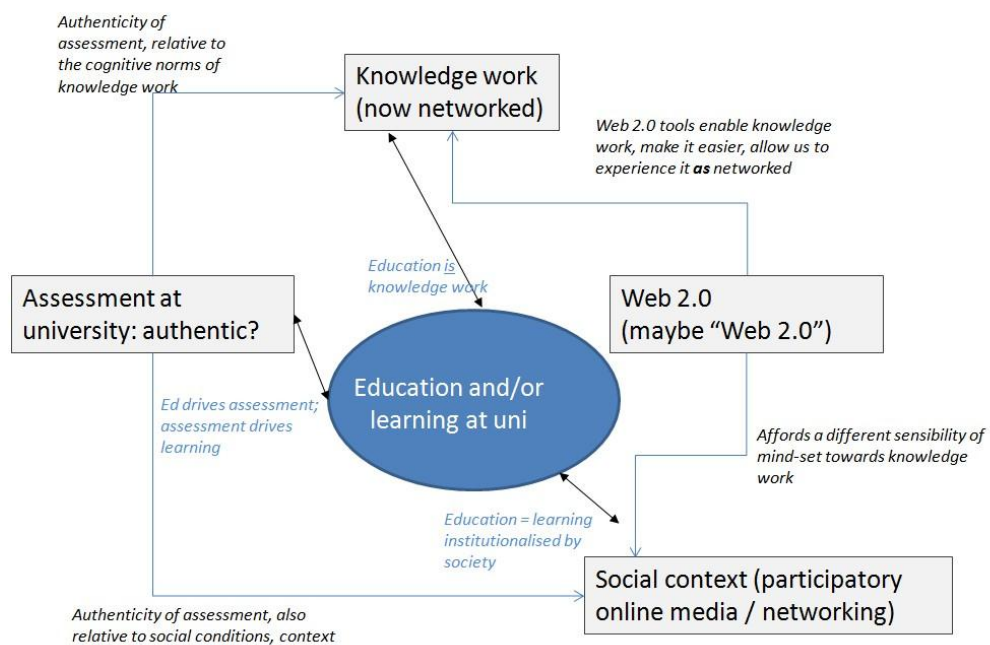


Innovative Education Online: Ideas for the future of learning & the Internet

Report of workshops held for the Learning in Networks of knowledge project



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Table of Contents

<u>Introduction</u>	3
Context and purpose of the workshop	3
Outcomes of the workshop	4
Structure of the report	4
<u>Online learning: the state of practice</u>	5
Key Web 2.0 technologies and their uses	5
Pedagogy	9
Change and Innovation	12
<u>Online learning: reflections on discourse</u>	13
Conversations	13
Knowledge work and learning	14
The learning management system	15
The “lecture”	17
Online technologies for on campus	17
Web 2.0	18
<u>Conclusions</u>	19

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Introduction

Context and purpose of the workshop

This report stems from a series of workshops that were held during 2009 at several Australian universities and one international conference, supporting the project *Learning in Networks of Knowledge (LINK)*. This project aimed to develop, trial and assess new methods of learning via network technologies, so as to take account of the changing nature of the Internet in society today. The Internet now easily, and with sophistication, hosts networks of knowledge and it is *this* capability which provides the foundation for making learning more effective. Thus the project was mostly concerned with how to bring about changes in teaching and learning which emphasised creative, public knowledge work by students within the knowledge networking paradigm.¹

The workshop involved a brief opening and closing presentation to set the context and establish the particular way in which web 2.0 was being deployed to think about changes in higher education. The main part of the workshop, however, consisted in guided individual and small group activities, discussions and report back in which participants explored the pedagogies which would suit Web 2.0, and the specific technologies which were being used. Over 200 people took part, coming from 14 Australian universities (and many more at the overseas conference), mainly those which already have strong presence in online learning for distance education.²

The workshops and what I learned from them played a critical role in both the original, and revised, methodology of the LINK project. These workshops were initially designed to elicit from self-identified innovative practitioners their most recent and effective innovations in online learning, using Web 2.0 applications, which would then be shared with colleagues in my department and used as the basis for our own innovative practices, also being subjected to action research during their implementation. Key to this approach was the assumption that there had been a consistent history of development in e-learning, from a period in the 1990s through to the mid-2000s. This period had seen established the state of the art in the use of learning management systems for online learning. Now, some years into the Web 2.0 'revolution' in social uses of the internet, it was assumed there had been another wave of innovations (analogous to those from the 1990s) which had created new approaches, new technologies, and new techniques.

However, two things emerged from the workshops when held. First, a significant proportion of the people attending were, in fact, relatively new to online education and had little knowledge of the fact that it had been done, successfully, for at least a decade or more. They had attended the workshop believing that Web 2.0 had *made* e-learning possible or, at least, had turned it from a relatively minor or difficult part of education into something which, now, could happen generally. A smaller minority consistently fitted the assumptions about expertise for which the workshop was designed, having in most cases been using Web 2.0 tools for some years since the mid-2000s. The majority of participants were, however, in a slightly different place, being fully aware of what one of them called Web 1.0 e-learning

1 More information on the project can be found at: <http://www.altc.edu.au/altc-teaching-fellow-matthew-allen> which provides access to the Fellowship Final Report.

2 The text of my formal presentation is available at: <http://netcrit.net/content/altcworkshop2009.pdf>

(basic use of an LMS to distribute information, host discussions, and occasionally do something slightly innovative involving links to other web services). They were however very unsure about what it meant to deploy or apply Web 2.0 to change that situation. As a result, the workshops produced a different set of information than expected (though very valuable in its own right, which in part is why I report it here).³ What these workshops demonstrate is that the term Web 2.0, especially within higher education, acts as a signifier of change and development as much as a denotative description of technology. Discussions of Web 2.0 reveal as much about the overall adaptation of universities to network technologies generally, and the processes of innovation, as about specific pedagogies and techniques.

