

# **Innovative education online: Ideas for the future of learning and the Internet**

A Workshop on Using Web 2.0 Technologies for Online Teaching

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## ***Introduction***

Thank you all very much for your attendance today at this workshop on Web 2.0, online learning and innovation. The fundamental goal of our time together is to explore “the future of learning and the Internet”, working on the basis of our existing knowledge of the challenges and opportunities afforded to us as educator by the Internet. Working collaboratively, I hope we will pool our wisdom, our intuition, and our experience, and – to use the jargon of contemporary Internet scholarship – co-create some ideas for innovative online education, harnessing many aspects of technology but that is yet still deeply concerned with how and why students learn.

As you can see from the brief outline of the workshop before you, there are four parts to this collaborative endeavour. I will lead us off by presenting to you some of the ideas which are guiding me in the research and development of my fellowship project, Learning in Networks of Knowledge (LINK). These ideas will hopefully provide something of a challenging context in which we then will turn, in part two, to small group discussions about innovation in online learning which you are conducting, experiencing, or attempting. After a short break, we will return to focus on the technologies which provide the means by which to implement or develop the innovations you have been discussing. And, in conclusion, I will present to you some of the more specific activities which I, and colleagues in Curtin University’s Internet Studies Department, are undertaking in the LINK project. For the first and last parts of the workshop, where I will be speaking most of the time, I will leave time for questions and discussion; for the middle two parts, where you will be working individually and in small groups, I hope to present something of a commentary or summary. In this way, I trust today’s workshop will be both informative *and* communicative, engaging *and* coherent.

At this point, may I formally acknowledge the support of the Australian Learning and Teaching Council for the very generous award to me of a Teaching Fellowship to undertake this work; and may I also thank warmly the many people who have assisted me in organising the workshop today. In particular my thanks to Dr Elaine Tay, Project Officer and valued colleague from Internet Studies, Professor Beverly Oliver – herself now a Teaching Fellow!; and Terri Crowe for her invaluable administrative assistance.

## ***Questions to frame discussion of online learning innovation***

Let me begin by sketching for you some of the broader ideas which have, over the past few months, coalesced from my reading and thinking about innovative online learning. These ideas were, in most cases, part of the original conception of the LINK project which formed the basis of my fellowship application; but now I think I have a firmer grasp on what they are, and especially, how they weave together to produce a coherent foundation for the kinds of applied and investigate scholarship of teaching which we will do together in the rest of the workshop.

For me, the most important first step in thinking about online learning is to approach the Internet first and foremost as a profound social, cultural, economic and political change in the way societies operate and are organised, with particular attention to communication and knowledge. In other words, the Internet – and all that it hath wrought – comes first; education comes next. The Internet is not an educational technology: attempting to think of it in those terms leads us, I believe, back to the classroom and away from the very real difference which it can make for learning. At the same time, learning does not proceed always independently of education. It is just about realising that universities must plug into the Internet; not drag the Internet inside their hallowed halls.

So, while various ideas about learning are critical to my work, it is primarily driven by my analysis of the impact of the Internet on society - especially on knowledge production and distribution - , and the challenges of thinking seriously about what Web 2.0 might mean and we can do educationally with an Internet now dominated by Web 2.0. The main questions I have for you are as follows:

1. What does it mean to think about university students' learning as being part of knowledge networking?
2. How might we apply 'Web 2.0' thinking so as to produce learning which is more like participation in networks of knowledge?
3. How might assessment be used to motivate and engage students with this process?

I will now elaborate a little on each of these three key ideas – knowledge networking, Web 2.0, and assessment.

**Knowledge networking** is understood to be the emerging dominant paradigm for knowledge work in contemporary society. Within 'networking' (which of course is both a technical and human phenomenon), knowledge work is fragmented, distributed and collaborative, involving considerable separation of its distinct components – inputs, processes, and outputs – which are then shared in time and space, between human and non-human actors, in ways that de-centre 'knowledge'. In some sense, knowledge is no longer an object that is produced, circulated and received, and reinvented: it is instead a state of being, with which people are involved. One does not know, anymore: one is part of knowledge, experienced and enacted through networking. This ideal state, of course, does not necessarily map exactly to the realities of lived experience; but it is becoming – through metaphor, norm, and practice – a much more significant component of our lives. Since education is all about knowledge, therefore knowledge work through networks must necessarily lead to a re-examination of what we do as teachers and learners.

