

House of Commons Seminar: 17th March, 2009

Re-Engineering universities

Professor Rick Trainor:

I had the slightly challenging experience earlier this morning of being interviewed on Radio 4 on the subject of fees and the possible lifting of the cap in the aftermath of UUK's report yesterday (which I emphasise - as I did on the radio - is simply setting out possible scenarios) and I can tell you that I'm very glad indeed that this is not a HEPI seminar on the fee cap. I'm delighted to be moving on to a different topic.

I'm speaking today as President of universitiesUK more than as Principal of Kings College London and I'll be drawing on my little bit of technological expertise from my days (with Deian Hopkin, who's in the audience) as a historian in the '80s and '90s trying to apply computers to historical teaching and research.

To a social historian like me, the subject of re-engineering and reinvention feel slightly unfamiliar territory, but I feel I'm on more solid ground when I look to the past and assert that, over the last 25 years, UK higher education has undergone a significant revolution to which institutions have adapted extremely well. Last month, John Denham, Secretary of State in the Department for Innovation, universities and Skills, declared that UK higher education was one of the most visible, tangible and important expressions of this country around the world. I suspect most people in this audience would agree with that statement, so I'd like to spend my time this morning exploring why I believe that British universities have achieved this position and how they can retain and enhance it.

It's my strong belief that the nature of the higher education sector and of its institutions, especially as they've developed over the last two decades, is such that UK universities are inherently dynamic and competitive in ways that suit the needs of the economy, and of society more generally. The current system encourages these entrepreneurial attitudes, which are great strengths and virtues of the sector. This leads to adaptability and flexibility and the ability to respond rapidly to change and to new demands. These demands, in turn, affect the basic systems and processes of universities and the ways in which they deliver their varying but similar core missions and specific objectives through their teaching, research and knowledge transfer activities. I think it's particularly important that we remember this in today's difficult economic climate when so many additional demands are being made of our universities.

When this Government placed universities with Innovation and Skills in its reorganisation, it was underlining its faith in higher education as an economic, social and cultural force. We were and are delighted to have been recognised in this way, but it's vital to acknowledge what John Denham also went on to say last month - that the strength of the current UK system and the prime reason why it is world class lies in the autonomy of the universities themselves. As autonomous bodies, universities are continually reinventing and re-engineering themselves. The nature of universities as organisational entities and the structure of the university system are such that, if properly resourced and if supported by light touch regulation which encourages

national objectives without stifling innovation, they will continue to do this. UK universities in my view are very successful in evolving in this way.

The combination of ever-increasing demand and finite budgets has led to renewed focus on how our institutions function and on the processes which support their core activities. Institutional senior management teams currently have a key role to play here - for example in increasing their own knowledge and understanding of the direction and use of technology and then championing it amongst staff. Technology can facilitate this broader process of evolution, but this is the final stage in the process. Technological solutions *by themselves* will not deliver successfully re-engineered universities. Instead, the underlying academic and administrative processes need to be addressed and technology integrated to help deliver the required changes. If the basic processes are not right, then technology by itself cannot deliver change.

Turning, more specifically, to students and to teaching and learning, I think it's testament to the continued success of our universities that, even in today's uncertain times, young people and indeed the potential student population more generally, are still confident of the personal and professional benefits to be had by entering higher education. The nearly 8% increase in university applications for 2009 announced by UCAS last month follows more than a decade of sustained and virtually unchecked growth in student numbers. That our institutions have been able to sustain such growth whilst maintaining the quality of teaching and research for which we are renowned is due not least to the sector's adaptability and flexibility - its capacity to harness technical innovation while also achieving the degree of organisational change to successfully and sustainably realise its potential.

It's common nowadays to talk of the student experience, but this misses the point. To speak of the student experience is to ignore the diversity found in our campuses. These are places where you are now almost as likely to find members of the local business community maintaining their professional skills, or people in middle age or beyond obtaining the knowledge they need to re-enter the workplace, or a PhD student from one of a hundred different nationalities, as you are the school leaver embarking on the seamless third stage of his or her education.

As Geoff Crossick and Steve Smith point out in their recently published report on the sustainability of teaching and learning, students study by a variety of modes, whether full or part-time, on campus, or be it distance, work-based or electronic learning. In short, they engage in blended learning in terms of the mode of their education as well as the methods by which they learn.

Campus based learning can include lectures, small groups, tutorials, workshops, simulations, studio performance and laboratory work, field work, practice learning, placements and internships and self-directed or student-led learning. Students are active creators of the learning and teaching experience, not merely customers or consumers, and this, as the report states, is directly relevant to the benefits that graduates in turn bring to the UK economy and UK society more generally.