Second, these workshops also changed the course of the project. The consistent message from those attending was that they wished for someone to provide more detail, in a practical manner, about the very wide diversity of applications which we can use to enrich, extend and exploit 'Web 2.0' in our teaching and learning, whether on campus or at distance. In other words, while the general discourse of Web 2.0 was well established within the communities and practice to which the participants belonged, there was still very little knowledge for most people of the tools and services that are being made available to Internet users to give substance to Web 2.0. This lack of knowledge was confirmed when, in 2010, I presented the results of the investigation that this workshop had prompted and which is now the central component of the <http://knowledgelearning.net> site. At these presentations, most attendees were vaguely familiar with Web 2.0 but did not know where to start looking for such applications and, instead, tended to rely on a very limited array of new educational tools being promulgated by their universities. Since those universities were, by and large, continuing to emphasise learning management systems and video-streaming lectures, there was also confirmation of the workshop's findings that what is often described as Web 2.0 education might actually be the same as we have had for a decade or more, but with a new label to emphasise its utility or usability.

Outcomes of the workshop

We can draw no general conclusion from the characteristics of the self-selected attendees at these workshops other than that the workshop attracted people willing to share ideas but also eager to learn more in this field. It could be that the majority of Australian academics are perfectly content users of Web 2.0 tools and had no need or interest in coming, though common sense and received wisdom tells us this is not the case. More likely, expert practitioners were not so interested in sharing their best practice and were busy getting on and doing it. Thus the workshop could be seen as accidentally selecting the audience for the *outcomes* of the project rather than successfully recruiting the contributors of *inputs* to the project. That said, the persistence of this effect suggests that such contributors were much rarer than had originally been imagined.

Regardless, the workshops were a very valuable exercise both for my project and for participants. Excellent discussion occurred, ideas were shared and the workshops ensured that my project would be directed at the needs of the wider Australian education

3 The term Web 1.0 is something of a post-hoc creation, since it was not called that until after Web 2.0 was proposed. Moreover, much of what *is* Web 2.0 was around during Web 1.0. However the term 1.0 has become useful for practical purposes, as for example in the advice from professional learning developers at Columbia University to their academic colleagues: as presented in: <http://www.columbia.edu/cu/tat/pdfs/e-learning.pdf>

community rather than just into my particular course of study and department. Many ideas from these workshops ended up assisting my investigations and developments in the *LINK* project; others confirmed views I already had formed, but was unsure of. More importantly these workshops provide me the empirical basis to understand better the discourses which drive the 'state of practice' within e-learning in Australia, at least as at 2009 but relevant for some years to come. They served as an ethnographic snapshot of the community of practice of e-learning.

Structure of the report

Reflecting the dual outcomes of the workshop, this report is divided into two sections. The first, [Online learning: the state of practice](#) provides a distillation of the wealth of excellent practical advice about ways of using network technologies for enhanced learning outcomes for students. This advice concerns both technologies and also the pedagogies which suit these technologies or which become more possible because of them. Included in this section is the wisdom of participants on managing change and making innovation work. Technologies include: blogging; wikis; Second Life; and Twitter. Pedagogic approaches referred to include: authentic learning; informal learning; role-plays and simulations; collaborative learning; and task-based learning.

The report's second section, [Online learning: reflections on discourse](#), is more interpretive and consists of my reading and analysis of the main themes and issues which consistently came to be the focus of discussions and which, upon reflection, provide a deeper insight into the way that academics think about and understand the changing nature of higher education as it adapts to the way that society is changing in the network age.

These sections should not be read as verbatim reporting of the events and discussions at the workshops. They are, necessarily and productively, an act of collation, interpretation and reflection. Nevertheless, the report is faithful to the context and purpose of the workshops and reflects the diversity and complexity of the views so thoughtfully expressed by participants. I am in their debt for the considerable amount I learned from them, and trust that this report will share something useful of what occurred with a wider audience.⁴

Online learning: the state of practice

Key Web 2.0 technologies and their uses

One of the main purposes of the *Innovative Education Online: Ideas for the future of learning and the Internet* workshop was to gather from practitioners important and useful ideas for effective online learning. These ideas have been both used by academics or have been observed to work and work successfully. The most significant forms of 'Web 2.0' work already being done are based around blogs and wikis, two of the foremost and more general technological innovations associated with the Web 2.0 technological and social change in the mid-2000s. As can be seen below, there are many simple but effective ways to change pedagogy through these broad technological tools. Second Life also was popular, even

4 Participants also expressed agreement with my desire to publish this material as a report so long as the discussions and contributions were generalised rather than specific to any one workshop or group at a particular workshop.

though it can be argued it has only limited legitimacy as a Web 2.0 application. Some other applications and techniques emerged, but they were less common and were, even for experienced online educators, seen as unusual.

Wikis

Wikis were one of the first ways in which the read/write web developed and became an effective part of education, moving beyond the 'presentation and discussion' formats ported into learning management systems from the traditional classroom-based approach to university teaching. These ideas were provided.

