

Fostering Online Learning Communities: Empowering People with New Generation Internet Tools



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ISS Institute/TAFE Fellowship

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Executive Summary

Australia's economic future relies on understanding and using the latest high level skills and knowledge. In this age of globalised networked communications, this includes the use of web-based tools to support group creativity and collaboration.

Of particular interest to Menegon and Schutt was the growing and documented gap between the social networking, mobile and other networked collaboration tools that young people are already using as part of their everyday lives, and the lack of use of these tools by, and within, Australian education.

Research reports such as the Inspire Foundation's *Bridging the Digital Divide* report (2007) highlight this dilemma. Often those who work with young people are much more reticent about adopting new technologies as part of their work practices than their charges.

Young people have been given the label 'digital natives' (Prensky, 2001) as opposed to older generations, who are seen as 'digital immigrants', having not grown up with such technologies and, therefore, are seeing them as 'new' or 'foreign', much like previous generations might have seen the telephone or television. Whilst the term 'digital natives' has been subjected to some criticism, it nevertheless points to a generational disconnect about the place of communication technologies in everyday life.

The study program was designed to provide the Fellows with cutting edge knowledge about trends in online social media (Donath, 2004) that they would bring back to Australia and disseminate to their colleagues in education, and implement themselves in their educational work.

The aim of this was to generate new ways of engaging students using the technologies they themselves use every day, and thereby fostering new skill levels in the next generation of the workforce.

Specifically, the core of the study program involved attendance and participation at two technology and community related conferences in Washington DC (*Creativity and Cognition 2007*) and East Lansing, Michigan (*Communities and Technologies*) to learn more about:

- Technical design and development of new generation online education tools
- Latest trends in web-based social networking, and how they apply to education and research
- Leading research and practice into community engagement on the web
- Leading research and practice into the intersection of creativity, cognition and software tools
- Issues surrounding the effects of advanced web technologies on social networks, how they work and how users engage with them.

Some of the topics covered at the conferences included:

- The effects of adult moderators in online youth communities
- Rhetorical strategies for eliciting responses in online communities
- Rhythms of social interaction
- Communities of practice in multi-user games
- Does computer use lead to solitude, participation, or engagement?
- How does a certain type of technology influence, enhance or impede creativity

The following report provides an overview of the Fellowship experience. This is followed by a series of recommendations for government, industry, and the business sector, professional associations, education and training providers, our community and the ISS Institute. These recommendations also include suggestions for engaging in knowledge transfer activities.

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Abbreviations and Acronyms

ASCILITE	Australasian Society for Computers in Learning in Tertiary Education
ISS Institute	International Specialised Skills Institute
MIT	Massachusetts Institute of Technology
MMORPG	Massively multiplayer online role-playing game
TAFE	Technical and Further Education
USA	United States of America
VU	Victoria University

Glossary

Machinima	Films made using 3d games or virtual world engines
Second Life	An online virtual 3d immersive world operated by Linden Research Inc

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Stefan Schutt and Miles Menegon would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide them throughout the Fellowship program.

Awarding Body - International Specialised Skills Institute (ISS Institute)

We know that Australia's economic future is reliant upon high level skills and knowledge, underpinned by design and innovation.

The International Specialised Skills Institute Inc (ISS Institute) is an independent, national organisation, which has a record of nearly twenty years of working with Australian industry and commerce to gain best-in-the-world skills and experience in traditional and leading-edge technology, design, innovation and management. The Institute has worked extensively with Government and non-Government organisations, firms, industry bodies, professional associations and education and training institutions.

The Patron in Chief is Sir James Gobbo AC, CVO. The ISS Institute Board of Management is Chaired by Noel Waite AO. The Board comprises Franco Fiorentini, John Iacovangelo, Lady Primrose Potter AC and David Wittner.

Through its CEO, Carolynne Bourne AM, the ISS Institute identifies and researches skill deficiencies and then meets the deficiency needs through its *Overseas Skill Acquisition Plan (Fellowship Program)*, its education and training activities, professional development events and consultancy services.

Under the Overseas Skill Acquisition Plan (Fellowship Program) Australians travel overseas or international experts travel to Australia. Participants then pass on what they have learnt through reports, education and training activities such as workshops, conferences, lectures, forums, seminars and events, therein ensuring that for each Fellowship undertaken many benefit.

As an outcome of its work, ISS Institute has gained a deep understanding of the nature and scope of a number of issues. Four clearly defined economic forces have emerged out of our nearly twenty years of research. The drivers have arisen out of research that has been induced rather than deduced and innovative, practical solutions created - it is about thinking and working differently.

A Global Perspective. 'Skills Deficiencies' + 'Skills Shortages'

Skill deficiencies address future needs. Skill shortages replicate the past and are focused on immediate needs.

Skill deficiency is where a demand for labour has not been recognised and where accredited courses are not available through Australian higher education institutions. This demand is met where skills and knowledge are acquired on-the-job, gleaned from published material, or from working and/or study overseas. This is the focus of the work of ISS Institute.

There may be individuals or firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the IP to themselves; and over time they retire and pass way. Firms likewise come and go. If Australia is to create, build and sustain Industries, knowledge/skills/understandings must be accessible trans-generationally through nationally accredited courses and not be reliant on individuals.

Our international competitors have these capabilities as well as the education and training infrastructure to underpin them.

Addressing skill shortages, however, is merely delivering more of what we already know and can do to meet current market demands. Australia needs to address the **dual** challenge – skill deficiencies and skill shortages.

