Questioning the net generation: A collaborative project in Australian higher education

Gregor Kennedy
Biomedical Multimedia Unit
The University of Melbourne

Kerri-Lee Krause
Centre for the Study of Higher Education
The University of Melbourne

Kathleen Gray, Terry Judd
Biomedical Multimedia Unit
The University of Melbourne

Susan Bennett, Karl Maton
Faculty of Education, University of Wollongong

Barney Dalgarno,
School of Information Studies
Charles Sturt University

Andrea Bishop
School of Science and Technology
Charles Sturt University

This paper describes a project, which has been supported by the Carrick Institute for Learning and Teaching in Higher Education, that aims to identify how the technology-based tools of a new generation of students can be successfully used by higher education. Recent commentaries propose that Universities are ill-equipped to educate a new generation of learners whose sophisticated use of emerging technologies is incompatible with current teaching practice. This project will investigate this proposed gap between learners' and teachers' use of technologies and identify the implications for higher education. This paper presents the rationale of the project, highlighting its critical stance on current notions of the 'Net Generation'. The three phases of the project – Investigation, Implementation and Dissemination – are then described. The project will be undertaken as a collaboration between staff at The University of Melbourne, the University of Wollongong and Charles Sturt University. In the final stages of the project, members of the ascilite community will be able to participate in practical workshops based on the lessons we have learned from questioning the 'Net Generation'.

Keywords: net generation, digital natives, learning, educational technology

Project rationale

Considerable attention has been given recently to the 'Net Generation', also called 'Digital Natives' or the 'Y Generation'. This group of individuals, born between 1980 and 1994 (McCrindle, 2006), have been characterised by their familiarity with and reliance on information and communication technologies (ICTs). They have "spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age" (Prensky, 2001a; p. 1).

A number of authors have argued that the digital culture in which the Net Generation has grown up has influenced their preferences and skills in a number of key areas related to education. For example, the Net Generation are said to prefer receiving information quickly; be adept at processing information rapidly; prefer multi-tasking and non-linear access to information; have a low tolerance for lectures; prefer active rather than passive learning; rely heavily on communications technologies to access information and to

carry out social and professional interactions (Prensky 2001a, 2001b; Oblinger, 2003; Gros, 2003; Frand, 2000). Authors have also questioned the extent to which higher education practitioners are equipped to meet the needs of this incoming cohort of students. Prensky (2001a) labels lecturers in higher education 'Digital Immigrants'; foreigners in the digital lands of the Net Generation. He also suggests that the disparity between the ICT experiences of current students and the sophistication and degree to which these technologies are employed by teaching staff is the "the biggest single problem facing education today" (p. 2).

Despite the considerable recent attention devoted to the Net Generation, few studies have documented the characteristics of this group. Moreover, little empirical evidence has been provided to support claims made about the Net Generation and its implications for higher education (for a rare exception, see Kvavik (2005). Furthermore, a number of fundamental assumptions made by commentators on the Net Generation warrant critical examination. First, it is assumed that all commencing first year University students are part of the 'Net Generation'. However, this group is not homogenous – Jonas-Dwyer and Pospisil (2004) predict that on the basis of age, 40% of students enrolling in undergraduate studies in 2006 will not be part of the Net Generation. Krause (in press) confirms the heterogeneity of the first year student population and its consequences for ICT use, noting that mature age students were significantly less likely than school-leavers to use online course resources. A second assumption is that all first year University students have a sophisticated knowledge and understanding of ICTs while teachers in higher education are largely technologically illiterate and need to improve their ICT understanding and practice. Such broad generalisations risk overlooking a more complex mix of ICT skills and knowledge among student and teacher populations. Finally, there is an inherent assumption that because students are using particular technologies in their everyday lives this warrants their use in teaching and learning. However, it is not clear that students want their 'everyday technologies' to be adopted or appropriated as 'learning technologies'. Moreover, it is not clear that emerging technologies and students' everyday skills with them will easily translate into beneficial technology-based learning. Many in our community understand the care and planning needed to successfully integrate technologies within well-designed learning and teaching contexts in specific discipline areas.

This project will examine these assumptions and is clearly aligned with core components of this year's ascilite conference theme. This year the program convenors have asked us to think about how well we know our students and how we can ensure we meet their real needs and not what we imagine they might need. They also ask us to consider the characteristics, habits and demands of the Net Generation and encourage us to respond to their expectations. This project directly targets these issues and takes a critical approach to them. The next section of this paper outlines the way in which we will undertake this work.

Project methodology

This project will particularly focus on students' use of new and emerging technology-based tools in three areas: communicating, publishing and file sharing. Traditional digital communications technologies (mobile phones and email) have recently been supplemented by other web- and phone-based communications tools, including instant messaging software (e.g. Messenger), social networking software (e.g. Friendster), and discussion forums. SMS or Text messaging has become an integral communication activity for young people; a recent study at The University of Melbourne found that 96% of first year students have unlimited access to a mobile phone with 80% using it on a *daily* basis to 'text' others (Kennedy, Krause, Churchward, Judd & Gray, 2006). Using the web as a tool for personal digital publishing has increased in popularity over the last five years, predominantly in the form of web pages, blogs and wikis. The Melbourne University study referred to above found that 35% of first year students had contributed to their own blog in the last year with 21% contributing to it on a weekly basis (Kennedy, et al., 2006). Web syndication and RSS feeds have facilitated the distribution of material published on the web. It has particularly facilitated the distribution of audio or video files (podcasting) and allows people to download and play audio and video clips on their own computers, mobile phones or MP3 players. Individuals are also using the web to share material such as photographs or images (e.g. linklist).