**Web 2.0** can mean much, or not much at all: perhaps I can discuss this a little more at the end of today's session when I find out more about what *you* think it means! For now, let me say that Web 2.0 is first and foremost, a sensibility, and the term labels (but doesn't explain) the dramatic emergence of participatory info-media culture enabled or at least alluded to in the design of current Internet technologies. So, to apply Web 2.0 to education is to some extent a renewed, or re-labelled, argument that learners learn best when active, 'in control' partners in learning. But it also recognises that, even without the populist generalities of the discourse of 'Gen Y', 'Millennials' and 'digital natives', people who engage regularly with the world through various forms of online participatory culture will approach higher education in a very different way from those of earlier times. But of course, Web 2.0 is not *just* a sensibility. It is a very good term to describe the thousands of web-based sites and services which have emerged in recent years whose technical design, and inherent characteristics particular suit the idea that knowledge work

is 'networked'. So, if I began with the contention that learning can proceed via networks of knowledge, that learning *is* knowledge networking, then Web 2.0 provides the tools that enable it to happen – perhaps just not the tools we might expect, nor used in the way they were first intended.

Finally, we must consider **assessment**. Why? I would argue that, when students do assessed work, they are more likely to attend closely to the task, and spend more time on it, than if they are not being assessed. There are three decades or more of research to show that learners utilise the assessment in their studies as the basis for determining the value of learning activities and of allocating their resources; while assessment can produce anxiety for students, it is also true that the state of uncertainty which assessment produces can, if used correctly, lead to greater learning because of the need to learn more to solve the uncertainty. Most of all, assessment is primary site within education of the inevitable power relations between students and teachers: attending to this explicitly enables all concerned to experience that power imbalance as a productive force, as Foucault would say. Thus, assessment is a very important focus for innovation. And, in partial answer to my question, I would say that motivating and engaging learners via assessment must involve making assessment authentic. This happens, for me, in two ways. First, assessment can involve the so-called 'real world' context outside of studies, and second, in the broader sense that, for students regularly using the Internet for social and other activities, assessments *not* involving the Internet increasingly appear inauthentic regardless of context.

What then is the challenge we face? If you are feeling like students under assessment, then perhaps the challenge is to try and come up with the answers to those three questions. You might even think about whether you are coming up with the 'right' answers for me. But, of course, this is not the case. I have simply started with these questions to show how they might open up lines of inquiry. I don't, myself, have the answers, though I have some ideas as to what I might find. The answers you might have to these questions can and will differ; the impact they have on your understanding and practice of education will differ. But I believe the three questions do provide us with a framework for the work we are going to do together today. They are not the challenge, but I hope a tool for meeting it.

No, the challenge is this: We do our job as educators caught between WebCT and Web 2.0, between Blackboard and blogging, Moodle and mashups, LAMS and LinkedIn, Sakai and social networking. In other words, we have come to assume that the learning management system – whatever flavour it might be – is somehow central to, or determining of, the approach we might take to online learning. But, as I have argued elsewhere, the origin and systematisation of learning management systems is precisely what makes them a barrier to innovation. LMSs no longer reflect the diversity, capacity and capability of the Internet, neither technologically nor (more importantly) its cultures of use and changing social context of knowledge and communication. This situation places in question whether using an LMS is, in fact, Internet-based learning. So, the challenge is to think beyond the LMS - and I hope that all of you here are already doing that, because in the end, it's not that difficult to imagine life without a LMS, or alternatives to one. The further challenge – which becomes a lot more difficult – is to base the further, innovative adoption of Internet technologies to higher education on something *other than* just the technology itself. We must think about the socio-technological character of the net, and how it works - for better or worse – in society; the particular ways it can be adapted to education (not just adopted), and the coherent explication of pedagogy *through* the use of such technologies so that student learning (and teacher teaching!) remains a keystone of decisions about what and how to do online.