- Wikis allow students to collaboratively read, as well as write – reading each other's work as well as writing it.
- Wikis are flexible tools by which a group of students can work collaboratively on a project or topic, whether as an informally collaborative task or a formal assessed teamwork project. Wikis combine the format through which the presentation of the final work is prepared and the side discussions necessary for it to be collaborative. It was noted that the way a wiki works may, however, complicate group process management.
- Wikis emphasise asynchronous collaboration between individuals, with one person's contributions coming after, or at distance from, another's: such asynchronicity can be harnessed to improve the quality of the final work.
- A wiki can be established that has several components and, with rapidity and ease, different people in a unit of study can be assigned individual responsibility for one or more components but still be able to work 'together' on something larger than their own particular activity.
- Wikis, by being editable after original authorship, promote reflection on previously completed work: effectively they make 'public work' always in draft form.
- Wikis record the changes made from version to version of each page, providing a history of the contributions made by whom, when and to what degree. Such a record allows teachers to assess individual contributions to a group project, or for individuals to track their own work relative to other students, or aid a group to assess for itself the degree of participation of its members working on the wiki.
- More abstractly, a wiki demonstrates the unstable, changeable nature of knowledge and the influence of who is writing, not just what is being written.
- Wikis are (or can be) open to contributors outside of a particular class or group, enabling different forms of interaction including for example the participation of former students, students in other units and so on.
- To the extent that wikis conventionally emphasise shared content, open to all within a specific group (however that group is defined), wikis can make it easier for students to accept that they are sharing their work with other students.
- Wikis enable lecturers and students to work together as co-creators of content, either playing equal roles, or distinct roles (for example editor or writer), with the

'shared screen' of the wiki aiding in decentring the authority of the teacher-as-expert.

Blogging

Blogging has become an established part of many teachers' repertoire of online educational activities. The following ideas were suggested.

- Blogging as an alternative to tutorial discussion, where the change in mode of contribution (from live co-present comment to written but shared comment) enables students to spend more time considering the information they wish to impart and therefore making more substantial and effective contributions, even if spread over a greater period of time.
- Blogging for reflective practice, where the social convention that a blog is like an online journal coheres nicely with the expected cognitive activity of 'collecting' one's thoughts and reviewing them on a regular basis, and then having to express them to ensure that they are clearly formed and understood.
- Blogging for self-expression, to enable students to have a considered and consistent experience of finding their own voice on a subject, particularly within the context of an education system that conventionally positions them as the listener, not the speaker.
- Blogging for participation in the 'life' of a unit of study, in a similar manner to discussion groups but via a technology that is less conversational and more didactic (from the perspective of the author of the blog); such participation (so long as students read other blogs as well as write their own) can be the process where a sense of shared experience and thus community develops.
- Blogging to emphasise the development, over time, of knowledge where the temporal format of a blog cues students to see themselves engaged on a learning journey, where earlier ideas become more sophisticated, or their point of view changes over time. Note that such an evolution also makes blogging a useful reflective tool.
- Blogging to share experiences with study and, as a result, make connections with other students.

Second Life

Though used by a minority, Second Life advocates have developed interesting and important approaches which can also be applied to other virtual environments whether as richly immersive as Second Life or not. It was noted by education teachers that Second Life has a constrained version, suitable for school children.

- Second Life can allow teachers to create culturally cued and appropriate locations with which to assist students working in cross-cultural disciplines.
- Second Life promotes the modelling or simulation of real-world events and situations in such a form as to improve students' attention to participating in them 'in a real manner'.

- Different forms of collaboration become possible because all those using it in shared time can also see who is in which group, talking to whom: for example, the isolated student not engaging is 'invisible' in a discussion group but, in Second Life, can be seen as isolated, thus prompting other students to include her in the group.
- Second Life is excellent for teaching disciplines where space and spatial arrangement matters, either to experience that space or to observe others working within it. It was notable that some participants strongly emphasised that new technologies are needed which allow people to see 'online' the spatial dynamics of the classroom environment.
- Second Life involves a degree of immersion that, while not exactly the same as embodied interaction in the world, is still greater than can be achieved just through 'chat' or sharing of information: immersion of this sort was thought to improve the effectiveness of learning, particularly for example in language learning (contrasted just with audio chat with other speakers of that language).

Twitter

Twitter is much less widely used, being a more recent and less flexible technology. The following ideas were suggested.

- Twitter as the way of having a back-channel or alternative format for interaction within lectures, with questions being asked via twitter and hash-tagged to that specific event.
- Twitter as a way of forcing students to write concisely and, in doing so, better understand an idea before they have to express it.
- Twitter as an informal conversation channel for students, outside of what academics formally organise, though noting many student don't and may not want to use Twitter.

Other uses and applications

As well as discussion of how LMS can be used for online learning (much of it quite critical of the systems themselves, but appreciative of some core functions such as discussion forums), there were several other themes that emerged around general types of technologies.

- Many participants used video-based technologies for interaction, student presentations and assignments, and more effective and rapid distribution to students of didactic material than in written form or a recorded 'lecture'.
- Social networking, more as a process than a technology, was used to enable individual students studying at distance from one another to form relationships and partnerships that would support their learning.
- RSS feeds are used by some academics to create courses 'on the fly', updating materials at a particular website which then, through the RSS feed, are pushed out to all students who have subscribed to that feed. Such an approach can make it easier for students to sense that what they are learning is contemporary, relevant and part of the academic's ongoing scholarship and research.

- Project management software has been used to make groups function more effectively and with an explicit record of their interactions, while also teaching students the value of this kind of application and the approaches to management encoded within it.

Specific technologies

Contrary to expectations on my part, participants drew from a relatively limited suite of tools compared to the rich array of applications available. Most (but not all) participants did not mention any or many classic Web 2.0 applications with direct relevance to online education (Delicious being a prime example). Tools like Google Wave, Slideshare, Twine, Mindomo, Etherpad, Diigo, Posterous, and Wolfram Alpha, were raised by just 1 person for each tool from more than 200 participants. It was for this reason that the Fellowship project of which this workshop was a key part, changed direction away from action research of existing ideas to inventing and propagating new ideas, based on new technologies. This change accounted for the explicit requests to me for 'more practical information' about tools that were available.

