Virtually Real: The Communication Revolution and Online Education

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by Professor Adam Shoemaker

This is an experimental paper. I am going to try to persuade you over the next thirty minutes that there is a crucial and fundamental connection between three different forms of 'freedoms' worldwide. These are 'internet freedom', 'press or media freedom' and 'academic freedom'. This applies equally to the development of Australian curriculum at all levels - especially via the internet, the Ultranet or (in the future) via the National Broadband Network. I also want to argue that - at their best - modern, ethical and global universities should be not only operating at the crossroads of all three but should be advancing their intersections for the public good. This is often difficult, always controversial but - I believe - manifestly worth the effort. It also leads to e-learning, e-teaching and e-research which is of outstanding quality and richness.

First, then, to internet freedom. To understand what is meant by this term one can evidence many and varied current debates about the deployment of the internet for what are -according to some - untrammelled benefits and what are - according to other commentators -manifold risks both personal and sovereign. Let me emphasise that this is not just a commercial matter of proprietary software versus open-source programming, although that is undeniably a factor along the way. The debate hinges on issues far more fundamental. Put simply, the hottest controversies revolve around issues of rights: rights to access, to privacy, to free speech, to the protection of minors and to the best, highest-quality data imaginable.

And there is no doubt that the internet represents extremes of all of the above. Nor that the responses to these issues vary remarkably across the world - and here, too, in the state of Victoria.

For instance, in one of the largest and most public soundings on the internet ever undertaken, the BBC World Service engaged the international polling firm GlobeScan to survey (via telephone and face-to-face) 27,973 adults from 26 countries between the dates 30 November 2009 and 7 February 2010. Of those nearly 28,000 interviewees, 14,306 were internet users; so this was not simply a sounding of the converted or most experienced.

Fascinatingly, across the globe and irrespective of class or pattern of internet usage, 79 percent - or nearly four out of five of the citizens polled - believed that access to the internet either was, or should be, a 'fundamental human right'. The report quoted the fact that countries as varied as Finland and Estonia had already decreed that internet 'access is a human right for their citizens'. In it the Secretary-General of the International Telecommunications Union (ITU) Dr Hamadoun Touré, was quoted as follows:

"The right to communicate cannot be ignored…. the internet is the most powerful potential source of enlightenment ever created…" [and he added that governments must] regard the internet as basic infrastructure - just like roads, waste and water.

I am not sure how persuasive it is to juxtapose potential enlightenment with sewerage infrastructure, but the basic point remains.

But differences according to national responses were fascinating. Take, for example, the case of South Korea, whose citizens came in near the very top of the table when the issue of internet access was raised. Fully 96% of South Koreans polled agreed strongly that access to the internet was their fundamental right. At the same time, a huge majority of South Koreans (83%) felt that the internet 'should never be regulated by any level of government anywhere'. Yet, at the same time, at 70%, South Koreans were at the top of the list of national citizens who felt that they could not express their opinions safely online; against 55% for those from China, where internet filtering and monitoring is far more pronounced.

The surprising results continued. The three nations whose people felt most strongly that they could not 'cope **without** [emphasis mine] the internet' were Japan (84%), Mexico (81%) and Russia (71%). In marked contrast, only 29% of Indians believed they could not cope in an internet-less world and - at the same time - 70% of Indian citizens polled felt that they could express their opinions online without fear or favour.

The overall results were clear: 78% of respondents said that they believed the internet had delivered them 'greater freedom' and a whopping 90% stated that they 'thought [the internet] was a 'good place to learn'. The message is clear for those of us considering the potential for forms of online and mixed-mode education at all levels, be they primary, secondary, vocational or tertiary: much of the world is waiting to be taught in this way. Or, rather, there is an army of potential learners around the globe whose educational needs are clearly not being fully met. On the negative side of the ledger, those polled in the GlobeScan survey said that internet fraud was the aspect which concerned the highest proportion of respondents (at 32%) with 'violent and explicit content' coming in second (at 27%) and threats to privacy concerning 20% of those polled globally.

In short, as GlobeScan Chairman Doug Miller summarised the research, 'Despite worries about privacy and fraud, people around the world see access to the internet as their fundamental right. They think the web is a force for good, and most don't want governments to regulate it.'

