Workshop Paper : "Academia 2.0 and beyond" - How does Web 2.0 change education and research? What could be the next step?

Scanning the Horizon: Towards a Theory of Education 2.0
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Abstract
There is no doubt that Web 2.0 will be a precursor of Education 2.0. Students' behaviours have changed because of the unprecedented growth in the use of computer-based technologies in everyday life. In this paper I would like to argue that we need to look beyond that surface understanding. Twentieth century debates on the about the future of computer assisted learning were accompanied by the health warning that we needed to put pedagogy before technology. Today we still need to think about what we learn, how we learn and how we are motivated to learn. We should beware of becoming obsessed with the leisure habits of young people. We should instead look to see how those leisure habits can act as vehicles to develop skills, knowledge and understanding necessary for a success. In today's world information is our most valuable commodity whose half-life is rapidly decreasing. We have the opportunity to develop self-sustaining educational approaches which prepare learners for a future where they may take on roles and careers which are not yet imagined or created.

Analysis and discussions of knowledge in the information age and the habits of the net generation have been a popular topic for academic discourse in recent years (Frand, 2000, Oblinger and Oblinger, 2005, Prensky, 2004, Prensky, 2001). It has created a desire for a deeper understanding of apparently new behaviours and drivers. The ethnographic perspective has become valued and is being used to consider the future shape of our educational universe.

Colleagues around the world have begun to consider whether their experience is the same as that reported in the US, see for example work in Australia and the UK's Learner Experience Programme (Oliver and Goerke, 2007, Creanor et al., 2006). Research on digital ethnography has been disseminated not only through academic journals, but also through YouTube in the form of videos such as the Web 2.0…Machine is Us/ing Us, and A vision of Students Today (Wesch, 2007b, Wesch, 2007a).

A crude summary of the work cited could be 'you need to understand students are learning in different ways, so you had better change the way in which you go about educating them'. While this may be a useful message for managers thinking about bringing academic teachers into the 21st century, is it really a useful way to help us understand how we might begin to redesign the curriculum? It seems that as well as offering insight into future directions the literature on the behaviours of digital natives served to distract the debate by providing 'red herrings'. It is reasonable to be interested in our students behaviours, but we should most importantly be considering the educational affordances of Web 2.0 technologies. We might also be interested in the nature of disciplinary differences (Biglan, 1973, Neumann et al., 2002), and how this might impact on the way in which we select and use technologies for education (White and Liccardi, 2006).

In my institutions we have offered students computer mediated examinations – open web examinations for a final year hypertext and web technologies module, and an online computer programming examination (Davis, 2004). The open web examination if surprisingly difficult for students – who can make notes using a wiki in advance and use the web during their examination. They have found it is authentic to the real world, but the students perform no better than they might otherwise. The programming examination offers a realistic proxy to the task and context of actual programmers, and has strength for that reason. Insights such as these are specific, and contextual relating to discipline and educational system. Such evidence is gathered over years of use and observation rather than as the consequence of snapshot ethnographic surveys.

We have used electronic voting systems and discovered that the academics can gain as much as if not more insight into the educational process as the learners (d'Inverno et al.,

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2003). We have also observed, but not recorded formally that our students make their own use of wikis and discussion fora customized to their particular needs at particular times. They appear to prefer their private spaces to our university provided public spaces. Evidence of this use could usefully be gathered through ethnographic means. This behaviour is rather different to the behaviours of new students, not yet educated in understanding the importance of provenance, who use sources such as wikipedia indiscriminately as their primary information point. It is also different from the behaviours of academics educated in how to search, find and reference information from credited sources such as academic journals, yet they may still find a use for public sources such as wikipedia.

Another area where we are beginning to see the possibilities for technology is mobile learning, particularly given the prevalence and importance of informal learning both during formal education, and afterwards (Sharples et al., 2005). Students are discovering the affordances of mobile technologies, but their use of such technologies will vary across students in the same way that their use of pen and paper varies.

In conclusion, there is much room for further research to determine the exact nature of Education 2.0. The use of Web2.0 and the common understanding of its affordances will develop over time. Today we are probably at the stage of development which can be compared to the horseless carriage which preceded the motor car. Our conceptions of the future of education is being mediated by our understanding of what has gone before. We need to design a future education which preserves the key and fundamental components of education. Learning requires time on task, some aspects of the net generation's behaviours do not develop those skills. Learning requires processing information, some 'net-genners' develop that skill to immense levels of complexity.We need to understand the affordances of 2.0 technologies, and match them to the disciplinary needs, taking into account also that each learner is on a learning journey, and requires different types of guidance at different stages of that journey. This workshop provides an excellent opportunity to explore these issues in much greater depth, and offers the promise of moving "Towards a theory of Education 2.0".

