Engaging Gen Y students at university: what web tools do they have, how do they use them and what do they want?

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Abstract

Gen Y students are an increasing proportion of commencing undergraduate students worldwide. Having grown up with computers, they are characterised as possessing familiarity with Information and Communication Tools (ICTs). These assumptions ignore the diversity both within and across generations within student populations (Tapscott 1998; Crawford 2006).

Nevertheless, generational stereotypes provoke some questions worthy of further investigation: do Gen Y students' ICT skills result in them communicating and learning differently to previous generations (Oblinger and Oblinger 2005)? If so, how do universities respond, both to the expectations of ICT-savvy Gen Y students and the diversity present within their entire student body?

This paper addressed these issues through a survey of first year students' experiences and expectations of the IT environment within their university, as part of a broader pilot project to explore use of a range of web tools to promote engagement with a student cohort dominated by Gen Y-age students.

Introduction

Students born between 1980 and 1996 (sometimes 1982-2000) have been labelled the Net Generation (Net Gen), Gen Y, Millennials, iGen, or digital natives (Prensky 2001) to reflect their upbringing in a milieu where communications technology is a given. Their familiarity with the web as a source of information and their preference to be constantly and immediately in touch with their peers through ICTs distinguishes them from previous generations of students. Whilst there is understandable scepticism about the value of stereotyping a generation, universities need to acknowledge that those Gen Y students who come to university are likely to be more representative of their generation's stereotypes, having had to utilise their IT skills to gain entry in a competitive environment. Of course, their diversity should also be considered, both within Gen Y and within student body as whole, as in the influence of other generations in the student population and the wide range of backgrounds and experiences that students bring to tertiary study.

However mindful we are of diversity, it is a danger for university administrations not to take account of generational trends. The slow pace of decision-making in most institutions in relation to their IT infrastructure and the considerable investment required to keep relevant in a

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constantly changing environment means that universities cannot afford to ignore research into the learning preferences and expectations of the current generation. Reflecting on current preferences and trends can help in making informed predictions of future learning needs and the infrastructure required to support it. Libraries, for example, are experiencing fewer students coming to borrow books but more demand for group study environments 24/7, to accommodate the learning preferences of Gen Y students (Gardner & Eng 2005). Students increasingly expect some portion of their unit materials to be accessible online to give them the flexibility to engage in paid employment or juggle other responsibilities alongside study. This is an expectation that crosses generational boundaries.

Generational literature often has a basis in market research, but increasingly universities are doing their own research to establish evidence of Gen Y students' experiences and expectations. In part this research is to establish what access their students have to tools such as mobile phones, laptops, broadband access and PDAs and what uses they are making of them to facilitate their learning. Their experience of online learning and their preference for this mode of delivery is also a focus of evaluation in courses delivered wholly or partly online. Finally, their expectations are of great interest to academics and administrators alike, because the extent to which the university meets them will be reflected in student satisfaction surveys, important sources of data on which funding decisions are often based.

Much of the current literature on Gen Y students focuses on quite a narrow definition of learning in relation to classroom learning, when discussing the value and applications of ICTs. The research on libraries is an exception. A key characteristic of Gen Y is their belief that they can learn outside classrooms, when they are interacting with their peers. Universities of late are expanding their definition of the student experience to recognise that important learning does occur outside the classroom and to encourage students to engage in a range of activities to broaden their experience (Krause 2005a,b).

This paper addressed these issues of engagement through a survey of first year students' experiences and expectations of the IT environment within their university. It is part of a broader pilot project to explore the use of a range of web tools to promote engagement with a student cohort dominated by Gen Y-age students. This project differs from many others in that it is from the perspective of a central support unit charged with delivering a wide range of services and programs to the entire student body. Understanding the characteristics of our own student population was viewed as a vital first step in targeting strategies to use ICTS to broaden engagement with our services and programs.

The Net Generation

Few people within universities would challenge the contention that a revolution is taking place in the way we communicate, access information, store it and use it. Most staff struggle however to give a meaningful context to what is happening. Some describe a sense of just keeping their footing on the edge of a slow moving landslide as their ability to keep up to date with research skills or engage a class as students fail to show for lectures, preferring to access the recorded version online in their own time. Others find it easier to stick with what they are comfortable with, expecting students to conform to the expectations and endorsing the negatives associated with Gen Y.

