2004) *The Fortune at the Bottom of the Pyramid*, Wharton School Publishing.

PROPHE (2012) International Databases – Program for Research on Private Higher Education.
<http://www.albany.edu/dept/eaps/prophe/data/international.html>

Smith, A. (1776) *An Inquiry into the Nature and Causes of the Wealth of Nations*. Methuen, London.

Stacey, P. (2011) Musings on the EdTech frontier: the University of Open.
<http://edtechfrontier.com/2011/01/04/the-university-of-open/>

Taylor, J. (2011) Towards an OER University: Free Learning for All Students Worldwide.
http://wikieducator.org/Towards_an_OER_university:_Free_learning_for_all_students_worldwide

UNESCO (2009) *A New Dynamic: Private Higher Education* by S. Bjarnason, Proceedings of the World Conference on Higher Education, Paris.

WikiEducator (2011) OER University (#oeru). http://wikieducator.org/OER_university/About