Three tools were mentioned several times, as noted below.

- VoiceThread, which has some of the qualities of a discussion board but involves audio, video or text contributions, and with a specific focus on responding to an initial presentation, was one of the most popular 'new' applications that most clearly fits within the Web 2.0 paradigm.
- Ning was mentioned as a format for groups that would allow teachers and students to avoid using an LMS, though Facebook could be used it was generally thought that Facebook was too clearly within the students' personal life and not suitable for sustained formal educational use, even though it was an excellent application for building individual connections between students.⁵
- Elluminate, Camtasia, Wimba and Jing were some of the most commonly mentioned technologies (more than 20% of attendees mentioning one of these), emphasising the degree to which, for some participants, Web 2.0 was all about the capacity to interact via video or create video-like content.

Pedagogy

The workshop asked participants to think about pedagogies that would suit, or work with, network technologies, without trying immediately to link them to specific web services. In other words, rather than focusing on this or that tool, attendees worked together to consider which sorts of specific teaching techniques and approaches could be better implemented with the aid of the Internet, or which innately suited the affordances of the Internet and thus recommended themselves as the foundation for *how* to use the tools that were also discussed. Many useful suggestions were made which indicate that, at least for

5 Ning has since become a paid-for service, with some exceptions; notably there are very few group collaborative environment tools online without a payment component. However, many other services include a group formation / communication component that may vitiate the need for such services.

this audience, approaches to teaching which some might see as innovative actually standard and accepted.

Authentic learning

Workshop discussions strongly supported the value of authenticity in the learning experience, with participants confirming the research literature findings that students attend better, learn more and engage actively when the learning activities seem to have a close relationship to the 'real world' for which the students are preparing. However, in several cases, people noted that the changes in that real world are, themselves, the motivation for teaching with network technologies, with journalism being a particularly pertinent example. Furthermore, many students, especially fully online students, are already in that world and only 'drop by' the student world. For such students online learning techniques bring their studies *into* the real world and academics might profitably draw upon the experiences of students there, if they are studying in a field relevant to their everyday work or home life.

It was also pointed out by one participant that the Internet makes available to students many resources (information, analysis and opportunities for collaboration or publishing) that were, previously, unavailable to most and which, in fact, would only be readily available if they studied on campus. Therefore, authenticity in learning (where the students' engagement with the methods and circumstances of the real with less mediation by a teacher-expert) is a necessary part of the Internet's widespread adoption in society. The question now might be: why is most university learning *not* oriented towards authenticity?

Collaborative learning

The workshops provided strong evidence that Internet-based learning should be supported by a consistent requirement for students to work collaboratively, recognising that the time constraints and other impediments to collaboration in physical presence can be reduced significantly online. Collaboration might include working across disciplines, formal partnerships or groups, or simply a broader sense that one's fellow students were active, available and participating in ways which meant all learned from one another. Collaborations would also, through technological affordances that reduced the students' sense of power differences between themselves and teachers, increase the capacity of teachers to act as learning partners, rather than leaders or facilitators. As one person put it: *given an opportunity, students will collaborate (even medical students).*

Games, simulations and puzzles

Some suggested emphasising simulations and puzzles or game. While more accessible because of the Internet, such approaches worked primarily because of the cognitive engagement of individual students with a computer-based system which might allow experimentation or challenge them to think and act, rather than just read. Simulations and puzzles can be seen as one way of founding pedagogy within the notion of inquiry-based learning and others in the workshops, though suggesting more traditional research methods, also thought that a 'community of enquiry' might be a good way to conceptualise the process of teaching a class of students.

Informal learning

A key pedagogic approach which the workshops proposed was the more explicit emphasis by teachers on informal learning, and learning within the broader social networks which students have. This approach seemed to complement the general suggestion for collaborative learning. It was clear from the discussions that such informal learning could not be controlled by teachers (nor should it), but that it did need more emphasis and that students may need to be assisted to learn how to learn effectively within informal settings. Notably, one group in a workshop suggested that “bottom up” approaches to learning, driven by the needs and requirements of the students might provide the necessary link between informal and formal learning environments, with students bring to the formal environment the problems and issues not resolved informally. However a useful caution was provided by one contributor: when getting students involved in collaboration, *the personal benefit from the group interactions is what matters to [most] students.*

Discussions about informal learning also reminded us all that co-presence and spatial arrangements in classrooms work to create an orderly, known (and reassuring) engagement between students and staff. Without the spatio-temporal cues of the ‘class’ and the ‘schedule’ some students may become ‘lost’ and unable to engage. These cues are also important to help manage the students whose engagements are so frequent and diverse that they demonstrate a failure to see the ‘boundaries’ between the teacher as teacher, and teacher as individual. As many participants agreed, online learning may appear to herald an end to the negative consequences which stem from formal education’s distinct separation from informal learning; but perhaps there are benefits from this separation which may need to be retained.

Learning tasks

One group in the workshop believed that the online environment was perfect for bringing a greater task-based focus into learning, using set tasks to produce the main learning effects for individual students. If such tasks are done ‘in class’, this approach can waste the precious and limited time available for group interaction and discussion; therefore, moving these tasks online, to be done outside of class, but still closely related to the on-campus meeting, is very effective. Further, the online environment is distinctly different to simply providing written instructions for ‘homework’ (a most outmoded term): while done ‘out of class’, online tasks for learning nevertheless engage students in a more formal frame of reference and thus extend the formal learning environment *into* the informal learning spaces beyond the campus confines. Of course, for fully online students, tasks can only be presented for students in that mode.