With that in mind, I will now pause, and take a few questions from you, so as to clarify or extend any of the admittedly sketchy and vague pronouncements I have just been making. After that, we will begin the real work of meeting this challenge by working in groups.

*At this point the workshop becomes small group discussion and presentation focused; see handout for additional information.*

### ***The Learning in Networks of Knowledge (LINK) Project***

We have now completed the majority – and most important parts – of the workshop. You might like to reflect a little on what we have just done and see it as an expression of the concept of knowledge networking I alluded to at the start of the workshop. We were all co-present, but by distributing the kinds of cognitive work (problem identification, knowledge sharing, inventing alternatives, reviewing, arguing, synthesising, summarising) to other people, and in different sequences than we might each individually choose, we see how the ‘knowledge’ of innovative uses of the Internet for education is not really an object, but an experience within which we participated. Of course, this experience will continue and become *more* networked as I collate and circulate the ideas and summaries you have worked on today. And you might also reflect on how to achieve similar or better results, without co-presence via some of the technologies we are concerned with in Web 2.0.

I will now move on to conclude the workshop by briefly outlining the Learning in Networks of Knowledge (or LINK) project which is how I am attempting solve some of the questions I posed at the start. I will do this by summarising the three main ‘activities’ and then providing a little more detail about each.

There are two main research and developmental activities underway. First, LINK forms the basis of my ALTC Fellowship; but I would not be able to do this without the contribution of my colleagues in the Department of Internet Studies, in the context of a complete renovation of our undergraduate teaching program. As part of this curriculum development, we are embedding into each unit innovative assessments and approaches that allow us to research what happens when you use a knowledge networking approach, using – broadly – Web 2.0 thinking. Over the next 18 months, these developments will be implemented, tested and reviewed. The aim is, of course, to teach in better ways, but as a result of these innovations, we will also gather data to enable us to get a better grasp of contemporary learning conditions and approaches. This data probably won’t solve any deep questions, but will allow us to offer insights into how our techniques might be redeployed elsewhere, or how other techniques might address the concerns we face. Second, I am finding, analysing and assessing hundreds of specific Web 2.0 sites and services which may contribute to innovative approaches to the use of the Internet for higher education, with a particular focus on ways of using the Internet that go beyond a general call to employ blogs, wikis, social networking and podcasts which seems to dominate the current literature on Web 2.0 and learning. This work not only will bring to wider attention various possible tools and applications (or, in many cases, interesting variations on some existing ones); more importantly, I will be attempting to assess and categorise these tools so as to build up a more robust and detailed picture of what ‘Web 2.0’ can be made to do for higher education.

There is a similar duality to this research as in today’s workshop: it’s about pedagogy and curriculum innovation on the one hand (as explored within our new units of study); and yet also about tools and applications. The first component is not really going to tell us very much about online technologies but will, hopefully, create greater understanding of how to deploy and and all

such technologies. The second component will not tell us what actually happens when such and such a tool is used, but will create a more comprehensive map of the available resources and, more importantly, what the total picture of Web 2.0 might look like. In essence, the project is asking:

- What are the kinds of Web 2.0 site, applications and services which might enable knowledge networking, and how might these be adapted to the specific ways which might want students learn?
- What are the specific ways in which we might assess the conduct and outcomes of such knowledge networking on the assumption that good assessment practices will greatly assist students in participating in and learning from education when understood as 'learning in networks of knowledge'?

Here's a brief example of what we are currently doing and thinking in relation to each question, and each component.

### **What kinds of Web 2.0 tools?**

In terms of finding and assessing Web 2.0 applications, I am looking at some 2,500 applications that are listed at the directory <http://go2web20.net>. Most of them can be discounted relatively quickly, but there are many which have or could afford educational benefit. At the moment, I have come to no conclusions; but in the process of reviewing them, I am working up a way of categorising these sites that links them to the disaggregation of knowledge work into distinct inputs, processes and outputs as noted earlier today.