Acknowledgments

Identifying and closing skills deficiencies is vital to long-term economic prospects in order to sustain sectors that are at risk of disappearing, not being developed or leaving our shores to be taken up by our competitors. The only prudent option is to achieve a high skill, high value-added economy in order to build a significant future in the local and international marketplace.

The Trades

The ISS Institute views the trades as the backbone of our economy. Yet, they are often unseen and, in the main, have no direct voice as to issues which are in their domain of expertise. The trades are equal, but different to professions.

The ISS Institute has the way forward through its 'Master Artisan Framework for Excellence. A New Model for Skilling the Trades', December 2004. The Federal Government, DEEWR commissioned ISS Institute to write an Australian Master Artisan School, Feasibility Plan.

In 2006, ISS Institute Inc. set up a new ISS advisory body, the **Trades Advisory Council**. Members are Ivan Deveson AO; Martin Ferguson AM, MP, Federal Labor Member for Batman; Geoff Masters, CEO, Australian Council of Educational Research; Simon McKeon, Executive Chairman, Macquarie Bank, Melbourne Office; Richard Pratt, Chairman, Visy Industries and Julius Roe, National President Australian Manufacturing Workers' Union.

Think and Work in an Holistic Approach along the Supply Chain - Collaboration and Communication

Our experience has shown that most perceive that lack of skills is the principal factor related to quality and productivity. We believe that attitudes are often the constraint to turning ideas into product and a successful business; the ability to think laterally, to work and communicate across disciplines and industry sectors, to be able to take risks and think outside the familiar, to share – to turn competitors into partners.

Australia needs to change to thinking and working holistically along the entire Supply Chain; to collaborate and communicate across industries and occupations - designers with master artisans, trades men and women, Government agencies, manufacturers, engineers, farmers, retailers, suppliers to name a few in the Chain.

'Design' has to be seen as more than 'Art' discipline – it is a fundamental economic and business tool for the 21st Century

Design is crucial to the economic future of our nation. Australia needs to understand and learn the value of design, the benefits of good design and for it to become part of everyday language, decision making and choice.

Design is as important to the child exploring the possibilities of the world, as it is to the architect developing new concepts, and as it is to the electrician placing power points or the furniture designer working with a cabinet-maker and manufacturer. As such, design is vested in every member of our community and touches every aspect of our lives.

Our holistic approach takes us to working across occupations and industry sectors and building bridges along the way. The result has been highly effective in the creation of new business, the development of existing business and the return of lost skills and knowledge to our workforce, thus creating jobs - whereby individuals gain; industry and business gain; the Australian community gains economically, educationally and culturally.

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Fellowship Supporters

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John Barmby, former Head of Department and Mark O'Rourke, former Program Manager (now School of Creative Industries)

Victoria University, Educational Professional Development Unit

Evelyn Ibrahim, Head of Unit

Victoria University, Flexible Learning Unit

David Cummings, Portfolio Leader

About the Fellows

Fellow 1: Stefan Schutt

Qualifications

- PhD candidate, Centre for Animation and Interactive Media, Royal Melbourne Institute of Technology, commenced 2005
- Diploma of Vocational Education and Training Practice, Victoria University, begun 2006
- Certificate IV in Workplace Training and Assessment, Victoria University, 2002
- Advanced Diploma in Professional Writing and Editing, Royal Melbourne Institute of Technology, 2000
- Certificate in Java programming, Sun Microsystems, 1998
- Certificate in English Language Teaching for Adults, Cambridge University/RSA, through La Trobe University, 1997
- Bachelor of Arts, University of Adelaide, 1986, English Language and Literature

Memberships

- Association of Internet Researchers
- Australian Research Alliance of Children and Youth: Youth ICT and Mental Health Collaborative Group
- Member, VU Vice Chancellors VU Exchange Project Advisory Committee
- Member, VU Education and Research Board (ERB) Research Committee
- Member, VU Research Advisory Group

Schutt is a TAFE practitioner and researcher whose speciality is the interface of technology, young people and education. He has written reports on this topic for the Victorian Government and has presented at international conferences. Schutt is a multiple award winner at Victoria University and taught in VU's School of Creative Industries until 2009. He is now Senior Educator, Research and Learning at VU's Work-based Education Research Centre. Schutt's background is in copy and feature writing, internet development and music (he plays guitar and sings in original bands).

Fellow 2: Miles Menegon

Qualifications

- Bachelor of Arts, University of Toronto, 2002, English Literature
- Diploma of Vocational Education and Training Practice, Victoria University, begun 2006
- Certificate IV in Workplace Training and Assessment, Victoria University, 2002
- Certificate, YMCA Youth Counselling, YMCA Toronto, 1994

Memberships

- Chair, Olly (*Online Learning for You*) Project Reference Committee
- Member, Avatar Computer Games Research Initiative
- Member, Multimedia Literacy Website Project Reference Committee

Menegon designs, develops, researches and teaches the web. While conversant with a broad range of internet technologies, Menegon has a keen interest in the human side of computing – how people use technology in their everyday lives, and how technology, in its turn, uses people. His recent forays into the field of interaction design have engendered in him a passion for usability and accessibility in technological development that extends beyond the computer screen. Other interests include ubiquitous and physical computing, gardening and slow food.

The Fellowship Program

The prime purpose of the Fellowship was to gain leading-edge knowledge and skills about the current worldwide trend toward internet-mediated community formation, the use of new generation web-based tools for the enhancement of teaching and learning, and related pedagogical aspects. This was achieved by attending two leading USA community and technology conferences, supplemented by visits to community and technology organisations at the Boston Museum of Science and the Massachusetts Institute of Technology (MIT) Media Lab in Cambridge, Massachusetts.