Participants also emphasised that pedagogy must explicitly foster engagement and motivation; one group asked, pertinently, *how do you ensure learners have a sense of ownership of the process of learning?*. Such ownership is critical to achieving and sustaining motivation. It was salutary to consider that enforced uses of specific technologies may in fact de-motivate students precisely because they had not choice about how to collaborate and be creative.

New approaches to didactics and expertise

Most of the participants did not emphasise any kind of didactic pedagogy, involving the delivery of materials by an expert teacher. While obviously drawing on the dominant

paradigm of constructivist learning in taking this stance, the workshops also saw people promoting the use of available online resources that are now much more accessible. In other words, online learning is not without didactic presentation or transmissive teaching, it is simply the case that the teacher may not necessarily need to do it herself. At least one group within the workshops wanted to connect students with 'distributed experts' who might provide 'masterly' views on topics and subjects within a more fragmented and informal network, thus achieving some benefits of didactics without its pitfalls.

While not a consistent view, and being dependent on disciplinary or professional knowledge context, several groups in the workshops wanted to teach on the foundation that students were creative authors and producers of knowledgeable objects, not simply recipients of those. While constructivism was mentioned many times, the rise of network technologies appeared to enable more possibilities for students to 'construct' their knowledge through acts of creation, rather than just discussion or application of something received from a lecture or textbook. As one person said: *it is better to produce, than receive.*

Role-plays

Teaching using role-plays fits well with Internet-based learning. Network technologies more easily enable the participants (whether the teacher or students or both) to 'act' differently and thus increase the realism of the artificial role-play. It is well established via research into the effects of the Internet on society that people are more able to create alternative identities when communicating without face to face presence; furthermore, for the teacher, moving their role-play persona online enables them more easily to distinguish between being that identity and being the formal authority in the class. Since role-plays are time-consuming, text-based communications (which can be prepared ahead of time, and reused) ease the workload; since the quality of presentation online and its connection with the roles and events being 'played' is much higher than in person, so the Internet can make role plays more effective by increasing the suspension of disbelief necessary for them to work.

Change and Innovation

Workshop participants understood only too well that using clever and/or new web-based applications in teaching and learning was a process of change that could meet resistance from students, other academics and from their universities. They explicitly characterised themselves as innovators, in many cases, or in some cases as desiring to be innovators. Many of them had worked with other people to encourage them to adopt change as well. What were some of the key messages from the workshops about this process?

- Innovation using online learning can lead to increased flexibility for staff and students; but time management becomes problematic without the boundaries that can be set using place- and time-based arrangements. In other words, in a similar manner to the way the Internet has broken down the temporal boundaries between distinct activities and arenas (work/play, private life/public life) so too education is becoming less distinctly aligned to a particular time.
- Innovations bring to the fore the contrast between what universities require and expect, and what is possible. Network technologies tend towards rapidity of change, updating and contingency; increasingly curriculum is managed at universities more

obtrusively and in a manner that requires longer lead-times for teachers to change what they do. Similarly, teachers tend to schedule learning to achieve a consistent time-stream for all students (for example by requiring an assignment due on a particular date): this scheduling is essential for managing the student cohort and generally being part of the overall educational offerings of a university. However innovations using network technologies tend to emphasise distributed work and encourage students to think in individually oriented time-streams, perhaps then leading to complaints about having to fit a standard schedule.

- Innovation is inherently risky, since it explores what might happen, and does not rely so heavily on what we know happens. Universities, especially in relation to social media, appear to be risk-averse and more interested in protecting and managing their online presence than in exploiting potentials for enhanced learning, but at increased risk. Indeed, more generally, innovations in pedagogy and technology do not 'fit' with universities' standards and procedures and, therefore, successful innovation also requires academics to manage their institutions' as well as their students' possible or actual responses.

Ultimately, it was clear from the workshops, that *innovation for online learning is relative*. To the extent that innovation means finding a new way to achieve a better outcome than current practice, almost any technology, approach or way of teaching can be innovative to the individual confronted with a particular problem they wish to solve through changing what they do. The challenge is that some innovations work only in some fields; also that some approaches which might be regarded as conventional by some but are significant innovations for others. These circumstances can be dictated by external factors, such as the discipline taught, the mode and type of student enrolment, and the institution; but also can be internal to a particular individual teacher and her history and context. Equally, one can garner reputation, achievement, and even students' regard if one describes one's work as innovative – suggesting that we might sometimes seek innovation for its own sake. In a technologized, future-oriented world, this form of innovation is all the more likely because we are surrounded by changes whose primary purpose is not improvement per se, but the simple replacement of one perfectly useful mechanism with another so as to generate profit, absorb wealth and maintain consumer society.

Online learning: reflections on discourse

Conversations

Workshop participants generally agreed that conversations between students, and also staff, were an important part of online learning. This position is well established after nearly 30 years of learning online through discussion board and, more recently, real-time chat. In keeping with the literature, too, participants emphasised that it was difficult at times to engage and motivate students to participate in these online conversational forms. Some teachers of more positivist disciplines questioned the value of discussion since it might lead

to erroneous 'truths' emerging for students. Assessment of discussion or conversation might be better done via peer assessment, especially for large groups of students.