What is emerging from this research is that Web 2.0 applications fall into six broad categories. They can be tools or sites that:

1. Retrieve web-based information in ways that are in some manner different to a normal search engine, even though most rely heavily on original search engine results in some manner. Examples would be: <http://www.evri.com/> or <http://www.wikio.com/>.
2. Enable manipulation or organisation of information involving some kind of cognitive processing that aids users in thinking differently about what they are analysing – mapping, structuring, visualising, for example. Examples would be <http://cohere.open.ac.uk> or <http://www.wordle.net/>.
3. Permit easy creation and sharing of digital media artefacts that present information to an audience in new ways (e.g. creation of maps that represent concepts; animations; videos and slideshows). Examples would be <http://www.doink.com/> or <http://chartle.net>.
4. Provide a workspace for collaboration, utilising various forms of sharing and communication, more or less in private, though often with public elements of outcomes. Examples would be: <http://ning.com> or <http://webbr.com> or <http://etherpad.com/>.
5. Create an outlet for the dissemination or publication of material in various forms which more or less intuitively involve contributing, managing and manipulating information, individually or in concert, to create some form of knowledge. Examples would be <http://knol.google.com> or <http://www.openzine.com> or <http://askville.com>.

6. Integrate in novel or co-present ways the distinct activities associated with information (search, retrieval) and communication (sharing, discussion). Examples would be <http://kutano.com> or <http://diigo.com> or <http://voicethread.com>.

[I am adding a seventh category here relating to social media sites involving maintenance of identities through persistent communication]

Moreover, there are many variations on the themes which are normally thought to define Web 2.0. There are different kinds of blogging applications; variations on how collaborative workspaces are put together; and often there are sites or services which combine one or more of the broad categories noted above. Thus, while much of the enthusiasm for Web 2.0 has been around the potential educational benefits of social networking / social media, and public presentation (enthusiasm which I share), in fact the 'world' of Web 2.0 is much richer and more sophisticated

So, at this stage, I am simply attempting to review enough tools, think about them in educational terms, and then from that focus on a detailed analysis of some that seem particularly useful – with a strong emphasis on trying to understand Web 2.0 as 'new forms of input', 'new ways of processing' and 'new outlets for contribution'.

### **What about assessment?**

One of the key foci for research and development in LINK is on the ways in which we can assess diverse, distributed and fragmented knowledge work. We will use a couple of obvious techniques. We will get students to do networked knowledge work as part of group projects with a single, assessable outcome, thus enabling knowledge to be assessed indirectly, through the quality and extent of the final product; we will also get students to produce content for the Internet that is substantial in its own right, enabling assessment while it also becomes part of networks of knowledge online. However, we are also exploring and further developing the use of portfolio-based assessment, which I will now discuss in a little more detail.

Portfolio assessment is hardly new; moreover, in the guise of e-portfolios there has been a relatively recent upsurge in interest in this approach to how students might present or provide an 'output' from their studies. But there is confusion or, at least, multiplicity in the understandings of portfolios which can be read in educational literature on their use in higher education. Before outlining the way we are approaching this kind of assessment, let me summarise for you the three main varieties, so as to make clear exactly what we are attempting.

One very important understanding of portfolios is as a component of reflective practice, as a complement to a kind of regular and on-going reflection on learning. In this approach the portfolio can be best understood as a collection of examples and evidence of the 'actions' of learning upon which reflection is occurring; in many cases, the portfolio is seen – quite literally – as the appendix to the reflection. Certainly important, it is however, secondary to the reflection – representing that which is reflected upon, and acting as the dialogic partner in the silent conversations of reflection. If such portfolios are assessed, it is the *reflection* not the action which forms the primary basis for judgment. Yet, predominantly, the audience for this kind of portfolio is the learner themselves: it is portfolio as mirror.

The most recent, and perhaps most normative understanding of portfolios is a little different: as in Curtin's e-portfolio project, portfolios here become a presentation of the self, normally extending across an entire course of study and involving a variety of inputs largely

controlled by the students themselves. While potentially capable of assessment (perhaps in capstone units), or of being linked to assessment (via the inclusion within this portfolio of assignments), largely, this kind of portfolio is not assessed and is an enlarged and enriched curriculum vitae: it is a promotional exercise that, while having pedagogic potential, is primarily understood as being a portrait of the student, painted and displayed to demonstrate competence and employability.