Aim of the Fellowship

The Fellows aimed to gain new internet-related and pedagogical knowledge and skills by attending two international conferences in the USA (Washington and Detroit). Conference themes include Web 2.0 – the next generation of Web and related social networking technologies, creativity and the internet. The conferences details were as follows:

Creativity and Cognition Conference 2007: Seeding Creativity with Tools, Media, and Environments

13-15 June 2007, Washington, DC. <http://www.cs.umd.edu/hcil/CC2007>

This conference focused on next-generation tools that support group creativity and collaboration. It aimed to bridge the gap between technology, science and the arts to find common themes for user interface and new media design, and produced rigorous research with innovative designs and carefully conceived evaluations. Researchers, developers, practitioners, and policy-makers in many fields contributed, including computer and information scientists; diverse scientists, engineers, and architects; product, graphic, and interaction designers; writers, musicians, and new media artists; creative practitioners, corporate leaders and educators; social scientists, ethnographers, and anthropologists.

The focus of the conference was on fostering an understanding of how to develop and support socio-technical tools which empower our creative processes and abilities and nurture creative mindsets and lifestyles.

3rd International Conference on Communities and Technologies

28-30 June 2007, Detroit, Michigan <http://ebusiness.tc.msu.edu/cct2007/index.html>

The Communities and Technologies conference served as a forum for stimulating and disseminating research on the complex connections between communities – both physical and virtual – and information and communication technologies. Researchers studying aspects of this interaction between communities and technologies, regardless of disciplinary background, were invited to submit contributions.

Attendance at these conferences aided the Fellows in the development and production of web 2.0 tools for use in the classroom, and facilitated an understanding of what existing tools can do and how they may be used. This knowledge allowed the Fellows to develop new pedagogies that are sensitive to the emerging cultural and social realities of our students.

The Skills/Knowledge Gaps

There are a number of gaps in current skills and knowledge within the Australian educational sector about new generation internet (or Web 2.0) and its relation to education and community formation. Schutt and Menegon gathered information about these gaps including:

Technical design and development of new generation 'Web 2.0' online education tools – 'next-generation' web technology which is user-focused, utilising AJAX scripting protocol to create web pages which are more responsive to the user.

The Fellowship Program

Latest trends in web-based social networking, and how they apply to education and research. Young people are using sites such as MySpace, YouTube, Flickr and iLife to form relationships and share information. They are also using technologies such as MSN Messenger, GTalk, Skype and others to get in touch with friends. Menegon and Schutt aimed to improve their understanding of how and why these networks are set up and additionally, how young people use these technologies to negotiate their relationships.

The conferences helped the Fellows achieve their aims through attendance at keynote presentations and workshops including:

- Everything in Moderation: The Effects of Adult Moderators in Online Youth Communities
- Introductions and Requests: Rhetorical Strategies that Elicit Response in Online Communities
- Rhythms of social interaction: messaging within a massive online network
- Communities of Practice in MMORPGs: an entry point into addiction?
- Solitude, participation, or engagement – on or offline? Unraveling the American myth of social isolation and networking in the digital age

Leading research and practice into community engagement on the web. Key questions included: how do you set up a viable community on the net? Games such as World of Warcraft, Second Life, etc have become the setting of strong, viable communities. How has this happened? How can we use these spaces for teaching?

Leading research and practice into the intersection of creativity, cognition and software tools – how does a certain type of technology influence, enhance or stymie creativity? How can we design internet software to make the most of our students' and teachers' skills, passion and knowledge?

The conferences provided valuable perspectives on these issues including:

- Interface and interaction design
- Sensemaking
- Choices of technologies and their implications
- Generational issues connected with technology use
- Online network and community formation

Issues surrounding the effects of Web 2.0 technologies on social networks – how do Web 2.0 social networking sites influence social inclusion and exclusion, and mental health and well-being in general? How has the nature of social networking been changed, enhanced or distorted through the use of these tools? What are the effects of web 2.0 technology on social networks?

The conferences provided specific case studies to inform Menegon and Schutt's practice in this area including:

- Models of Local Government Blogging: Design Trade-offs in Civic Participation
- CommunityNetSimulator: Using Simulations to Study Online Community Network Formation and Implications
- Digital Collecting: Designing Tools for Online Creative Behaviours
- Life in the Times of Whyfox: A Virtual Epidemic as a Community Event
- Tools in Support of Creative Collaboration (workshop series)

The Fellowship Program

Additional issues to be investigated:

These conferences and meetings presented a unique opportunity to formulate frameworks for exploring how young people use new-generation online technologies to negotiate their relationships, and how these technologies may be more effectively used for training within the VET sector.

Matters to raise with the Fellows' contacts and at workshops and seminars included:

- Positive and negative implications of the use of new technologies in training delivery
- Practical ways in which 'learning communities' can be effectively harnessed to achieve more effective training outcomes
- Choices of specialist technologies and their implications in day to day management of training delivery, including technical support
- Benefits and pitfalls associated with proprietary software systems and Open Source solutions
- Methodologies for studying young people's relationship to new technology, including data collection methodologies and ethical issues connected with data collection

The Australian Context

There is a need for educators in Australia to embrace next-generation technology and put it to use in the classroom. Currently much of the work in flexible delivery, e-learning and online teaching revolves around models of the web that are no longer current and that young people in particular do not relate to any more.

Of particular note is:

- The generational change over recent years in the internet – from information delivery mechanism to facilitator of information exchange between people
- The trend, noted in research from both Australia and internationally, that young people are often more adept than their elders at using new technologies, are more willing to experiment with them and will more readily integrate them into everyday life.