Hartman, Moskal & Dziuban (in Oblinger & Oblinger 2005) have conducted a number of surveys at Central Florida University on students' experiences with blended learning

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environments and have drawn some generational observations from their data. The table below summarises many of the assumptions found in Gen Y literature:

Table 1: Gen Y characteristics

Positive characteristics	Less Positive characteristics
optimism	team orientation –can prefer peer input rather than academic staff
familiar with technology	poorly developed critical skills
multitasking	Poor understanding of academic ethics
high expectations	reliance on web for info
diversity	lowest satisfaction of all generations with student experience
accept authority	Decision-making without thought of consequences

The Florida study discerned differences between generations in learning styles: Baby boomers (1946-1964) prefer face-to-face delivery of learning materials; Gen X (1965-1979) want independence and Gen Y want community and interaction. However, **all** had a similar view of how they defined excellence in teaching: they expected teachers to communicate effectively; to demonstrate genuine interest in student learning; to organise their course effectively; to show respect for students and to assess students fairly (Hartman *et al.* 2005:6.11*).*

Student learning needs may be universal but are mediated by generational preferences. Hartman *et al.* characterised the learning style of Gen Y as 'bricolage', a term coined by anthropologist, Claude Levi-Strauss (1966), to describe a learning style he observed in non-Western societies for assembling knowledge through 'a bit of this and bit of that'. Gen Y's learning preferences are often strongly influenced by their peers and their own capacity to search out information and piece it together (Moore, Moore & Fowler 2005). Their ability to assess and critique the information they assemble often needs further development.

Whatever common philosophical elements coexist in defining effective teaching, the gap is widening between IT environments and the technologies students use to communicate with each other. The educational value of instant messaging, blogs, wikis, computer games and chat forums is still in debate, but 'the real opportunity lies in observing and talking to today's students about how they conceptualise and use these new tools' (Hartman *et al.* 2005: 6.5). This is the aim of the N.O.D.E. project.

The N.O.D.E. Project

The N.O.D.E. project – Networking Online to Diversify Engagement – arose from a desire to capitalise on students' preferred communication strategies to engage them. As the central unit within the university responsible for the provision of services to students, our contact with students crosses all faculties and cohorts. Offering a range of programs and services also meant that the ways in which we needed to communicate with students could differ from program to program. For example, the Counselling service might want to text reminders to students about appointments whilst the Transition programs might be interested in the possibilities for hosting blogs by first year students. The Learning Skills advisors could see advantages in podcasting workshops, as one strategy for reaching more students. NODE aimed to pilot different strategies tailored to the communication needs of the groups of students each program targeted.

A further incentive to explore these communication strategies is found in our undergraduate student profile, which shares the characteristics of Gen Y to a large degree. The University of Western Australia (UWA) enrols the highest percentage of school leavers of any Australian university. They are also very capable students academically, as they face intense competition

for entry. These two characteristics, young and academically capable, do not necessarily equate to technologically competent, although this is an assumption made by the university in its expectations of the IT literacy skills of commencing students.

The literature on Gen Y students that highlighted some of the more negative stereotypes of their behaviours, such as making last minute decisions or wanting action on decisions immediately, resonated with some of our experiences in attempting to engage students (Krause 2005b). NODE aimed to explore ways of turning negatives into positives by employing ICTs to optimise engagement by using the preferred communication strategies of Gen Y students. If the generational literature was correct, then there should be aspects of the positive traits that could be employed to the advantage of the services that we provide for Gen Y (and all other) students. Traditional means of promoting our programs may reach a certain percentage of students, including a proportion of the Gen Y cohort, but if the preference for peer communication was salient, then there was an argument to explore ways to utilise online communities to spread the message that we wanted Gen Y to hear (Cluett & Skene 2007; Krause 2005b).

The NODE project aimed to explore a range of web tools to improve communication with students, not merely for the sake of adopting new technologies but in educationally purposeful ways. At time of writing, it is an ongoing project, piloting different tools within different program contexts. Each will be evaluated as to the utility and effectiveness of each communication strategy in terms of uptake, and student and staff feedback. Before the various ICTs were employed, however, it was necessary to survey our students to gain a better understanding of how their experiences and expectations aligned with the Gen Y literature, so that NODE could be strategic in the web tools that it trialled.

UWA Student ITC Survey

Much of the literature on Gen Y emanates from North America and relates to student populations that can differ in significant ways from Australian students. Many North American campuses have largely residential populations, so students may have uniform access to computing resources 24/7. Students may also be able to demand flexible access to labs and libraries, as in Gardner and Eng (2005)'s survey of library use at the University of Southern California. Australian campuses are different in that most students leave after class and campus can be quite empty except for the environs of the library.