Thus, in addition to the more entrenched technologies (e.g. email), this project will focus on how students use emerging technology-based tools such as: web-based communications tools including instant messaging and social networking; text-based mobile phone communication; online publishing using blogs and wikis; digital file sharing using the web and mobile phones; the use of the web to access published

material particularly via RSS feeds or syndication and the use of MP3 players for audio streaming and podcasting.

The project will be conducted in three stages: Investigation, Implementation and Dissemination. The Investigation stage will begin by documenting how first year University students and their teachers are routinely using emerging technologies and technology-based tools in their day-to-day activities and to support students' learning experiences. This stage will comprise two phases of data collection. In the initial phase, a questionnaire will be circulated to first year students in a range of disciplines across the three participating institutions. This questionnaire will ask students about the degree to which they access and use technology-based tools, how they currently use technology to create and exchange information and knowledge, and their perceptions of how technologies could be better used in their studies. A questionnaire asking broadly similar questions will be circulated to teachers in the students' discipline areas. This will ask teachers about their experience and skills with a range of technologies and technology-based tools and how they currently use technology to support student learning. In the second phase of the Investigation a series of focus groups will be conducted with students to better understand their use of the most popular technologies. Focus groups will provide an opportunity to gather more detailed information about how students use specific technologies for particular purposes, what they like about popular technologies, and to explore ways in which these technologies could be harnessed for educational purposes. A second series of focus groups will be conducted with teaching staff, educational designers, course coordinators and IT coordinators to determine the feasibility of harnessing students' existing use of popular technologies for education purposes. Facilitators and barriers to the use of emerging technologies and technology-based tools in local learning contexts will be investigated in this forum.

The findings and outcomes from the Investigation stage will be used to identify Pilot Projects for the Implementation stage. For example, the Investigation stage may suggest how blogging, social networking, podcasting or file sharing can be implemented to support and enhance students' learning activities. It is expected that four specific technology-based tools in the interrelated areas of communications, publishing and file-sharing, will emerge from the Investigation stage and two trials of each technology-based tool will be implemented (i.e. eight Pilot Implementation Projects in total). Each pilot project will be evaluated iteratively during the course of its implementation, with a particular emphasis on aspects of the innovation that are working well (and why) to determine the learning processes and outcomes that are beneficial for students and teachers.

The third stage of the project, the Dissemination of the project's outcomes, will be grounded in the lessons learned from the pilot projects and the findings from the Investigation stage. A key element of the dissemination strategy will be the development and distribution of *A Teachers Handbook* and a *Teachers Toolkit*. The *Teachers Handbook* will provide a practical guide on how to integrate technology-based tools into local learning environments. The *Teachers Toolkit* will provide a suite of concrete resources (generic learning designs, templates, lesson plans, checklists and technical implementation plans) that can be used by teachers to facilitate the use of emerging technologies and technology-based tools in local teaching and learning contexts. A key dissemination strategy will involve members of the project team conducting staff development workshops with teaching staff and institutional staff developers at Universities in major capital cities of Australia and at annual conferences such as ascilite.

Conclusions

While a great deal has been written about the Net Generation – with some commentators even suggesting educators alter their teaching practices to better suit these Digital Natives – very little empirical research has actually questioned the Net Generation about their experiences with technology and worked with educational practitioners to determine the implications this has for Higher Education. Members of the ascilite community who are experts in this area once again face the challenging balancing act of not overreacting to the 'techno-hype' voiced by Prensky and others while at the same time being aware of potential changes in the needs and expectations of a new generation of students.

Our response to this challenge will be to gather empirical evidence about the degree to which students and their teachers in three diverse universities are using emerging technologies. Based on this evidence and with the support of local staff it aims to develop and implement appropriate technology-based tools in

local learning and teaching contexts. From these activities the project team will develop empirically and pedagogically-based guidelines for integrating emerging technologies into local teaching and learning environments. The appropriate adoption of emerging technology-based tools in higher education can only be carried out after asking questions and considering the responses critically.

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Acknowledgements

Author contact details

Gregor Kennedy, Biomedical Multimedia Unit, The University of Melbourne, VIC 3010, Australia. Email: gek@unimelb.edu.au.

Kerri-Lee Krause, Centre for the Study of Higher Education**,** The University of Melbourne, VIC 3010, Australia. Email: k.krause@unimelb.edu.au.

Kathleen Gray, Biomedical Multimedia Unit, The University of Melbourne, VIC 3010, Australia. Email: kgray@unimelb.edu.au.

Terry Judd, Biomedical Multimedia Unit, The University of Melbourne, VIC 3010, Australia. Email: tsj@unimelb.edu.au.

Susan Bennett, Faculty of Education, University of Wollongong, Wollongong, NSW 2522, Australia. Email: sbennett@uow.edu.au.

Karl Maton, Faculty of Education, University of Wollongong, Wollongong, NSW 2522, Australia. Email: kmaton@uow.edu.au.

Barney Dalgarno, School of Information Studies, Charles Sturt University, Locked Bag 675, Wagga Wagga, NSW 2678, Australia. Email: bdalgarno@csu.edu.au.

Andrea Bishop, School of Science and Technology**,** Charles Sturt University, Locked Bag 588, Wagga Wagga, NSW 2678, Australia. Email: abishop@csu.edu.au.