It's also the case that many of our students are balancing their studies on one side with all the challenges of family life on the other. These days it's unusual to find a student

of any age who can now afford to study without, at the same time, needing to find paid work at some time during the year.

Such a range of circumstance, experience and perspective has added to the vibrancy and intellectual vigour of campus life, but it also brings with it extra challenges and responsibilities for our universities - challenges which are significantly affecting the way in which we deliver teaching and enable learning. Aided by a series of national initiatives which began in the late 1970s, the sector has come a long way in a comparatively short space of time in its use of learning technologies, though there is still a long way to go. Research from JISC has shown that technology enhanced learning and teaching improves recruitment and retention and, when it's applied strategically, it has the potential to enable transformational institutional change. New and emerging technologies such as e-portfolios, podcasting and social networking (I've mugged all this up from my children as you can tell) all present exciting opportunities for enhancement and innovation in learning and teaching on the campus, at home and within the workplace.

In parallel to this we're witnessing a move towards what we might call a learner-centric IT environment. That is, one in which learners expect to be able to use their own devices in institutional contexts and to be able to personalise institutional services to meet their own requirements. We recognise that all of these trends place an ever greater strain on the infrastructures and services which underpin the technology and thus further reinforce the need for a measured strategic approach to its implementation.

This was recognised by Sir Ron Cooke, as the then Chair of JISC, in his response to John Denham's request for advice on how the UK, with its established excellence in many aspects of e-learning, could become a clear world leader in the field. His submission to the Secretary of State's ongoing review of higher education recommended that universities be encouraged and supported to develop integrated information strategies against their individual missions to include more visionary and innovative use of ICT, not only in research, but also in management and administration alongside their teaching considering the potential of shared services.

These days distance learning has been vastly enhanced by new technologies. The instant nature of SMS messaging, the ability to form study groups on Facebook and real-time conferencing software such as Elluminate, are all examples of technologies that help students feel less isolated and more part of a learning community. While the Open University is often and rightly looked to as a leader in this sphere, I would want to say (and with Geoff Peters in the audience I'm certainly going to say it) that other institutions are also innovators in this area. Leicester University, for example, now refers to itself as a "mega distance learning provider" with over 7,000 distance learning students, most of whom are studying for work-related or work-based Masters Degrees.

A recent presentation to UniversitiesUK by BAE Systems claimed that we are living in exponential times - the amount of technological information available to us is doubling every two years. A technological maelstrom surrounds us. It is certainly having a profound impact on the needs and expectations of our students. Now, it's tempting to over-simplify this and to speak of a homogenous Google generation, but

this is to suggest a level playing field of skills, experience and appetite for information and communication technology that does not, in fact, exist. The real picture is far more complicated and includes a full spectrum from early adopters and innovators to the novices and the nervous. We must be careful to ensure that our desire to meet the demands of the former is not at the expense of the latter. Such is the thinking behind projects such as LexDis at the University of Southampton which provides handy tips and suggestions for using technologies that make e-learning easier. At institutional level, universities are increasingly looking at making whole institution changes based on technology and I'm happy to be able to cite here the Connected Campus Project at my own institution.

Currently, all institutions run a virtual learning environment. They all have access to a world class network and to numerous collections of materials for teaching and research. Many are now building on these foundations and using technology to co-ordinate customer relationship management or to integrate their student records, finance and personnel systems. Others are focusing on the re-engineering of their curriculum design processes and on online delivery of course materials. These innovations, while exciting, will require institutional-wide cultural change in order to be successfully implemented. We need to consider their sustainability in many senses of that word.

And, finally, universities must strike an appropriate balance between embracing emerging technologies on the one hand and traditional face-to-face interaction on the other, and they need to approach that balance in a way that befits our standing as pioneers and innovators while continuing to deliver robust, quality-assured services. We need to appreciate technology in its true, organisational context. New systems or services alone are seldom the answer to the challenges we face. What's required instead is a thorough understanding of the academic and administrative processes which underpin our institutions. We need knowledge sufficient for us to be able to identify not only what we do, but also how and why we do it. And it must be a knowledge which encompasses the essential trio of people, processes and technology - how they currently act and how this crucial inter-dependency might be improved. With this knowledge, more effective exploitation of the ever-growing range of emerging technologies can be more swiftly adopted.

We live in an increasingly techno-centric and information-crowded world - that technological maelstrom I referred to - and, as such, it's inevitable that the emergence of new technologies will always grab the headlines as they are either lauded as the great new hope or lamented as a risk to our institutional interests. But the information which the technology processes and the collaboration that it enables is critical. We have both a responsibility and an opportunity to help learners, researchers and external partners alike access and benefit from this information. So we must be careful to keep our perspective and to continue to focus on the organisational foundations which have served us in the past and which have the power to deliver sustained success into the future.