Research has also highlighted the importance of the internet as a facilitator of informal, asynchronous (ie not in real time), or synchronous learning communities that are context-driven – they appear when they need to, last as long as they need to, and then disband. Young people in particular are adept at facilitating this kind of ‘just in time’ learning based on specific contexts and needs.

In the rest of their lives, young people are engaging with new technologies such as social networking sites, instant messaging and mobile phone ‘texting’, and are organising their lives in a different way because of them. Teachers at all levels can learn these skills and use them in the classroom to engage students more effectively – teaching through the paradigm of the students’ own culture.

Social networking over the internet has grown hugely (including in Australia), particularly over the last four years. It is challenging the predominant notion that online teaching is about one-way information delivery, as opposed to emerging models that focus on peer learning, time-based communities of practice and information exchange, with the teacher acting as a facilitator and guide instead of the sole source of expertise.

Current models of online learning have been found wanting because they fail to do this in a meaningful way. Web-based online learning services like current versions of Web CT (now Blackboard) have tried to be all things to all people, while they cling to a hierarchical teacher-centred model of delivery, albeit with social networking functionality added around the peripheries. Such systems have a tendency to cram their interfaces with functionality and options that only serve to confuse users and make it less likely that they engage students effectively.

The Fellows’ experience at Victoria University has been that students have found such systems to be confusing and disempowering. Instead, they have experimented with using the technology students already use, such as:

- running class discussions remotely at a pre-determined time using Instant Messenger, then sending out chat transcripts to all students
- the use of blogs as forms of reflective journaling, including posting of audio, video, image and text data
- the use of MySpace and other social networking sites to develop narrative and web coding skills
- the use of 3d immersive worlds (Second Life) for learning, including use of simulations and creations of machinimas (films made using 3d games or virtual world engines)

Indeed, there is evidence from the Fellows’ experiments that deploying existing systems young people already use can result in enhanced learning outcomes because they can operate within a context with which they are already familiar and where they feel they have some degree of agency and fluency.

The Australian Context

One of the other main issues highlighted in the USA-based Pew internet reports and the work of Australian researchers like the Inspire Foundation is the generational issue. Older people (teachers, case workers) can sometimes find technology confronting – it undermines the traditional view of age and experience equating to knowledge. It is a huge challenge to many teachers, parents and other elders that their charges know more than they do about technology, which can sometimes usurp their sense of their own authority. It is also, as with students, about feeling in control and competent, which new technologies can sometimes seem to undermine.

In response, based on the Fellows' explorations in the USA as part of this Fellowship, they would like to develop learning communities that involve both young people and their elders, where both learn together, and where older people can provide the specialist knowledge around context.

The Pew internet reports mentioned above, as well as the leading work undertaken by Professor Henry Jenkins in the USA, shows that new technologies throw up many issues, and that whilst young people are good at adapting new technologies, they are not so good at critically examining the agendas behind the technologies, including issues of privacy, data mining, persistence of outdated data and the like. This is where teachers and elders can provide guidance – not so much in relation to serving up the answers themselves (many of which aren't clear since we are living in a time of huge technology-mediated social change), but in providing the conceptual frameworks for young people to come up with their own informed responses to these issues.

The conference visits fuelled the development of new models for student-teacher interaction facilitated by and through new technologies. This included creating new online tools for implementing these models, plus, in a more specific way, tied to the Fellows' program area, gaining new cutting-edge conceptual, interface and related development skills that they can pass on to the next generation of multimedia students.

Current Education and Training

The knowledge gained as a result of the Fellowship opportunity assisted Menegon and Schutt to develop new and relevant training strategies for delivery of competencies within the following Training Package:

- CUF01: Film, TV, Radio and Multimedia Training Package
Details can be found at: <http://www.ntis.gov.au/?/trainingpackage/CUF01>

International Context

The overseas program was based in the USA, where much of the cutting-edge work in the field of the internet and education is currently taking place. The program was designed to explore the identified skills and knowledge gaps and obtain the information necessary for the Fellows to return to Australia equipped with the knowledge and ideas to advise, instruct, promote and improve local understandings of the interplay between new web technologies, community formation and teaching and learning.

Program Content

The following conferences and meetings were undertaken as part of the Fellowship visit.

Creativity and Cognition 2007

Seeding Creativity with Tools, Media, and Environments. 13-15 June 2007, Washington, D.C. <http://www.cs.umd.edu/hcil/CC2007>

Keynote Speakers

- Mitchell Resnick, MIT Media Lab, *Sowing the Seeds for a More Creative Society*
- Thecla Schiphorst, Simon Fraser University, *Really, Really Small: the Palpability of the Invisible*

Full program: <http://www.cs.umd.edu/hcil/CC2007/program/keynotes.shtml>

Outcomes

This conference was focused on computer-mediated art and design practice and looked at how technological innovation is impacting individual creativity and changing design processes. Through its many paper and poster presentations, the themes of creativity, new technology and education were explored. It was the formal and informal meetings that occurred outside of the set program that provided true value, however. Details of some of the most fruitful meetings are below.

Xavier Roux: Roux is an artist whose presentation at the conference framed a shift in contemporary art away from postmodern, or deconstructionist work and towards 'reconstruction' and unity. Roux classifies his own work as 'participatory art,' or art that removes the barrier between artist and audience. While conceptual art did away with the 'artifact' or art object, participatory art removes the artist, who becomes merely a catalyst for human encounters, conversations and possibilities. Roux's own work, which he presented at the conference, consisted of a wooden wheelbarrow he had built that doubled as a two-person seat. The performance of the piece involved sitting with him on his wheelbarrow and using the unusual circumstance this created as the starting-point for a revealing personal conversation about memory and childhood.