The workshop participants, however, rarely referred to the fact that online conversations take place between students all the time, just not necessarily in the forums and manner which the teacher presumes or requires. Indeed it could be that the trend towards *declining* participation by students in online discussion boards (compared with the 1990s) is a consequence of many more, and more personal and familiar, channels of communication that students have available to them. Equally, the wide variety of embedded conversational tools (for example, forums attached to wikis; the commentary features of co-creation sites; the conversation tools of creative communities) were not raised. While some participants noted that blogs might provide an alternative to discussion groups, there was a strong (perhaps normative) presumption that a discussion group, using an online forum or perhaps real-time chat, was the primary conversational arena for students.

The participants had clearly received the wisdom of the development of good practice during the 1990s: that good communications lead to the formation of online learning communities and, in return, the sense of community enables and encourages much richer and sustained communication. Absent, however, from the discussions was any real sense that individuals now work online in networks, looser and more contingent formations which take on some characteristics of 'a community' but which depend more on the ties between individuals rather than to the abstracted community as a whole. However, some participants did note that "social networking" appeared to be the new norm of online behaviour. One went so far as to link the development of higher-order thinking about knowledge to such social networking, not because networking itself enables this development but because the conversations which occur *through* social networking build a level of dialogue between students that they have the opportunity to express their ideas, consider others, then reformulate views so as to more closely approximate the 'right' answer (whether that be a denotatively correct factual knowledge or a more coherently argued position grounded in appropriate interpretation).

Student conversations work best if there is a *focal point* for that discussion, such as a lecture or other didactic presentation, which then serves to provide the material from which students can 'construct' their understanding and participate meaningfully. In other words, conversations for learning work best where there is a strong sense of common purpose and common frames of reference. To extend this point, many websites that allow content creation, manipulation and presentation have in-built communication tools, such as discussion forums and commentary capabilities. The work that students would do on such websites would provide the focal point for the conversation, rather than the more abstracted forms of discussion which occur in dedicated asynchronous and synchronous environments. At a simple level, the co-presence, on the same screen of both the focus of discussion and the discussion itself would tend to promote greater engagement.

Knowledge work and learning

How does one educate a student to see themselves as a knowledge worker? If they realise what they are, then the rationale for tools and applications becomes more obvious and more easily accepted. Thus, the problem is not one solely of motivation (even the most

motivated of students can still refuse to undertake active learning), but one of identity formation: students not only need to be active learners, but they must recognise learning as a stage in knowledge working. Lifelong learning is not, therefore, about the endless student, constantly improving their skills and knowledge as a student but rather, about students coming to appreciate, and then acting upon, the central contention: a life lived as if one is always learning is a better life than one made through simply attending an educational institution. Such philosophical complexities and moral-rational demands do not, however, sit well with the instrumental rationality demanded of market societies.

A central difference in knowledge work which often marks out the boundary between researchers and others is that we can understand something so as to *use* that knowledge, or we can learn so as to *improve* that knowledge. For most students (and in many disciplines outside of the classic arts and sciences) learning to use must come first, and is the main priority. Only where students are characterised as prototypical researchers is their 'use' of knowledge designed in the first instance as the first step in improvement of that.

Ultimately, in the era of knowledge networking, technologies now make available *people* and *their conversations* as the sources of expertise and knowledge, as well as published products. Of course, one was always able to contact an expert prior to the Internet but the chances of finding them, making connection, and then receiving a response were very low. Of course, before the Internet, knowledge was often acquired successfully through conversations – but one had to be part of them, at the time, rather than (as online) by observing them some time after. Indeed the whole panoply of publishing – whether scholarly or not – was designed to create an expert system which, given the technologies of the day, massively scaled the availability, range and sophistication of expertise. Now, while that system continues, we have added to it an array of computer-mediated direct engagements with people; we have also created many intermediary forms of 'publishing' between the actual person and their published works (blogs, mailing list posts). We have also, far more explicitly than ever before, made clear that one's acquisition of knowledge can and should involve consideration of the views of several people on a particular question, a following through of the 'knowledge work' already done.

Ultimately the workshops revealed to me that the effects of knowledge networking were being felt with increasing force by academics, often brought into their ken by the actions of students who were more habituated to them (even if inept in their exploitation). Most attendees commented on a sense that things were 'different' because of what might be called Web 2.0 or social networking or similar. Yet there was little evidence of a thorough-going adoption by either academics, or their institutions of a holistic view of this social change. Rather, responses tended to be piece-meal, or directed at specific technologies.

The Learning Management System

While many academics were using learning management systems, few expressed any great enthusiasm for them. In particular, on-campus teachers (with no background in distance education) were frustrated that they were being pushed or were actively choosing to blend classroom and online learning, but were only being supported by their universities via a traditional LMS. They reacted very positively to the idea that online tools might provide greater flexibility, not replacing the LMS but being used *in place* of it where appropriate. In

general terms, too, the dominant cultural ethos of Web 2.0 (open, innovative, participatory, empowering) was affirmed, usually in contrast to the older, closed and constraining forms of the LMS. At the same time, as one put it, the LMS remains very useful: *We as teachers need a managed space for both structuring the course and managing assessment as well as recognising the advantages of students communicating in their own social spaces.*

At the same time, it was clear that, despite the workshop's specific focus on Web 2.0 which usually is taken to mean a degree of change from or opposition to the LMS, that some participants saw LMS as part of Web 2.0, as if they were a relatively recent phenomenon. One commented (in answer to a question about Web 2.0 teaching techniques) that using Blackboard was great to overcome the problems for distance education students of being isolated learners. The point was well made – it *is* the case that an LMS does this well. But it is not new, and perhaps suggests that the development of online learning, from one point to another, from the LMS to Web 2.0, cannot be reconciled into a single history because each academic will come to this form of education with their own contexts and personal histories.

