

Student led Network learning design

Paul Brett, Glynis Cousin, University of Wolverhampton, G.Cousin@wlv.ac.uk

Abstract

In this paper we argue that technology and modes of learning work together, the one dynamically influencing the other. In a number of ways, the medium is the pedagogy. We see this as an important point which contradicts a popular notion among education developers that pedagogy must lead the technology. In particular, we argue for the need to be apace with the ways in which the present generation of students are constituted as learners through technology. We urge an acknowledgement of the distinctiveness of this generation accordingly. In particular, we propose that the technical expertise and the novel modes of learning which are characteristic of this generation offer radical possibilities for network learning. In making this proposal, we suggest a reconfiguration of technical support and curriculum design in order to foreground students' expertise with technology and to acknowledge its constitutive role in their formation as learners.

Keywords

Network Learning, Media revolution, student control, Web 2.0, social networking, co-producers of knowledge, diversity and widening participation.

Introduction

The reconfiguration we propose aims to effect three, 180° changes to the power axes of e-learning in relation to: (i) the choice and development of whatever technologies are used to support the varied, serendipitous, and as yet unpredicted and unpredictable rich potentials of e-learning can be made by learners; (ii) this choice can be from common, freely available, student understood technologies which are in the public domain and (iii) the creation of network learning can be done by students in partnership with academics. As we outline below, we are action researching whether the reconfigurations we propose will strengthen the network learning manifesto aspirations to soften the power of teachers, to position students as co-producers of knowledge and to provide 'forms of communication (which) have the potential to be more supportive of inclusive educational practices' (Network Learning Manifest, 2002). Our research takes place at the University of Wolverhampton which largely recruits locally from students who are the first in their generation to enter university. We will also aim to see if the moves we are proposing have 'significant potential for widening access and participation in higher education and for promoting social inclusion'.

The medium and the pedagogy

At the heart of notions of network learning is the principle of connectivity to others, be they learners, academics, experts, etc. and of connectivity to online resources. This connectivity can be conceived of narrowly in terms of a bounded student cohort and prescribed resources to a more nomadic and exploratory conception of connectivity. One of the authors of this paper (Cousin, 2005) has argued that Virtual Learning Environments (VLE) are not well framed to exploit this latter conception. While we acknowledge much experimentation has taken place with them, VLEs tend to mimic traditional academic structures which confine learners to boundaries defined by enrolled module populations, a set reading, prescribed discussion topics and so forth. Typically, underpinning this mimicry is a defensive insistence that pedagogies drive the technology. This insistence has produced two problems: firstly, it has neglected the ways in which technologies, be they quill and ink or computers, dynamically interact with pedagogies so that each is mutually influencing. One does not lead the other. Secondly, it offers reassurance to academics that nothing is changing in a context in which rather a lot is changing.

Naming an electronic environment 'blackboard' when it is clearly aiming to replace the blackboard is a way of suggesting safety where safety cannot be promised. Media revolutions are inherently destabilising. For instance, as Davis (1998:200 in Cousin, 2005:118) notes, print culture eventually destroyed *Ars Memoria*, that is the ancient art of storing and remembering through a complex technology of the mind. The growing adoption of print must have dismayed the teachers of this art; doubtless they worried that the new fangled age of print unfolding before their alarmed eyes would atrophy the faculty of memory.

Any introduction of new technologies involves loss of some kind. It also involves 'reconstructions of self' and new opportunities as Davis (1998:4 in Cousin, 2005:119) writes:

The moment we invent a significant new device for communication – talking drums, papyrus...we partially reconstruct the self and its world, creating new opportunities (and new traps) for thought, perception and experience.

Davis (1988) takes his cue from McLuhan (1964) who has persuasively argued that all new technologies affect ontological and epistemological shifts. For McLuhan, the prevailing technology of an era imprints our imagination with the realm of the possible, shaping what we can do and how we come to know; it determines much of our behaviour, our organisation of personal and professional life and the structures of our thought. An appreciation of these factors requires that we ask: how do our current student population learn with technology and how can we avoid shoehorning new technological advances into the culture of old technologies? These questions are posed particularly for the case of Web 2.0 technology.