Again, let me reiterate that nine out of ten respondents commented upon the benefits of the internet as a locus for learning; an incredibly high figure. For those of us here, almost all of whom work in curriculum design, that figure is a clarion call for attention to be paid to the way in which each of us - and every one of our institutions - articulates its e-learning strategies.

And there is much more to say on that score. In that connection, this paper could almost have been called 'three moments in May'. For, in the month of May 2010, key changes have been signalled in the way technology is received, consumed, purveyed and purchased. Each of these has potent educational implications.

The first was reported in the pages of the *Australian Financial Review* on Friday 28 May 2010. That edition featured a page three article by Rachael Bolton entitled, cleverly 'iWait all night for first iPad'. It focussed upon a part-time Telstra salesperson and student, Rahul Koduri, who decided to camp out in front of Apple's headquarters Sydney store 30 hours before the iPad was to go on sale. This level of devotion - longer than an A380 flight from London to Sydney - was remarkable enough - but the really interesting aspect for me was Mr Koduri's intention for the new device, over 1 million of which have been sold in the US over the past month. He stated:

I currently lug a laptop with me, but I won't need it once I have an iPad. I mostly plan to use it for the internet… I think it will go anywhere I go.

This theme: of nimble, portable, wireless-enabled, in-the-hand computing power is one which is certain to change the way we learn and teach in every Australian school in every Australian state and everywhere that we educate overseas. It is not just a matter of online education in the line-to-line sense of connectivity between a fixed personal computer and an Ethernet link. It is the absolute freedom of fourth and fifth generation wireless broadband which is really going to rock the foundations of Australian higher education. The question is 'Are we prepared for this?' because it has the potential to radically change learning spaces on each campus - including the largest 'learning spaces' of all, our school, TAFE and civic libraries. Leading state governments have already realised this and have been investing heavily in environments which will increase both staff and student enjoyment, productivity, energy and enthusiasm for learning.   And - most importantly - this very rapidly-developing trend will change our intellectual paradigms from fixed to mobile, from linear to collective, from traditional communication to simultaneous, streamed conversations where all parties actually want to participate.

I want to argue that this is good news pedagogically, intellectually and in terms of educational and research impact.

In other words, I want to argue that this is good news for both academic freedom and internet freedom, considered together. The ability to deploy, critique and engage will be enhanced remarkably. The capacity to reach a new generation of Australian learners - to have them teach each other and us while we inspire them - is a fabulous prospect.

I will return to this theme later but what is undeniable is that we do need to go into this arena with our eyes, ears and all senses wide open and attuned. For Australia is one of those nations which is most favoured in this area. Just as the BBC GlobeScan poll only concentrated upon 27 countries, there are over 150 others which are relatively invisible in terms of the internet.
For instance, in the most recent figures available from the International Telecommunications Union (2008) it is clear that the purportedly universal internet is anything but. While the most connected nation on earth (at least prior to the cataclysmic events of the Global Financial Crisis) was Iceland - with over 90% of its citizens online (the majority via high-speed broadband), and all the Nordic countries (as well as the Netherlands) boast well-over 80% connectivity, the bottom five nations in the world for internet access in 2008 were Myanmar (Burma); Bangladesh; Ethiopia; Congo and the Democratic Republic of the Congo. All have less than **one-half of one percent** [emphasis mine] of their populations connected to the internet.

A particularly striking aspect of this recent research is the internet 'rain shadow' that falls upon the First Nations communities of the United States. According to Sascha Meinrath who completed a study of internet access amongst Native Americans for the New America Foundation, fewer than 10% of respondents had access to the internet; that in a country which -overall - has three-quarters of its citizens as regular internet subscribers. Suprisingly, this one-in-ten figure was equalled by the low penetration of universal mobile phone coverage in tribal lands, also at 10%. Even more: 'even analogue phone lines reach one in three families in many tribal communities'.
 These shocking data were drawn from a survey of 'more than 120 tribes living in 28 separate states across America'.

So - as true as it is in part - this divide is not just a matter of Africa being left behind the rest of the world. The most inaccessible country on the planet is Burma and three of the six most

disadvantaged internet nations (Burma, Bangladesh and Cambodia) are in Asia. Even in the prosperous west the internet confers its wealth of information highly unevenly, with only 43.5% of Greek citizens being connected - and with that number to drop even further given the recent economic cataclysm in that nation.