Both of these dominant understandings draw on the third, and I think original, understanding of the portfolio within education. This conception was (and still is) found largely in the creative and visual practices and disciplines – art, design, architecture and so on. The portfolio is, here, less of an educational concept and more one relating to the very business of being a creative practitioner, whether apprentice, journeyman or master. Portfolios are used for entry to courses, assessment during courses, entry into professions, and the effective practising of that art because of the capacity of portfolios to enable reflection. These are portfolios which ideally are so much a part of the being of art, design and the like, that they are simply an extension of the practitioner.

Whether acting as a mirror in which to see oneself, a portrait of oneself or an extension of one's own being, portfolios of these kind are valuable, and have an important place in higher education. But, in each case, they become assessable only *after* they have served some other purpose (reflecting, marketing, or creating). In LINK, we want to use the idea of portfolios in a more pragmatic way to reshape the link between networked knowledge and assessment.

To achieve this result, we are trialling, reviewing by surveys and ethnography, and further developing, the idea that for many units of study students need to carry out many small, discrete, dispersed acts of cognitive engagement and Internet content creation (finding, tagging and organising resources; utilising cognitive tools such as mind maps and word clouds; posting comments to blogs; adding to knowledge databases; rating, reviewing, and ranking content) which are completely unsuited to singular assessment. The portfolio becomes a *selected* collation of the outputs of these activities, *contextualised* by the student and presented as a single assignment. This approach achieves the following goals when one is dealing with the initial requirement to complete knowledge work in fragments, rather than as a whole:

- It links the performance of distinct, small learning tasks to assessment, on the assumption that assessment motivates performance and attention to task, both communicating to the student the value of the work, and allowing them to make decisions about effort and engagement based on that communication.
- It makes possible the equitable, intersubjective assessment of diverse students' performance (while all do different things, they present them in a similar, constrained format), as well as creating a formal communication of task and result between student and teacher to enable feedback; at the same time this approach is pragmatic: the scant time available for assessing and providing feedback is devoted to that task, and not to a 'hunt and click' through numerous fragments of work on many websites.

In simple terms, most traditional assignment forms – essays, exams, reports etc – don't completely reflect the nature of contemporary knowledge work. They remain important, but must be complemented by an assignment approach that promotes and motivates students to do much more 'task' work, but which still remains equitable and efficiently assessable. Of course, such an

approach then also enables portfolios to include the reflective element most commonly associated with them. The challenge is to formulate the overall assessment in such a way as to make clear to students to dual nature of their work. While initial research shows a very strong enthusiasm from students for this approach, our current techniques are failing to give clarity about this duality.

I will also add, without exploring it further, that LINK is also attempting to refigure traditional portfolio and its more contemporary 'e-portfolio' or extended CV in terms more suitable for people working within the creative and communicative context of the Internet; as well as portfolio assessment as just described, students will also be engaged in the development of their 'web presence' which is the more centred and coherent creation of content for the Internet to complement and link to distributed knowledge work.

## **Conclusion**

So, there are two indications of what we are up to in the LINK project. However, I also want to say that, in a way, these workshops form the third component of the research and a very important one. While I am hopefully providing you with some interesting and engaging ideas, and a way of thinking about innovative uses of Web 2.0, I am probably getting a lot more in return: this workshop and the others I am running help me to understand the different contexts, assumptions and possibilities for Web 2.0 and knowledge networking in higher education. The rich and diverse discussions today already show me how limited my own perspective is: so as to ensure the products of LINK can be applicable broadly in higher education, what I am learning today will find its way into the final published outcomes of the project in many ways. I would like to thank you therefore for your contribution at this stage of LINK: I would hope to continue to be in contact with you as the project moves from research to delivery of outcomes.

In conclusion, this workshop has been about the innovations in education to take account of the Internet, and what innovations on the Internet might afford educators. We need, I think, to revise and develop educational approaches because of the cultural and epistemological changes associated with Web 2.0, which bring with them participatory content creation and publication, and the development of online applications and services which, in partnership with human users make knowledge – and knowledge work – different. I trust it has been of benefit to you.