It's my view that universities have reached a position where, approaching technological and organisational change in the way I've described, they are continually reinventing themselves and that the dynamics of the higher education system in this country encourages this. This is especially important in challenging

and fast-moving times such as the economic downturn which we're currently facing. This makes universities especially well-placed to adapt and contribute in the way that they're doing and which I have no doubt they'll continue doing in the years to come.

Mike Boxall:

You should always beware consultants who stand up and preach change and uncertainty - it's our stock in trade and something we have a vested interest in everyone believing. But, nonetheless, there are some very strong reasons for thinking that the wider world of higher education is going through a period of seismic changes that will shift the landscape for all universities on the 10, 15, 20 year horizon and may indeed threaten the future for some of them. More positively, I think it's an emerging environment with fantastic opportunities for those universities that are willing to embrace and take on new models of learning, the kind of thing that Rick has mentioned.

I'd like to take a business perspective on the re-engineering of universities – to see higher education in business or market terms; to consider how changes in that wider market environment are challenging some of the basic tenets of our current models of higher education; to look at some of the ways that universities are re-engineering their operations in response to this; and to ask the pointed question of whether these responses are going to go far enough to take full advantage of the changes happening in the wider world.

I'll start by looking at the forces for change facing the sector.

The first is the weight of the economy of knowledge - a term used advisedly to mean the whole range of public and private markets for knowledge services in which universities are one very important part. It's an economy that's exploding in every direction, diversifying and becoming extremely competitive on global levels. Universities have, of course, shared in this growth over the last decade or so, but not uniquely and, in some ways, perhaps less than some other players in these markets. For example, UK universities receive only around a third of government funding on R&D, so there's a lot of money going to other parts of the economy. In terms of industry spending on R&D, an awful lot of which is now being outsourced, university receipts represent about 7 or 8% of the £22 billion of industry spend on R&D. Universities have got perhaps less than 5% of the market spend on professional qualification and professional development. So there's a much bigger market that universities are an important part of and the growth is often in those new areas.

The second force for change is public policy and funding for higher education. I'm not going to talk about fees, I promise! But it's clear that public funding in this economy of knowledge is becoming less dominant than we've been used to and much more instrumental in its focus. The Treasury mantra of something for something sits rather like Larkin's toad on all government discussions with universities. When we do our market analysis, we see six broad streams of revenues available to universities, only two of which are to do with the public funded funding of research and of teaching, and amounting to only around half of the £22 billion of revenue that the sector had last year – it's much less than that, of course, for many institutions.

The third force for change is the way that demands are now being set outside the academy – they're being set by the choices that students, employers and government are making across a range of alternatives for meeting their needs. We are firmly into a demand-led world for higher education services. The conditions of success are set outside universities and that's a really important change.

And finally, obviously, technology is transforming experiences, expectations, opportunities in the ways that Rick talked about, and it is creating big changes in the sector. Comparing the impact on higher education with the transformation that technology and the internet have brought about in almost every other area of our lives and experiences, I would suggest that it's a process that is only just beginning and there's more to come.

So, taken together, these forces are taking us into a new world for higher education and a world in which past experience probably has little to tell us about what the future will be like. In particular, they challenge the core precepts on which our conceptions of higher education and of what a university is have been built. In re-engineering terms, they're impacting on the basic building blocks of what makes up a university and the business model of universities. You'll see in our paper that we identify six of these building blocks, which embrace the things Rick talked about but go beyond them; they are the premises, the concepts on which universities are organised and how knowledge is understood. They look at the products of teaching and research, what the university offers to the world, how that's delivered, the process of engagement with client groups, but they also extend to things like how quality is determined. What are the standards and assurance processes within this market? What's the basis of brand and reputation? How is governance managed? How are decisions taken and accountabilities managed? And the economics of higher education - how do institutions make their living? We're seeing big changes on each of these basic areas and we call those changes re-engineering.

We are obviously seeing the nature of universities as organisations being challenged, especially on the research side where research is predominantly being organised around problems and cross-disciplinary areas rather than in discipline-based silos. We're seeing the boundaries between universities and the outside world changing through collaborations and partnerships. I think some of the more interesting areas are the changes we're seeing in some of the other building blocks. For example, in quality the notion of academic peer group judgments defining what is quality in higher education is being challenged by views on fitness for purpose coming from students, from employers, from government, from other agencies, and these views are being given increasing weight in both public and private funding decisions. There's a real tension there which I think we've only just begun to debate.