Participants were not, however, naïve about the capacity of students to work beyond the confines of the LMS: while those confines might be narrow, they can become well known, comfortable and thus reassuring. The workshops highlighted the need for students to be assisted, quite actively at times, become confident in the 'Web 2.0' world. This point evoked earlier concerns about the Internet and study, such as students' inability to discern effectively what was or was not accurate and reliable information from the clutter of options online. It was recognised too that students approached the online world with different levels of ability and that, if a particular approach was important, staff would need to be sure all students could manage it technically. As several participants noted, however, the failures of innovative online learning techniques may be the result of students' resistance to learning new ways to learn, rather than failings of their technical ability.

While a majority tended to be slightly sceptical about the Internet and learning (despite opting to attend a workshop specifically on that topic), a significant minority did however recognise that the real value of the move beyond the LMS came from the way students could then interact with people all around the world, engaged in scholarship and learning of a discipline (rather than just their classmates), and could create (rather than just absorb) information about that discipline.

Whether or not the alleged 'participatory' culture of Web 2.0 is true or not, and there are many questions about the rhetorical praise for its forms and technologies, nevertheless many people believe it to be the case and act as it were so. While staff reluctance to use an LMS might seem to be the main problem facing many universities, in fact it is likely to be student reluctance or, at least, inattention when they seek from their education the same kind of 'openness' that Web 2.0 has delivered to them.

Perhaps the most provocative response from a participant to the question of the LMS was the person who asked rhetorically: *Is the university getting in the way?* His view was that innovative applications of technology were being deprecated at some universities, or in some circumstances, because they did not 'fit' with a more general insistence through policy on conformance with the use of an LMS, in a particular way.

The “lecture”

Despite many years of research and staff development emphasising the problems of lengthy didactic presentation, in a lecture form, this genre of educational delivery remains central to the university system, even if at local levels and in some disciplines it is much less important. The participants in the workshop had several useful views on the manner by which the lecture experience (if still valuable) might transfer effectively online. It was noted that more, but shorter lectures would be preferable online, with one possibility being for lecturers to move to a pod-casting approach rather than relying on recordings of the standard weekly lecture. Online learners would need alternative forms of interaction, to enrich the lecture because of the lack of opportunity to ask questions of a teacher (or, indeed to answer them). It should be noted, however, that while good lecturers emphasise interaction in their classes, many do not so this disadvantage may not in fact exist in many courses.

In all the workshops, several people were very keen on the use of audio-visual technologies to enable tele-presence versions of the traditional lecture. While these applications are important, what was clear from the workshops was that some academics seek to ‘relocate’ the classroom to the virtual world because such technologies now exist and are, for most students, a viable option whereas previously low bandwidth and connectivity issues made them less accessible. What perhaps needs to be explored is how might we reconceive teaching so that it more naturally fits with the ways the Internet works as a knowledge network rather than to reinscribe within it the same approaches suited to mass, on-campus education.

Indeed, a critical comment by one participant stands out: *the learning environment is far larger than the environment in which the teacher is operating*. The current availability of video-based tele-presence applications may well take online learning away from innovation in pedagogy by making it easier to port across into that mode of education the same forms and norms of the traditional campus.

To this extent, the workshops make clear that the dominant paradigm for online learning is student-centred, but not teacher-independent. Scaffolding of learning, a variety of tasks whose diversity reflects differing levels of student independence, teaching by modelling and coaching rather than direct transmission, all were emphasised as the best ways to educate online. These high-quality pedagogies were, however, often in need of an application or tool by which to best do them.

Ultimately, too, the way many people connect Web 2.0 with the development of audio-visual streaming technologies demonstrates the fragmented and contradictory response of people to ‘Web 2.0’. It perhaps is sometimes seen too much as a way of making online education ‘like being oncampus’ when, in fact, the whole point of Web 2.0 (as marker of something far bigger in society) is that it makes education ‘*not* like being oncampus before’.

Online technologies for on campus

While most people are now very clear on the value of the Internet to support distance education, in most cases, participants were strongly interested in its use for *on-campus* education. Participants had several excellent reasons why online learning is no longer just limited to those who do not attend ‘class’. Several noted that very large units of study, with some hundreds of students, are much easier to manage and organise with online

components (even in something as simple as distributing basic information). Where staff wish to conduct role-plays, the online environment makes this easier and more effective. It also allows students on campus to connect with like-minded peers, of similar abilities and motivations, outside of the formal classes. For example, consistent and effective development of an online community associated with a unit on campus could mean that the fraction of that unit who want more study, more engagement than they find in class can discover it online.

The workshops also confirmed that online learning, especially when it is designed carefully, can assist in meeting diverse needs within a student cohort. Rather than, for example, relying solely on a lecture that might be too easy for some and too hard for others, a teacher might continue to lecture at the level required for the more able students and supplement this material with online resources for review and remediation for weaker students. The on-campus educational experience for individual students tends to be focused on a specific class group to which they belong (their learning set, tutorial etc). However, in some units (especially in first year) there are many more students than just that specific class group. Finding ways to both connect students between these groups, while not take away from the value of classes, is the key challenge for blended learning.

To the extent that the on-campus student experience is normatively about classrooms, teachers and activities in co-presence, any online learning development that appears to 'take away' from that field of endeavour may be resisted. One participant put it neatly: *successful innovation requires students to have a stake in the innovation and change*. As an example, it has become common now for students to expect (even demand) that lectures be recorded and distributed via the Internet, a process that for its problems clearly adds to the on-campus experience (either allowing students to review a lecture once more or to time-shift their attendance)⁶.