It is important then to have an accurate picture of Australian students and their access to and use of ICTs. To this end, students who had completed 50 per cent or more of their first year units were surveyed at the end of their first year of study. The survey was emailed to students' university email address with a link to an online form. The student email address is the university's official communication channel with students, so all students are accustomed to checking their email. A response rate of 16.8 per cent was received and of these students, 93.5 per cent were born in 1980 or later. The high response of Gen Y students is not unexpected because it mirrors the student profile overall in age, with 92.9 per cent of the 2006 first year cohort born 1980 or later. Mature age undergraduate students (20 years and older) are a minority on this campus. It is therefore vitally important for UWA to have a clear perception of the experiences and expectations of Gen Y students, because they dominate the undergraduate student population.

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More female students responded to the survey than males: 61.4 per cent females and 38.6 percent males. International students were 14.7 per cent of respondents, a figure that is quite closely aligned with their overall percentage of 13 per cent of undergraduate students.

Table 2: Respondents by faculty

Faculty	Percentage of total respondents
Arts, Humanities and Social Sciences	19.0
Engineering, Computing and Mathematics	19.8
Life and Physical Sciences	17.8
Architecture, Landscape and Visual Arts	6.1
Natural and Agricultural Sciences	6.4
Law	4.1
Economics and Commerce	10.7
Education	0.6
Medicine, Dentistry and Health Sciences	14.0

As the survey targeted students who had completed one year of study, they were all familiar with the university IT environment and could make informed comments about services available and whether their expectations were being met. The survey was structured in three sections: students' access to particular ICTs; their experiences of ICTs; and their expectations of the IT environment in their university.

Questions of access investigated ownership of laptops, mobile phones, PDAs, access to broadband and wireless services. Students were asked to record their experiences of different web tools on a 5 point scale:
1: No idea what this is
2: Heard of but not used
3: I use/ view/ subscribe to etc
4: I create / generate /post to / upload etc
5: Confident enough to train others

ICTs surveyed included blogs; wikis; Lectopia recordings (home-grown lecture recording system); Flickr; Instant messaging; Podcasts; Online discussion boards/forums; RSS feeds; MySpace; Shopping online; download music; Peer-to-Peer file sharing; Subscribe to lists; YouTube. Expectations of the IT environment focused on wireless access; download quotas; computer lab space available; and preferences for face-to-face contact over online-based learning. An open-ended question provided the opportunity to comment.

The discussion will focus on descriptive statistics, comparing some finding with another major survey in an Australian university and weighing up those results with data from overseas studies. At time of writing, more extensive analysis of correlations is underway and will be reported subsequently.

Discussion

Assumptions are often made by staff within universities about the access students have to computers and other ICTs. The survey confirmed a suspicion that almost all students owed mobile phones. The percentage that owned laptops was as expected but the high percentage of students with broadband access is surprising. UWA is located close to the city centre and draws a high percentage of its students from surrounding suburbs, which are affluent areas. Further analysis on postcode distribution and any correlation with broadband access will be

investigated, to establish whether students living at a distance from campus have less access to broadband. The cost of paying for broadband access may be a factor worthy of further investigation for the 15 per cent who did not have broadband at home.

Whether using broadband or dial-up though, 90 per cent of these students are online more than once a day. Further research could investigate how long each session online lasts and what is the focus: study, social interaction, work or relaxation. Clearly, for these students, reading their student email is not as high a priority as reading personal accounts.

Table 3: Ownership of devices and access to internet services

	percentage
Own a laptop - Yes	56.2
Access internet more than twice a day	60
Access internet more than once a day	30
Access internet more once a week	7
Internet connection at home: dial-up	9.9
Internet connection at home: broadband	84.9
Don't know	2.0
No answer	3.2
Access your student email account –more than twice a day	9.2
Access your student email account –once a day	37.4
Access your student email account –once every few days	35
Access your student email account –once a week	9.9
Access your student email account –less than once a week	6.9
No answer	1.6
How often do you access other email accounts ie gmail, hotmail?	
–more than twice a day	21.8
–once a day	45.9
–once every few days	19.3
–once a week	4.4
–less than once a week	4.2
I don't have any other email account	2.8
No answer	1.6
Do you own a mobile phone -yes	96.3
Do you own a mobile phone -no	1.7
No answer	2
Do you own a mobile device that has wireless internet access?	
Yes	40.4
No	57.2
No answer	2.4

Results of this survey reveal a first year student population that is well equipped and who have reasonable access to internet services. The results are comparable to similar survey results by the University of Melbourne of their first year students in 2006. That survey was conducted

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with commencing students during their orientation and was paper-based (Kennedy, Krause, Churchward, Judd & Gray, 2006). Students at the end of their first year, as in the UWA survey, might be expected to be more IT-savvy. However, there were not major differences between the two cohorts, either in access or experience.