What does this tell us, in terms of both internet freedom and international education?

It is that the economic impact of global events - both environmental and market-linked - cannot be ignored. For, in the wake of recent financial and (literally) volcanic disasters, what can we possibly imagine is the near-term future of higher education in Iceland or in Greece? The educational systems of both nations are in turmoil on all sorts of levels and investment in any form of internet access, in new learning spaces, in radically-reinvisaged forms of engaged technologies in - and beyond - the classroom is simply impossible. Even more: despite the propensity of its citizens for the internet, how will the recently-announced 30% reduction in the number of Russian universities impact upon the sector there? I repeat: this is a shrinkage by one-third of all higher education institutions in a nation which - until the mid-1990s - was considered to be one of the world's superpowers. We ignore such global impacts at our peril for, just as the world's economies are now comprehensively linked, the world's higher education systems are heading into a period of far greater interdependence.

  Rankings or not, it will be the alliances we strike, the company we keep and the partners we create which will determine our success in the next decades.

For this is not a matter of just changing equipment from overhead projectors to powerpoint. It is a revolution in higher education praxis. And it all comes from the idea that, individually, everyone can communicate even while they are silent. That in just a year or two we will be entering seminars such as this one and will be encouraging all those present to turn their mobile devices on - not off. That such meetings may in fact be even larger but will - at the same time - be just as engaging.

At the same time, in the same edition of the *AFR* which I quoted earlier—and almost unnoticed in the rest of the mainstream media, was the revelation that the day before (on 27 May 2010) for the first time in its history, the market capitalisation of Apple had overtaken that of Microsoft. As Brian Corrigan wrote:

> *Apple has overtaken Microsoft to become the world's largest technology company…this was unthinkable a decade ago when Microsoft was worth 20 times more than Apple.*

And he continued:

> *Apple shares closed down by $US1.11 yesterday at $US244.11 and Microsoft's slipped by $US1.06 to $25.01. That translates into a market capitalisation of $US222 billion for Apple compared to $US219 billion for Microsoft… Exxon Mobil is the only US business that has a larger market value than Apple. The oil company's market cap was $US279 billion, based on Wednesday's closing share price of $US 59.31.*

I don't know about you but I was genuinely surprised by this news.

The characterisation of Microsoft as the software behemoth, beholden to none and riding roughshod over the smaller Cupertino California cowboys of Apple is one which had gained lasting, popular currency for years during the 1980s and 1990s - and still persisted into the first decade of the twenty-first century. Many Apple afficionados - and brand loyalty is something that Apple has always enjoyed - were self-described mavericks, supporters of a company that was always seen as a style and quality leader but a commercial underdog. Even in the darkest days of Apple when its share of the overall PC market was less than 7%, the true believers who had purchased their first Macs in the pre-Internet days stood by them. They were accompanied

by the ranks of newer academics who had acquired their first pastel-coloured iMacs in the mid-1990s and both joined a stalwart band of practitioners in university Visual Arts and Architecture schools who had taken it as an article of faith to resist all attempts to enforce a Single Operating Environment on Australian tertiary campuses. Who amongst us has not heard the pleas to resist the Goliath Microsoft Word by supporting the more nimble, intuitive and less spam-stricken Mac Operating System? And who has not heard the pleas to let the 'Mac Users' be free to choose in the halls of academe.'

Ironically, the antitrust tables seem to have turned today. For, when one views any video on YouTube, one of the advertisements which is pushed to the viewer is called simply 'We Love Choice'. What is this? A site featuring Adobe (the creators of Postscript, PDF and Flash software) and a letter from its 'Cofounders' Chuck Geshke and John Warnock. In it, they mount an impassioned case for free access to content and applications via the internet, regardless of device. In that way, they are inveighing against restrictions on any open operating systems; in other words, they are inveighing against Apple using almost the same forms of language which Apple itself formerly used in its critique of Microsoft. As they put it:

> If the web fragments into closed systems, if companies put content and applications behind walls some may indeed thrive - but their success will come at the expense of the very creativity and innovation that has made the internet a revolutionary force.... We believe that Apple, by taking the opposite approach, has taken a step that could undermine this next chapter of the web - the chapter in which mobile devices outnumber computers, any individual can be a publisher and content is accessed anywhere and at any time.