A major outcome for the Fellows from Xavier's work was a recognition of the importance of building and, in his words, 'reconstructing' of relationships, networks, communities' new paradigms of interaction as opposed to the tendency towards deconstruction that has been playing out in post-war society. Menegon and Schutt believe this is of major importance to education, and that technology plays an important part in this process as a tool for connection and reconnection.

Jean Baptiste Labrune: Labrune presented the work he had carried out observing and encouraging the creativity of children. He has developed interactive devices that allow children to experience and explore their environment in novel ways. His Tangicam consists of a large ring embedded with video cameras angled so that the 'lens' becomes what you see through the ring as you hold it in front of you. This device allowed children to frame and record their world in an unmediated way. The footage could then be viewed, altered and edited together with other perspectives on an interactive surface using the Tangicam itself

International Context

as an editing device. Labrune's work is not, however, about creating artifacts: his interest is in seeing the creative output his objects produce and observing the situations that arise from them. He is currently developing a 'creative epistemology' of children for his PhD dissertation, and prefers the term 'discovery' or 'exploring' to 'learning' which he finds too prescriptive.

These meetings demonstrated to the Fellows that a seismic shift is occurring away from traditional models of knowledge authority and information sharing. In art, design and education the new focus is on participation. Participatory practice gives the responsibility of meaning creation and dissemination to the collective 'we', breaking down and sometimes erasing altogether the traditional relationship of artist/audience and teacher/student.

3rd International Conference on Communities and Technologies

28-30 June 2007, Detroit, Michigan. <http://ebusiness.tc.msu.edu/cct2007/index.html>

Keynote Speakers

- Marc Smith, Microsoft Research, Community Technologies Group, *Illustrating Digital Traces: Visualisations of patterns generated by computer-mediated collective action systems*
- Rob Malda and Jeff Bates, Slashdot, *The Life, Times and Tribulations of Slashdot*
- Judith Donath, MIT Media Lab, *Social Media Group, Agents and Faces: The Reliability of Online Signals*

Full program: <http://ebusiness.tc.msu.edu/cct2007/page3.html>

Outcomes

This conference focused upon the current and potential use of online social networks with an emphasis on the visualisation and evaluation of metrics. Sociologists, new media commentators and IT innovators and developers were in attendance. The Fellows' participation in a day-long workshop hosted by prominent social media analyst Danah Boyd was a highlight. This workshop and other meetings are outlined below:

Public Practices, Social Software: Examining Social Practices in Networked Publics

Workshop led by Danah Boyd (<http://people.ischool.berkeley.edu/~dmb/ct-sns/>)

This workshop brought together researchers interested in studying social software including social network sites (eg Cyworld, MySpace, BeBo, Orkut and Facebook), contemporary online dating services (eg Friendster, Match.com), blogging services (eg Blogger, LiveJournal, Xanga), tagging tools (e.g. del.icio.us, Digg, Furl) and media sharing sites (eg YouTube, Flickr).

Such sites, as the summary on the website above explains, "typically enable individuals to create a profile that defines their online personae through the use of photographs, text, and multimedia elements. More importantly, social network sites enable individuals to articulate their social connections visibly on the site, a practice that may help individuals meet self-presentational and social goals. 'Friends' links offer users a window into an emerging and fluid social landscape, allowing them to explore and interact with a larger network via profiles and the communication tools they offer. Together, profiles, traversable 'friends' links, and communication tools comprise the backbone of social network sites. We believe that these offer a strong lens through which to examine the types of practices that occur in networked publics."

Sites like these are fast becoming a default form of communication and interaction in the internet age, particularly for young people. As such, it is critical that Menegon and Schutt, as educators, understand this rapidly emerging world, because it is a world in which the Fellows' students are very much immersed.

International Context

Gina Walejko: Walejko is a researcher within the Media, Technology and Society Unit of the Northwestern University, Illinois. Walejko's particular expertise is in young people's online activities and the use of online surveys to gather research data. The Fellows intend to collaborate with Walejko to construct surveys that will provide information about the use of technology by young people involved in the Fellows projects such as the Avatar project, a Second Life-based youth initiative funded by VicHealth.

MIT Media Lab

Massachusetts Institute of Technology, Cambridge, Boston, MA

- Mitchell Resnick, Sociable Media Group and Professor of Learning Research
- Judith Donath, Sociable Media Group

These two MIT luminaries were particularly inspiring as speakers at the aforementioned conferences. Donath runs the Sociable Media Unit of the Media Lab and is a world authority on trust and identity in the online world. Donath's talk was described in the presentation abstract as follows:

Understanding signals is particularly important when designing for online communication, for here almost everything is a signal; I cannot, for example directly observe your height but must instead rely on the signal of a photograph or self description.

In this talk I will introduce signalling theory, then show how it can be used in both the analysis of existing communication technologies and the design of new ones. The focus will be on signals of social identity – what type of person are you and – of growing concern online – are you, in fact, a person?

Resnick is, as his biography states: "Professor of Learning Research at the MIT Media Laboratory, where he develops new technologies and activities that engage children and teens in creative learning experiences. Resnick's research group developed ideas and technologies underlying the award-winning LEGO Mindstorms and PicoCricket construction kits. He co-founded the Computer Clubhouse project, a network of after-school centres where youth from low-income communities learn to express themselves creatively with new technologies."