Our concerns touch upon three principles within the Networked Learning manifesto (2002): firstly, that of treating students as co-producers of knowledge – the relevant passage is: 'Networked e-learning also views learners as contributing to the development of these learning resources and information of various kinds and types' and proposes that '... the relationship between teachers and learners is based on collaboration and co-construction of knowledge rather than on that of expert and acolyte.' The second principle concerns the manifesto's commitment to '... democracy in the learning community.' (2002). The third principle claims for network learning 'forms of communication (which) have the potential to be more supportive of inclusive educational practices'. In pursuit of these principles, we suggest that we exploit our learners' expert ability to shape the means of knowledge production, working with academics.

We are particularly interested in exploring the direction we are proposing for the kind of learners we have at Wolverhampton: most are the first in their families to enter university and they come with a diversity of backgrounds reflecting the multi-cultural, multi-faith region from which they are drawn. Common social explanations for lower attainment, retention and progression patterns of this student population tend to centre on factors such as parental cultural capital, difficulties of 'fitting in', social integration (Thomas, 2006) and the failure of university teachers to harness the experiences and knowledge the students bring with them (Hockings, 2007). Arguably, digital literacy is one area where the former generation have little to pass down to their children, creating a more even playing field of expertise among this generation, at least in relation to technology. It would be simplistic to suggest that this is a great social leveller but as a potentially rich form of cultural capital, there is an opportunity to exploit our students' possession of it.

In supporting our argument we will explore below: (i) the changed nature of the network and its web 2.0 potentialities, (ii) the ever changing nature of, and increase in, personally owned technologies, (iii) the possible cognitive skills characteristics of 'digital natives' (Prensky, 2001; Bennett *et al*, 2007), and (iv) the changing nature and perceptions of the knowledge generation. We will then briefly outline three pilot projects in progress which will test our hypothesis that the shifts we are suggesting will yield benefits to the institution, the academic teachers and to the students.

Web 2.0 and student ownership

Universities are destined to chase forever their tail in keeping up with and exploiting technological advances and their possible learning potentials e.g., the forthcoming release of Google Wave. Arguably, Web 2.0 invites a different way of chasing. The term Web 2.0 refers to the change in the mass use of the internet from that of a place where information was transmitted and consumed by passive readers, to one where user-generated and

shared content, together with extensive user collaboration is dominant, and the way they are operated contrast starkly with the tightly controlled, pre-organised, and closed nature of the VLE housed e-learning experience. Web 2.0 is open for all to contribute, to participate in, to share and to make personally one's own. Types of Web 2.0 applications are blogs, wikis, social networking sites, and mashups, with sites such as Wikipedia, YouTube, Facebook and Iseeneews as popular examples.

The impact of Web 2.0 on HE is yet to be realised, or completely understood, although studies of the use of collaborative Web 2.0 tools e.g., Trentin (2009) with wikis, Kerawalla *et al.* (2009) with blogs, and Hemmi *et al.* (2009) with weblogs and wikis, and Cann (2008) with social networking tools, are emerging. There has also been useful discussion of the tensions which may arise (Dohn 2008; Ryberg 2008) when such tools are used to support institutional learning. The Joint Information Systems Council (JISC) are also exploring the ways in which Web 2.0 may impact and be of use to universities, with an array of projects in this area. Franklin (2007, p. 1) predicts that 'Web 2.0 will affect how universities go about the business of education, from learning, teaching and assessment, through contact with school communities, widening participation, interfacing with industry, and maintaining contact with alumni.' Mobile computing is an important dimension to this new world.

Along with changes in the way the web is used, has come a change in the way that the web can be accessed through mobile computing devices (see Traxler, 2009, for a contemporary overview). At the authors' own institution 98% of students owned a mobile phone, which is only one in an array of personal devices which are networked. Sony PSP and relatively cheap Netbooks are others. All mobile phones now support access to the internet, and thus facilitate participative access to communities and information, at any time and from any place. Network access is no longer confined to fixed, PCs, but is in every student's pocket and continually accessible, creating an enlarged window for networked learning. As we have indicated, these developments are not simply a question of increased ownership of a range of technologies for it is crucially a question of how this ownership forms a constitutive part of the new generation of learners.