This is fascinating.

And let us not forget the status of screen size. As Apple's first generation of core-users entered middle-age the company cleverly upsized its screen size and acuity so that principals, senior teachers and academic leaders could continue to enjoy the pleasures of razor-sharp imagery and generous font-size - all the while enjoying the vicarious pleasures of living on the leading edge of intelligent design. Then something happened. While Apple stayed true to its core values of innovation, ease-of-use, style and coolness it added a whole new dimension by redefining - first, the worlds of personal and portable music -and, second, that of the high-end smartphone.

The story of the many-coloured and modelled coat of the iPod is well-known. What the Sony Walkman was to the 1980s and the Sony Discman to the 1990s the iPod was - far more broadly and deeply, in the past decade. The word 'phenomenon' is an understatement. And, true to its roots and its user-base, the educational dimensions of podcasting and vodcasting rapidly came to the fore. The fascinating thing about iPods is their ability to render the power of control and access in the hand - to apparently individualise knowledge and choice in a way in which (for example) commercial radio could never do.

The creation of an online business - iTunes - out of the ashes of the conventional disc-based recording industry and - even more significantly, the forging of - a relationship with a whole new demographic layer of young users was equally brilliant - even if, ironically, many of the average aged 13 year-old iPod owners in Australia actually download 70% of the same musical choices. In other words, the top 100 is still the top 100, but people now have the illusion that their playlists are unique because they have selected them rather than - as in bygone days - a radio station manager.

So what does this have to do with the theme of Virtually Real? Everything. Because in establishing the alternative paradigm, this approach has redefined the potential for higher

education as well, even if it is not its specific products which lie at the core. By turning the attention to individual students as peer-learners - as co-masters of their destiny and ours, both pedagogically and technologically - we have a way forward which will see us thrive in the environment of new schools in this century. In truth, despite protestations to the contrary, academic content on its own has never really been a member of the Royal Family of education. The real means of inspiration still lies in our performance as inspiring educators (ie teaching at the highest levels of skill and inspiration about our disciplines) as well as via channels of communication which are lucid, intuitive and interactive. Just as for the internet, content really has never been king - only a fringe member of the royal court. The means of distribution (be they Google, Twitter, Sakai, Moodle, BlackBoard or Mahara) are - for me - the really crucial elements in this three-dimensional, multifunctional educational agenda.

On that score, it is devices like the iPhone and iPad, or linked, tablet-style machines of whatever make, which will facilitate learning and teaching of the calibre to which we have always aspired. And if we can achieve these educational aims in spatial environments which operate at the same level of inspired design - design which is architecturally clean and attractive, we will be hugely successful by any measure.

But on this question of size the jury is still out. On the futurist topic of 'where learning spaces are heading' one school suggests that we will still have the need for massive attack, iconic styles of enormous lecture theatres - akin to IMAX Cinemas - mammoth, imposing, inclusive environments. It is argued that these will still be essential citadels of learning experimentation. Others espouse the notion of Megaplex cinemas - in which bespoke spaces of smaller and variable, tailored sizes will be the answer. Who is right? Where in the world *are* we heading?

Perhaps a third way is correct. We will incorporate both as we need to - and will take them even further. We may well see the operation of Megaplex-style cinemas on University campuses, which operate as variably-sized lecturing environments during the day and which transform into cinematic entertainment venues at night. Visual culture on campus will never be the same; conference venues will be revolutionised, and students will have access not only to first-run films in the highest definition of quality but to safe part-time employment as well. The concept of commercial/public partnerships of this sort are not far-fetched and will answer a variety of community and campus needs.

And, even if this exact model is not replicated across the world, what I do predict is that the design inspiration for educational facilities will be revolutionised. Instead of 'other classrooms' forming the model for new-generation spaces, we will be looking at an amalgam of pertinent influences on campuses: of the best in airline lounge configurations; at the finest of sound and magnification as is found in concert halls; lighting maximised through partnerships with professional theatre lighting designers; seats which are worthy of Eurostar and in-seat screens which are drawn from the stable of the world's best airlines. In other words, the collective experience of all of these communicative forms will - in the best public institutions - change radically, just as the finest researchers, teachers will have to be supported to train, and to master these new learning approaches.