Resnick's keynote was entitled *Sowing the Seeds for a More Creative Society*. The conference brief stated:

In the 1980s, many people talked about the transition from the 'Industrial Society' to the 'Information Society.' In the 1990s, people began to talk about the 'Knowledge Society.' I prefer a different conception: the 'Creative Society.' As I see it, success in the future (for individuals, for communities, for companies, for nations as a whole) will be based not on what we know or how much we know, but on our ability to think and act creatively. Unfortunately, current educational practices are woefully inadequate. In this talk, I will discuss new technologies and new educational initiatives developed specifically to help children learn to design, invent, and express themselves creatively – so that they are prepared for life in the Creative Society.

Findings: Key Issues

- Australian educators are under pressure to develop learning resources and tools for the digital native – students who have grown up never knowing a world without computers and the internet
- For the digital native, knowledge gathering and sharing has largely moved online, where the metaphor of ‘research’ is replaced with one of ‘Google search’
- In the online space, information is disseminated across networks based largely on social ties, which is fundamentally different to the traditional top-down teacher-student model
- New resources and tools must acknowledge not only the new paradigm of social networking, but must also foster individual creativity and innovation. (Of particular interest is the development of activities based on the Constructionist framework developed by Seymour Papert at the MIT Media Lab. This is a branch of Constructivism, a theory of learning where humans construct meaning from current knowledge structures. Constructionism extends this theory into the actual construction of new assets and projects, and is particularly relevant to multimedia education)

Knowledge Transfer: Applying the Outcomes

A number of projects and activities have come out of the knowledge gained by the Fellows at both USA conferences. Of particular note is the Victoria University Communities project, an online social networking tool for Victoria University students and staff.

One of the key challenges of building a community in a university setting is staff and student engagement. Staff are dispersed across numerous campuses; students have few opportunities to share their work with individuals outside of their field of study. Victoria University has set itself the task of significantly improving engagement across the organisation, and has recently commissioned an audit of its social networking policies and capabilities.

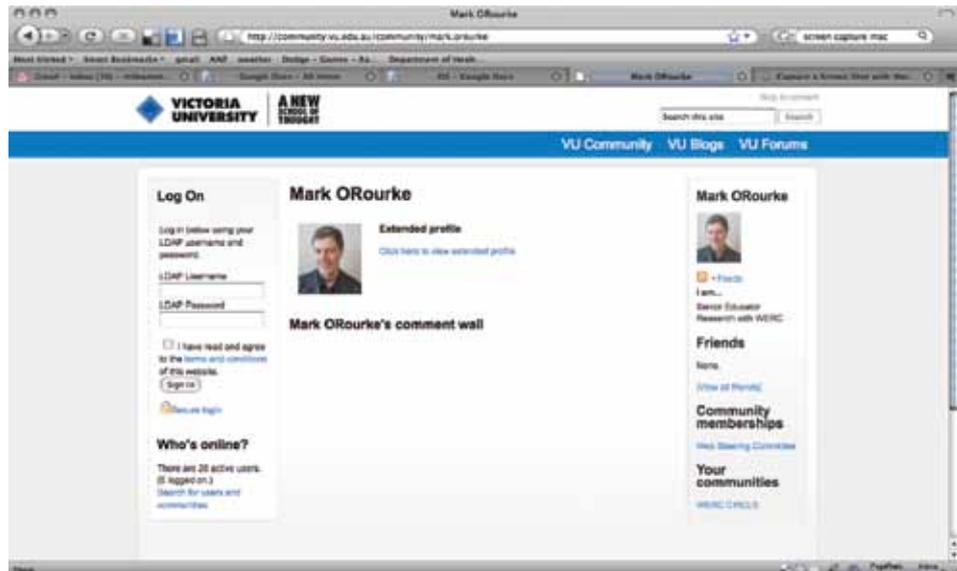
Miles Menegon, working in a web development capacity, was asked to advise on the design of a social networking system that could be used as both an e-learning tool and a means of social engagement. Drawing on knowledge gathered in particular from the Communities and Technologies Conference, Menegon was able to effectively produce and communicate a set of design specifications for the system. The following is a summary of some of the knowledge gained and transferred to stakeholders in this process:

- The skill-set required for the development of social technologies falls within the specialist field of interaction design. Interaction designers design and develop interfaces for websites, applications and, increasingly, social situations. Their research is generally inter-disciplinary, with even technologically-focused practitioners looking to the fields of sociology and psychology for insight into how people experience and behave in social environments.
- Every online community is unique. The individual character of each community is determined in large part by the software environment its members use for interaction. MySpace, for example, allows for a high degree of customisation, while Facebook provides a more limited set of personalisation options. These technical differences produce different ways of communicating intent and change the rules for what is and is not considered 'acceptable' behaviour. In light of this, the software environment (or user interface) needs to be carefully designed to both eliminate barriers to participation and support the anticipated activities of community members.
- Engagement in online communities is typically driven by a proportionally small number of highly active users (Whittaker, 1998) who are seen to 'perform' for a proportionally large number of passive or inactive users, ie those who read blog posts and comments but who may not contribute to them personally. One of the major challenges interaction designers face in this environment is to provide a representation of activity to all users in a way that makes them want to engage with the community more frequently and visibly.