Yet, despite all of the interest in using technologies for on-campus students (who of course would probably use them off-campus), the general frame of discussion for most academic participants in the workshop remained 'the class'. Technologies would add on, or replicate, or distribute 'the classroom' experience but in almost no cases was there consideration of genuine blended learning in which the goals and content of the unit of study are placed first, and classes become just one method, among many, which might be used to support learning.

Web 2.0

Web 2.0 has engendered a heightened sense of freedom for some academic staff, not necessarily because of the explicit affordances within Web 2.0 tools, but because the climate of discussion around online learning, now couched in the 'democratic' terms of Web 2.0 discourse, has shifted in recent years towards the novel, the different and the exploratory. This freedom is politicised as well, for it speaks to a deeper sense of the constraints imposed by universities on their activities. Such constraints which might be understood as the legitimate exercise of institutional authority to achieve corporate goals, but which also appear to many as the poorly informed exclusion from the possible mix of online activities of

6 It should be noted, it also suits university administrators as well – time-tabling conflicts can be left unresolved and fewer buildings are required: effectively students are themselves the subject of bureaucratic time-shifting.

things that are necessary and vital to the broader mission of good learning. Indeed, debates often touched on the conflict between the university's mission as interpreted by staff (learning, research and so on) and their perception that the university as a whole had rather more pragmatic missions concerned with risk management, profitability and so on.

The sense that Web 2.0 operates within higher education as a cultural sensibility, as much as a specific technological regime, was heightened by the way many participants in the workshops discussed pedagogies. This discussion often asserted, if only implicitly, that these techniques for teaching could now become accepted parts of university education *because* of Web 2.0: that innovations could become norms due to the current climate of change which might be labelled 'Web 2.0' even if it does not actually draw heavily on actual Web 2.0 sites and services. Web 2.0, while not entirely understood within the groups, was routinely understood less in technical terms and more as a movement, or opportunity by which conventions might be cast aside and change enabled as much by the general disposition that Web 2.0 would lead to different approaches as by any specific innovation that, without Web 2.0, was impossible. Ideas about pedagogical improvement became linked to Web 2.0 as if the one depended on the other, whereas that is rarely the case.

Yet, for all the enthusiasm for Web 2.0 within the workshops, there was sensible concern. Participatory culture online, often championed as the benefit of Web 2.0 activities for learning, should be viewed with some caution. This culture is, in many ways, superficial and ill-informed; while the process of participation is valuable, it could be that the mission of education is to improve the quality of thought and knowledge that should lie behind participation. Utilising the tools of social media may create a cognitive dissonance between the apparent popular approach of social media and the rather more constrained and deliberate actions needed for effective learning. The online world is everywhere, for many students, and constantly a part of their studies, even if it is invisible to many academics. It now infuses most of our perceptions about current and future students, to the extent that whether one uses Web 2.0 approaches or not, one cannot help but be influenced by them. The question is whether that influence will be shaped towards positive outcomes by scholarly scaffolding and course design; or become an impediment caused by the crowding together of work, study and play in a single, multi-tabbed screen space

Indeed a key challenge for educators, who are looking for specific online tools that exhibit advances in information processing, is that computing seeks to automate and render easy many activities which – in their difficulty – are actually the *source* of deeper learning by students. The difficulty of finding relevant and useful material can be vitiated by services that automate the search – even if these services do the job correctly, or better, than students. Grazeit (<http://grazeit.com>) for example has claimed to “find out what you need” – the point of learning is not the acquisition of information; it is the acquisition of the insight necessary to judge what is or is not needed to be known. Services like Grazeit claim subtly that there is less need for education in critical skills; and yet these tools are representative of the technologies we are expected to bring to the educational process.

Conclusions

Four key conclusions emerged for me, from the workshops. They have played a key role in shaping both the content, and the underlying philosophy behind my development of a

website to provide resources and guidance to suggest that learning can be refashioned within a knowledge-networking paradigm.

1. Innovation is contingent (“my innovation is your commonplace”) and as much rhetorical as real (the language of innovation applied to the maintenance of current practice in different form). However, innovation is central to online learning precisely because advocates of such learning have *always* positioned it as innovative so as to make arguments for such learning more cogent. The conclusion I draw from the diverse discussions about innovation at the workshops is that benefits result not from an innovative technology (nor indeed an innovative pedagogy), but from the *process of innovation* by which academics and institutions change.
 2. Throughout the discussions, groups and individuals engaged in the very normal act of mixing together both what was going to happen in online education and what *ought* to happen. This elision of ‘what is to be’ and ‘what ought to be’ enabled respondents to both imagine a world different to their own current experience and yet not be able to get there *without* relying on technological determinism. Technological determinism then, becomes a language to authorise and speak to changes which are desired for other reasons but which do not appear possible – those seeking to innovate meet resistance and articulate both their frustration with resistance and their continued hope of success by expecting the technological features themselves to achieve the outcomes which are imagined.
 3. Even when specifically directed to ‘avoid’ talking technology and focus on pedagogy, workshop participants mostly found themselves rapidly exchanging ideas about and reporting experiences with technologies. I conclude from this consistent behaviour, across all the workshops and almost all groups within them that this kind of technological referencing provides a language to speak pedagogic ideas that otherwise might not be understood, nor even utterable.
 4. Online innovations in education are playing a critical role in breaking down the separation of learning into distinct spaces and times and this effect is not merely improving access or opportunity. At least as much, network technologies allow informal learning to occur *in* the formal space; and formal learning to occur outside it, with attendant changes in the social and cultural cues which guide behaviour towards the goal of effective learning. From the workshops (both in what was spoken and what was assumed), I conclude that a much more complex interleaving of formal and informal learning is now occurring, to the extent that we might now speak only of learning, which might be, at various times, *more or less (in)formal*, but never one or the other.
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