References

BIGLAN, A. (1973) The characteristics of subject matter in different academic areas. *Journal of Applied Psychology,* 57**,** 195–203.

CREANOR, L., TRINDER, K., GOWAN, D. & HOWELLS, C. (2006) Who's learning and how? Researching the learner experience *23rd Annual ASCILITE Conference: Who's learning? Whose technology?* . Sydney, Australia.

D'INVERNO, R., DAVIS, H. & WHITE, S. (2003) Using a personal response system for promoting student interaction. *Teaching Mathematics Applications,* 22**,** 163-169.

DAVIS, H. C., CARR, L. A. AND WHITE, S. A. (2004) Conducting Examinations On-line. IN CONOLE, G. (Ed.) *the 11th International Conference ALT-C.* Exeter, UK, ALT.

FRAND, J. L. (2000) The Information Age Mindset: Changes in Students and Implications for Higher Education. *Educause Review,* 35**,** 15–24.

NEUMANN, R., PARRY, S. & BECHER, T. (2002) Teaching and Learning in their Disciplinary Contexts: a conceptual analysis. *Studies In Higher Education,* 27**,** 405-418.

OBLINGER, D. G. & OBLINGER, J. L. (Eds.) (2005) *Educating the Net Generation,* Boulder, Co, Educause. .

OLIVER, B. & GOERKE, V. (2007) Australian undergraduates' use and ownership of emerging technologies: Implications and opportunities for creating engaging learning experiences for the Net Generation. *Australasian Journal of Educational Technology,* 23**,** 171-186.

PRENSKY, M. (2001) Digital Natives, Digital Immigrants. *On the Horizon* 9**,** 1-6.

PRENSKY, M. (2004) The emerging online life of the digital native: What they do differently because of technology, and how they do it http://www.marcprensky.com/writing/Prensky-The_Emerging_Online_Life_of_the_Digital_Native-03.pdf, Games2train.

SHARPLES, M., TAYLOR, J. & VAVOULA, G. (2005) Towards a Theory of Mobile Learning. *mLearn 2005.* Cape Town, South Africa.

WESCH, M. (2007a) What is Web 2.0? What does it mean for Anthropology? Anthropology News May 2007, Vol. 48, No. 5, pp. 30-31. *Anthropology News,* 48**,** 30-31.

WESCH, M. (2007b) YouTube ethnography project. Kansas State University http://mediatedcultures.net/.

WHITE, S. A. & LICCARDI, I. (2006) Harnessing Insight Into Disciplinary Differences To Refine E-Learning Design. *36th Annual ASEE/IEEE Frontiers in Education* . San Diego CA, IEEE http://fie.engrng.pitt.edu/fie2006/papers/1784.pdf last accessed July 4th 2007.

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Biography

Su White is a Senior Lecturer in The Electronics and Computer Science at the University of Southampton. She is based in the Learning Societies Lab. Her research interests relate to the impact of technology on University Education from both an organizational and educational perspective. Special interests include disciplinary differences, the relationship between teaching and research and assessment methodologies. Su also works collaboratively with colleagues across the school to introduce and sustain educational innovations. In 2005 Su was one of the recipients of the University of Southampton's Vice Chancellor's Teaching Awards for work developing approaches research-led learning in Computer Science. In 2003 Su established the ECS wide JumpStart induction programme for new undergraduates.

Su is a member of the Advisory Board for the Higher Education Academy Subject Centre for Information and Computer Science (HEA-ICS) and is also one of their regional academic advisors, responsible for the South of England. She has been based in Southampton since 1993 when she joined a university wide project developing an institutional approach to the use of computer based learning resources (TLTP Scholar Project). She has worked as a Learning and Teaching co-ordinator in the University since 1999 where she has held this role at a Faculty and School level.

She obtained her PhD at Southampton, and has previous lives as a journalist and computer programmer. Su has a first degree in the social sciences from the London School of Economics and post-graduate qualifications in Computer Science and Education from the University of London. Su was previously project co-ordinator for the national Electrical and Electronic Assessment Network (http://www.ecs.soton.ac.uk/E3AN), and manager of the TLTP Scholar Project.