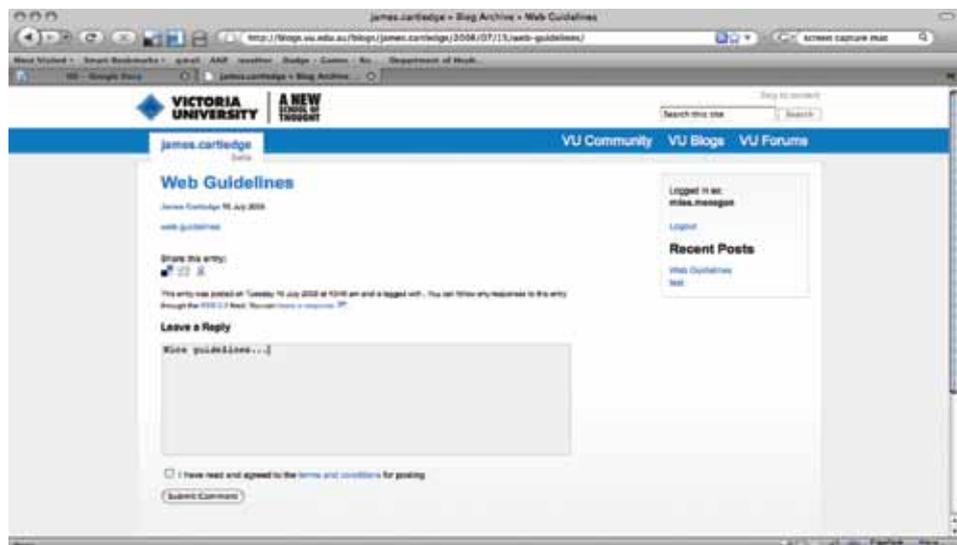
These above points were communicated to users and stakeholders in the project development process, in presentations, workshops and written documentation. An iterative design methodology was employed to develop the system and the result was a Facebook-type social networking platform which integrates blogging and forum tools.

This platform in turn provided the basis of university-wide website innovations undertaken by Menegon in his post-2008 role as web developer and interface designer for VU's Web Futures Group, which has seen VU's entire web presence overhauled, refined and underpinned by Open Source web technologies.

Knowledge Transfer: Applying the Outcomes

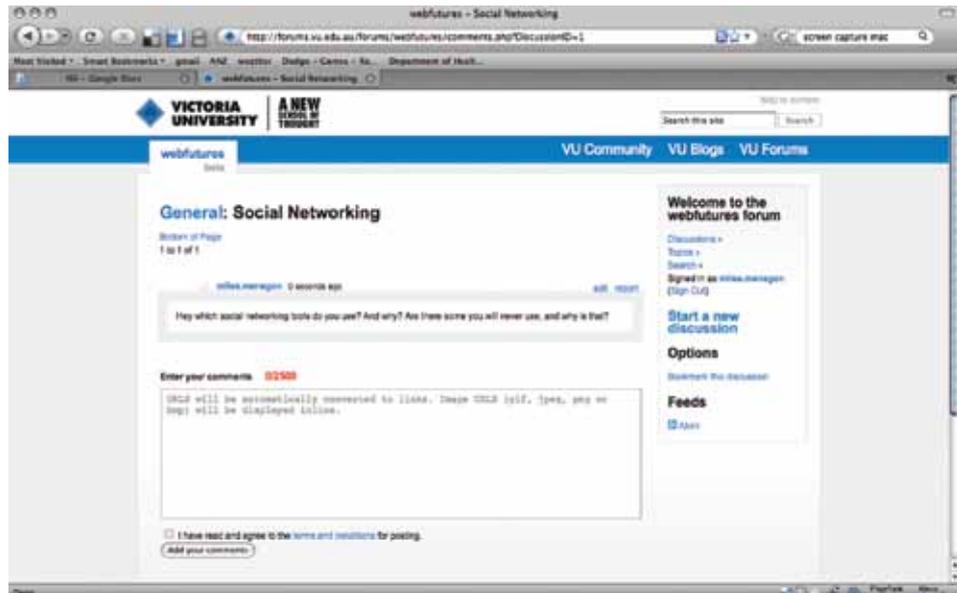


VU Communities – profile page of a typical user



VU Communities – post on a blog

Knowledge Transfer: Applying the Outcomes



VU Communities – post on a forum page

ASCILITE Conference

A poster submission by the Fellows was accepted and published for the 2007 ASCILITE conference (Australasian Society for Computers in Learning in Tertiary Education) in Singapore. The paper outlined the design specifications of a similar, prototypical e-learning platform. This poster was informed specifically by aspects of the Creativity and Cognition conference, namely that:

- education is not a one-way transfer of information
- new web technologies enable new ways of teaching and learning, and vice versa; and
- free-flowing dialogue (or 'chat') can be as effective as traditional lecture oratory for imparting knowledge in the classroom, whether online or offline

Recommendations

The following are recommendations to government, industry, the business sector, professional associations, education and training providers, our community, and the ISS Institute.

Government

In view of the findings, the Australian and State Governments are encouraged to:

- engage young people – the digital natives – by supporting initiatives that allow them to participate in the creation and design of their own learning networks and resources
- recognise the importance of social inclusion and cohesion to improving life, career and educational outcomes for young people, and the increasing importance of technology in mediating social cohesion
- invest in next-generation technology for students, such as mobile devices and laptops, in order to bridge the digital divide
- improve broadband services across the country. High-speed broadband internet is a basic requirement for full participation in the new knowledge sharing environment

On the back of these recommendations it should be possible to develop new, more reflexive learning tools and make it easier to support emerging technology. Failure to move forward on these basic needs will have the effect of limiting innovation and creativity.

Industry and Business

Industry and business have, for the most part, come on board and are keen to support innovation in social media. Businesses in the new media area in particular are well placed to absorb the changes that are taking place, and should take a leadership role in terms of strategy and policy formation.

More importantly, the speed at which educational institutions absorb change is slower than in the commercial sphere, which means that businesses specialising in new media should take a greater role in advising and teaching in the new social networking environment.