Of course, critics might say 'Will this not marginalise teaching?' Will the power of original and inspired learning simply become subordinated to a culture of high-tech refurbishment rather than of ideas? I argue against this. Rather than curtailing academic innovation and academic freedom, I believe that this approach will empower both. Of course, the most talented university teachers can overcome nearly every obstacle, but the world of learning has altered in significant and irrevocable ways over the past twenty years. There is no question that, as premium sites of inspiration, it will be schools and universities which marry the most accomplished, high-performing lecturers with environments that best showcase their talents which will succeed handsomely. The patterns, from Oslo to Odense to Ottawa are there for all

to see.

Yet, even while writing these words one might be concerned about another element. What does all of this have to do with 'online education'? Is that not something else? Something far more personal and distributed rather than collective?

I argue not. And the reason is that the power of online education is precisely its collective features: the online peer-to-peer groups; the connections made possible by cloud computing; the world of hyperblogging and wikis; which shows that it is still the 'coming together' of people and ideas in new ways that will define our next decades. The logical extension of that is physical spaces in which the advances in thinking, technology and - quite frankly - educational risk-taking, come together. I argue for an educational continuum which begins with the hand-held digital video camera in the field and which ends with the broadcast of that film to thousands at once. I argue for the renunciation of opposites between so-called face-to-face and online learning. I believe there is no such thing as purely one or the other. They are merged, blended, as surely as the computerised, digital images of the Hawkeye system are as much a real part of the Australian Open tennis championship as the serves of Samantha Stosur and Novak Djokovic. Both contribute to the excellence - the outstandingness - of the event - both also contribute to experiences which are, at their best, career-defining and superb.

But I do concede that even thinking this way shows just how clearly we are positioned in this nation as a place of privilege. We have to remember the incredible benefits which this confers upon all of us and have to never take them for granted.

This is thrown into the clearest relief when one is reminded of the huge gap in access to the internet which I quoted earlier. Australia's internet penetration rate of 72% literally dwarfs that of a country like the Democratic Republic of the Congo which, at 0.45%, is one of the lowest on the face of the earth.

Yet, even here, there is hope. For a third sea-changing event took place in Brisbane on 6 May 2010 on the occasion of World Press Freedom Day.
At this key event, held on the campus of the University of Queensland, the Rwandan journalist Robert Mukombozi was a featured guest who spoke about the denial of press and media freedoms in the regimes of his country and of neighbouring states. Remember, again, that Rwanda and the DRC are two of the least internet-invested nations on earth, yet both have significant mineral deposits of coltan, a rare earth which is essential to the batteries which power all modern mobile phones, tablets and portable computers. The irony of being simultaneously so near and yet so far from the citadel of the internet could not be more pointed.

This does indicate some important features. For me, it shows how the real world of politics, of international relations, of social sciences, feeds back into those same disciplines which we profess; in this case - and most compellingly - journalism and media studies. It also indicates the valuable role which Australian higher education institutions can play as crucibles for this activity. And it proves my point that the developing social media (another most powerful form of individual-to-collective behaviour) is really what international education is all about. In that regard, sites like YouTube are incredibly potent - and surprisingly accessible - mechanisms for social and educational transformation.

At the same time, they are outstanding learning resources. Now, an array of documentaries which existed only sporadically in library collections can be disseminated online as never before; dissenting voices can be heard; and both research and teaching can be enriched hugely.

So, while the tally of World Press Freedoms has, according to some measures, actually gone

into reverse over the past decade, there is now the potential for them to march forward hand-in-hand with both internet and academic freedom. Freely commenting - and contributing teachers will also be able to take advantage of both of the above, in their own research, education and service. That is ultimately the view I have of the potential for online learning worldwide, and it is one which far further than any Navitas, Kaplan, Apollo or online education provider has so far envisaged. But this is also a transformation which has the potential to last across generations, and to reach into the zones of those who must ultimately win equality of access to the internet as a right. This is a different form of political cycle: a professional lifespan greater than that of a single politician, internet pioneer, Vice-Chancellor or school principal.

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