The branding of universities and the way universities position themselves in this market is still quite introspective - it's based on research standing and institutional wealth. Whereas I think the market is looking for the benefits that we gain from institutions and their impact on the world locally and globally. So the basis of reputation and branding is going to shift.

We're seeing changes in governance as well. The established process has found consensual models of governance in universities increasingly giving way to much

more executive models of decision-making and accountability around risk. Vice Chancellors are starting to look a bit more like football managers than we've been used to.

On the economics of higher education, we're moving from an emphasis on public funding and grant funding to managing portfolios of very diverse revenue streams in different markets, reflecting both the diversification of that market and the really quite worrying, if not dire, outlook for public funding for higher education.

So there's no doubt that there is an extensive process of fundamental re-engineering going across our universities. It affects every aspect of their business. Work we were doing recently for HEFCE looking at regulatory burdens in the sector and how they've changed over the last decade found most powerfully that universities have effectively assimilated over this last decade a lot of the external assumptions about what is good management and what is good practice, and have re-engineered their systems and processes quite dramatically. The change between those two studies for us was quite remarkable.

But are these business and process changes sufficient to assure the continued prosperity of universities in a much more user-centred and demand-led world? This isn't just a question about recession and the pressures that universities are going to face on revenues and costs over the next two or three years, although those are going to be disruptive enough. Short term pressures to re-engineer operations, reduce costs and diversify revenues will be greater than ever simply to protect and maintain current positions. Arguably, if we look beyond this current crisis, then even more important is the question of how fundamentally this wider environment for higher education is changing and what kinds of institutions are going to be wanted in, say, 10 or 15 years' time.

When we look at all the examples of re-engineering currently seen in the sector, I think they're mostly about modernising the established 20th century model of a university rather than transforming the proposition. A lot of universities will enter the second decade of the 21st century doing pretty much what they've done in past decades, but doing it much better, more flexibly, more responsively. The notion of universities as an elect community of scholars who decide among themselves what constitutes higher education in all its parts and how it should be propagated is still the dominant paradigm, which is great provided that the funders and customers for higher education services in that wider environment are content to support that process. However, if we give weight to the view that knowledge in the 21st century will increasingly be owned and controlled by its users, and that universities will be seen by their clients and stakeholders as one group among a range of alternative sources of those knowledge services, then that traditional model may be in some trouble, however much it is modernised.

Real re-engineering of universities would go substantially beyond modernising the building blocks of the current business model. It would re-think the basic proposition of a university and, in particular, what makes universities special in this 21st century economy of knowledge. By 'special' I mean what is it that the universities can do that's needed by society, by business, by governments, by citizens, and which no others can do? That's the critical thing. We suggest in the paper that is sitting on

your seats that the answers to this lie in the distinction between traded knowledge, transactional knowledge, which increasingly is becoming commoditised, freely accessible, highly instrumental, Googlised I guess - between that and learning as an essentially social exchange process and the processes through which people engage in sharing, extending and applying their understanding of the world. Lots of organisations, including ones like ours, can provide knowledge services in terms of information, teaching, skills, transfer, advisory services, even research, and sometimes will be able to do so more cost effectively than universities, but arguably only universities can provide the space and the opportunities, both physical and virtual, for people to come together to learn.

We've described this view in our paper of a 21st century model of higher education as positioning universities within what we've termed an ecology of learning. That ecology would sustain a social and economic network of open, engaged communities of learning. 'Open' in terms of the availability and sharing of knowledge and content, but also as borderless and inclusive and collaborative models of organisation. It would be 'engaged' in the sense of being predominantly concerned with the development and sharing use of knowledge to help society, business and government to address shared needs. That's going beyond short-term instrumentalism, I think. 'Communities' in the sense that it bring together worlds of scholarship and practice in a fundamentally institutionalised way, whether face-to-face or through collaborative user-led technologies, and concerned with 'learning' as something beyond "mere" knowledge and know-how and skills and that is recognised as a basic attribute of a civilised society in the 21st century. This vision would entail real re-engineering of the current university model. It's got disruptive implications and results that would be uncomfortable for many people in the current paradigm. It would ask some fundamental questions at the level of each of these building blocks. What would a university as an ecology of learning look like? What kinds of services and experience would it provide? How would it make its living? How would we get there from where we are?

So, in summary, the process of re-engineering and modernisation are already well established across the sector and will undoubtedly gather pace as universities face up to the challenges of recession, but it would be unfortunate and a lost opportunity if those processes of change focus only on sustaining and protecting 20th century models of higher education rather than looking to lay foundations for a genuinely 21st century model of higher education.