Further, it is recommended that young people's existing skills in both deploying and evaluating online social networking environments be taken into account when hiring, as these skills will increasingly come to the fore at a time when business is increasingly conducted and generated through the judicious use of online environments.

Professional Associations

- Australian Interactive Media Industry Association
- Australian Teachers of Media
- Multimedia Victoria
- Games Developers Association of Australia
- Verve – Knowledge & Skills
- VISTA, Association of VET Professionals

These associations have a leading role to play in grappling with the emergence of online social networking tools as a major social force in industry, education and the home. This force affects every area of the associations' activities in the form of everything from the rise of online multi-user gaming to new forms of interactive distance learning and the use of

Recommendations

online professional networking sites. In fact, the development of the 'interactive web' really affects all areas of life, given that convergence is gathering pace between the traditional broadcast media and digital media, and that, together with new forms of connectivity (eg handheld devices, wireless broadband) are continuing to profoundly change the way we connect to one another and live our lives.

Education and Training

There are two issues: *what* is being delivered and *how* it is being delivered.

In relation to both, tertiary institutions need to become more 'in tune' with where students are at in regard to technology. Students expect technology to work and be easy to use. They are ruthless in their judgments, because they have become highly critical as expert users of a wide range of technologies as part of their everyday lives. If institutions don't keep up with, respond to and indeed harness these patterns of use, they will be left behind.

Multimedia trainers need to be one step ahead in the adoption and understanding of new technologies and their use. This is both in regard to what they train (since technology evolves so rapidly) and how they deliver that training, especially since this cohort have particular expertise in technology.

Currently, the multimedia training package is being revised, with some debate about what the word 'multimedia' even means in this age of digital convergence, so it's worth holding off on comments until this process is complete. As an initial general comment, there needs to be a continuous process of gathering information from industry that feeds into course content. One example is the emergence of new, iterative 'agile' project management models that differ significantly from the older 'waterfall' models and are being increasingly adopted by industry to develop software in a more responsive and adaptable way.

As far as delivery mechanisms go, institutions need to push software vendors to be far more responsive to the needs of learners. Existing course delivery systems (Blackboard et al) and content management systems are, in the Fellows' experience, commonly criticised by students and teachers alike; they work on an outdated 'Web 1.0' model of the internet that older users may feel comfortable with, but students (the users of many of the newer Web 2.0 sites out there) often do not.

Community

Awareness raising is essential here. Many people – particularly those who are not 'digital natives', which includes many decision makers – feel a little daunted by changes in technology.

There is a need for forums where latest technologies can be introduced and explained in a non-threatening and understandable way. While this is already happening, there needs to be an increase in the number of forums available to maintain pace with the ever-evolving changing nature of multimedia technologies. Our young people should be allowed to lead the way in explaining to others what they do online and how they do it, without feeling judged by those who don't use these tools as much.

As an adjunct, Menegon and Schutt recommend that *Australian-based* research into young people's use of new technology, and the effect of this on their social and family relationships, world view and patterns of living needs to be increased. Some leading work in this area is already being undertaken by organisations such as VicHealth and the Inspire Foundation, but more is needed.

Recommendations

How ISS Institute can be Involved

The International Specialised Skills Institute can play a leading role in helping to organise workshops and forums to educate people on social networking and other technologies, and how these technologies are transforming our society. Another option is the facilitating of research into this area, in conjunction with educational institutions.

The ISS Institute can also use its resources in the development of the Fellowship program in this fast evolving education and business sector.

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Attachments

Work that the Fellowship has informed: Stefan Schutt

Awards and Scholarships

- NCVET: Building VET Research Capacity Academic Scholarship, 2009
- ICT Community Innovator of the Year (team award), 3rd Australian Community Technology Awards, 2009
- Outstanding Contributions to Student Learning 2008, Faculty of Workforce Development, Victoria University (team award)

Papers, Presentations and Media Appearances

- Schutt, Stefan (2008) 'Staging life stories on the web: the Small Histories project and performances of reconstruction' Proceedings of the 20th Australasian Conference on Computer-Human Interaction, pp 295-298
<http://portal.acm.org/citation.cfm?id=1517744.1517791>
- Cartledge, Schutt et al (2007). 'Avatar and Olly: Discovering the Impact of ICTs on Youth Social Engagement', in Ascilite 2007
<http://www.ascilite.org.au/conferences/singapore07/procs/>
- Interview with Stefan Schutt in article High Speed Learning by Matt Sun, MX newspaper, Melbourne and Sydney, February 2009
- Schutt, Stefan (2008). 'License to drive: How young people use technology to influence the world around them – and how governments can help'. Commissioned research report for the Victorian Government's Office for Youth
- Interview with Stefan Schutt about the 'Kevin 07' website, Morning Show with Lez Sanders, 99.3 FM Sydney, September 2007

Involvement in Professional Societies

- Member, Victoria University Youth Advisory Group (2009 – present)
- Member, Australian Research Alliance for Children and Youth collaborative group: The role of information and communication technologies (ICT) in promoting positive mental health amongst young people experiencing marginalisation (2009)
- Chair, Social Participation through Young People's Involvement in Technology (conference stream), From Margins to Mainstream: 5th World Conference on the Promotion of Mental Health and the Prevention of Mental and Behavioral Disorders (2008)
- Member of Panel of Judges, 2008 EnhanceTV Australian Teachers of Media Awards
- Member, Scientific Committee, From Margins to Mainstream: 5th World Conference on the Promotion of Mental Health and the Prevention of Mental and Behavioral Disorders, (2008)
- Member, working party, Project on Virtual & Physical Learning Spaces, Melbourne University (2008)