Learners

Our students may not be the most diligent users of campus libraries but they are good at producing their own sources of connectivity - often to the exasperation of their teachers who want them to stick to the module guide, to outlaw Wikipedia and Google, to desist from engaging with unauthorised, dangerous sources, from exchanging and discussing using such sources that, in turn accomplish distance from the academic gaze. There is understandable dismay as teachers see their learners surfing away from the set reading to the seductions of virtual connectivities which range from insightful, intelligent and useful to banal, misleading, offensive and time wasteful. The challenge for teachers is to explore with students how to privilege the former kind of connectivities and to avoid allowing their dismay for the latter kind to divert them from appreciating the virtual habitus of their learners. We think that this understanding is particularly pressing for institutions wanting to open their doors to a new generation of university undergraduates. As Hockings *et al.* (2007) has argued, the best way of supporting such undergraduates to achieve to their highest potential is to hook learning activities into the knowledge and experiences they bring with them. This requires that we give attention to the growing scholarship on the influences of technology on new generations of learners.

Few of our learners will have experienced life without the internet and this has prompted theorists to variously typify them as 'digital natives' (Prensky, 2001), 'New Millennium Learners' (CERI, 2008) 'transliterate' (Fearn, 2008) and 'Generation M' (Cvetkovic and Lackie, 2009). The 'M' here refers to the ability to multi-task using different technologies simultaneously and fluently. Transliteracy refers to the ability to work on a range of platforms, as Fearn (2008) explains:

Think of the media's teenage stereotype, a young girl watching Hollyoaks on television while simultaneously discussing its plotlines on the social networking site Facebook, listening to music on MySpace and texting her friend to discuss home study.

The CERI report on New Millennium Learners (2008), usefully synthesises the research into the impact of learner engagement with technology by exploring: i) cognitive skills development, ii) social values and lifestyles, and iii) educational performance.' (2008, p. 1) and characterise the findings as both controversial and provisional. The report concludes that in cognitive skills development '... visual-spatial skills, the Flynn effect

(non-verbal intelligence), memory skills, and to a lesser extent multitasking.’ (p. 8) there is conclusive evidence to suggest that there is an impact of exposure to technology on these capacities. In those areas of cognitive ability which relate directly to educational performance such as abilities related to ‘... information processing, reflective and critical thinking, creativity and, in general, meta-cognitive skills...’ (p. 7) they note that there is no conclusive finding. Whilst there has been a reduction in teenagers’ face-to-face social interaction, especially within the family, the amount of virtual peer-peer interaction has increased, leading to skills development in networked identity forming and on-line communication.

In sum, we can characterise our learners as being technically fluent and fast learners of new devices and technologies, able to multitask with a variety of different technologies, expert at accessing and controlling information, preferring the pictorial to text, adept at socialising virtually, and always connected to the network. No longer can we rely on the simple binary of deep or surface learners to explain how students approach their set reading and assignments. Today’s learners hunt and gather information and knowledge through a process of ‘link, lurk and lunge’ (Sontag, 2009) that library browsing could never offer. While the dangers of cut and paste essays, plagiarism and confusions between information retrieving and knowledge generation have never been stronger, this new online territory calls for an acknowledgement that we are in the presence of a ‘new learning ecology’ (Garrison and Anderson, 2003:122) that has far-reaching implications for the way universities explore and generate knowledge.

Knowledge/information

The internet has changed for ever the way in which information is tapped and knowledge is created, published, stored, connected and consumed. In the author’s institution 92% of students began their research for assignments with an internet search. Information literacy is an urgent part of our curriculum. Knowledge or information are no longer tied to physical assets such as books, journals and video cassettes, nor to places such as universities and libraries. Thus the nexus of the ownership of knowledge changes, and moves from being gate kept to being freely, and instantly available to all. It can be personalised, moulded, integrated, stored and easily re-purposed or mashed up. Whereas the presentation and consumption of knowledge via taught sessions or through reading books was linear and one directional, with a pre-defined start and end point, knowledge when accessed via a network is multidimensional, multimedial and is instantly linked and linkable to other related but differing knowledge sets. Knowledge as a result of being internet-based, is also being packaged into smaller chunks, web pages or podcasts versus books, and available via an array of media, rather than just text. Access to the publishing capabilities of Web 2.0 technologies also allows anyone to actively contribute to knowledge generation, making all of us potential knowledge creators, with a choice of a variety of media so to do (see Traxler (2009) for an excellent, in-depth summary of such changes in the nature of knowledge and its relationship to the potential of mobile computing).

What do these shifts suggest for our conceptions of network learning? We finish with a brief outline of the action research initiative we have set in motion to explore our hunch that establishing curriculum design partnerships between students and teachers will ensure: a) that we fully profit from the expertise and ways of learning of our students; b) that we move *with* the technology; and c) that the partnerships reconfigure teacher-student relationships, increasing the meaningfulness of the learning for a diverse student population.

Student-led networked learning: action research

As indicated, we believe that the radical inversion of both the locus of responsibility, from teacher to student, and from institutionally owned technology to that which is publically available, has the potential to transform the quality of current networked learning. Academics’ awareness of the vibrant network landscape and its associated tools is likely to be less well developed than that of most students. They should be able to select and use appropriate technologies which may have greater functionality than our VLE. But many need help in doing so. While our students are acquiring the skills of transliteracy, one writer (Thomas interviewed by Fearn, 2008) observes,

‘many academics are in essence illiterate.... Most would admit it, even taking a certain pride in their part-removal from the world of e-communication. This matters if they find their teaching relationship

with hyper-transliterate students breaking down because of an inability to communicate fully with one another'.

Our action research addresses these pressing issues of growing discord between students and academics, particularly in relation to the diverse groups coming into our universities for whom, according to Hockings et al (2007), there is already a fragile relationship with traditional academe. We are hoping that our change interventions will provide a fruitful path for these kinds of students and their teachers.

Our action research follows the model provided by Cousin (2009) and builds on Cann's (2008) aim 'to develop new practical strategies for deployment of "...loosely coupled teaching" involving Web 2.0 tools to facilitate and promote personal development planning and lifelong learning.' (p. 2). We are also building on early explorations of the nature of the tensions and deficits which may arise (e.g., Ryberg, 2008; Dohn, 2008) when institutions appropriate social networking technologies. Thus we see our research as adding to this nascent field of inquiry by bringing it into a relationship with the aspirations of the network learning manifesto.

The 'action' part of our action research centres on two key change interventions across three subject areas: firstly, we will use publicly available technologies rather than institutionally provided software, thus transferring the choice of the technologies to be used in support of learning into the hands of the users, the students. Secondly, students will advise teachers, working with them to generate the technological/pedagogical support.

The projects are in computer studies, applied sciences and dance, each involving a different member of academic staff and each with diverse student populations, with the first two subjects recruiting significant numbers of black minority ethnic students (BME) and predominantly male cohorts and the final recruiting largely female students. This diversity will enable some comparative element in our evaluation of the influence of the changes we are making on student achievement, progression and retention. Currently, the academics we are working with are responsible for the design of the e-learning aspect of their modules and for the implementation and technical rendering of these choices. The levels of sophistication they bring to this task varies enormously with some using the institutional VLE as a simple repository of course documentation to others offering rich forms of network learning.

We will need to address the implications of the research into personal tools from the JISC Learner Experiences project (2007). This research found that students do not like to mix their personal virtual world with their study virtual world. But to our knowledge, nobody has tested whether purposeful design activities such as we are exploring might overcome students' reluctance to combine their personal virtual world with their formal learning. Indeed, we hope that this might become a new dimension of transliteracy.

We should also note that in most cases, students may be technically familiar with the chosen areas of the internet to be used, but provision will need to be made for supporting those who are not. The evidence suggests that the digital divide is more likely to affect the poorest sections of our society (Fearn, 2008) rather than our student body but we cannot take this for granted. Moreover, a good number of university students do not typify the generation we have described, being older or in subject areas such as art and design where the emphasis is on working with hand rather than with mouse. As a subject that is primarily about embodiment, our exploration of dance students and teachers will be interesting.

The decision about which technologies are best suited to the curriculum aims will be settled by the student cohort in dialogue with the teacher. We are in the very early stages of making this happen. This is all new territory for teachers, students and ourselves as education developers. We will, of course, report fully on the results of our research.

Conclusion

We have argued above for a paradigm shift in the shaping of network learning to take account of Web.2.0 technologies and the changing nature of our student bodies, particularly for those universities, like ours, who are welcoming students who are the first in their family to register as undergraduates. The following extract from the Network Learning Manifesto offers a vision which is a thread throughout this paper and which is at the heart of the research we are in the early stages of conducting:

Networked e-learning allows for the possibility of new forms of communication, language and discourse. Such new forms of communication have the potential to be more open and supportive of inclusive educational practices. It promotes use of a wider range of resources, both material and human, directly relevant to learners' own intentions and interests. It offers the potential for dialogue with a broader range of people and in a form which allows different styles and preferences to be supported.

We have made a theoretical case in support of this vision; it remains for us to report in due course on whether our empirical inquiry shows promise in fulfilling this vision.

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