Mobile phone ownership was almost identical between the two cohorts, with 96.4 per cent of Melbourne students reporting unrestricted access to mobile phones and 63.2 per cent to laptops. Wireless access was around 40 per cent for both cohorts.

Experiences

Students' experiences with ICTs revealed a cohort that was literate but not necessarily employing ICTs as part of their learning. Kennedy *et al.* (2006) argue that there is an inherent assumption that because students use particular technologies in their everyday lives, that then warrants their use in teaching and learning. However, students may not want their methods of communication adopted as 'learning technologies' (Kennedy *et al. 2006).*

Gen Y students may not have given much thought to how their peer-to-peer communication strategies translate into learning opportunities at university. The responsibility to demonstrate effective and innovative uses of ICTs falls to staff in the first instance, so that all students have the opportunity to experiment, learn and evaluate. Without that opportunity, the very well-equipped and IT-savvy students will continue to develop their skills and students with a less technological bent, or less access to ICTs, may not have the motivation or confidence to experiment. Assisting students to make the connection between using a technology for social communication, such as downloading and sharing music files, and one for study purposes, may require demonstrations of usefulness and ease of use.

Although UWA pioneered the i-lecture recording system, Lectopia, nevertheless the survey recorded 10.7 per cent of students who had never heard of it and a further 11.5 per cent who had heard of it but never used it. Not all lectures are recorded but most students would have access to some recorded lectures in their courses. The Lectopia office estimate that about 25 per cent of lectures are not recorded but that figure would include some proportion of courses where some of the material is recorded. So there are students whose lectures are recorded who are not accessing them, hopefully because they are attending lectures, and not because they are not confident in using the technology.

Other research reveals a preference for listening to recorded lectures through the computer, rather than downloading a podcast onto an MP3 player (Lee, Chan & McLoughlin, 2006, cited in Kennedy, Krause, Churchward, Judd & Gray, 2006; Northcote, Marshall, Dobozy, Swan & Mildenhall, 2007). Although we did not directly ask whether this was a preference in this survey, the question on podcasts seems to endorse other findings in Australian universities. Responses on podcasts recorded 14 per cent who had never heard of it and further 59.3 per cent who had heard of but never used. This demonstrates that these students have not routinely downloaded their lecture material as podcasts. However, institutional surveys of Lectopia recordings show that students are accessing recorded lectures so they may be listening via computer by preference, because many lectures will have video and other visuals. Many MP3 players do not have video and even then, a small screen iPod may not be the best medium for viewing.

Almost the same proportion of students (74 per cent) is downloading music as listening to their lectures via Lectopia. The difference is that very few (0.3 per cent of respondents) had never

heard of downloading music files. Even though slightly more than 22 per cent of UWA first year students had not listened to recorded lectures, having flexible access to lecture material was the most common request in the section of this survey that allowed for comment. Students wanted all lectures to be recorded. Although the university does not provide external modes of study, students cited a variety of reasons why they wanted their lectures recorded. The comment below sums up one position, with other students citing illness or paid employment as reasons why they cannot attend some lectures:

> I couldn't register for a course because the lectures were not going to be available online. This is an inconvenience and I cannot do the unit as I am going overseas during mid semester so would not have been able to listen to my lectures. All lectures and notes should be online in today's world.

Many lecturers fear that recording lectures will decrease attendance at lectures but most students want the flexibility of recorded lectures for occasions when they cannot attend or for revision purposes. The question of whether students preferred face-to-face contact over online-based learning systems drew a response of 51.9 per cent in favour of face-to-face, with a further 37.4 per cent stating that they didn't mind. Only 9.3 per cent preferred online, with 1.4 per cent not responding. Student comments reinforced a view expressed in North American surveys that the best experience is excellent face-to-face teaching, but the flexibility offered by technology should not be discounted:

> Please don't replace face to face teaching with online modes- I would change universities if this happened. It would be good though to enhance the face to face teaching with technology.

Whilst use of technology for technology's sake is not popular with either students or staff, there is an argument for innovative use of ICTs as learning technologies in order to explore possibilities and to educate those with the student population who are not familiar with the range of ICTs and their applications:

> Podcasting of iLectures is a good feature, even though I don't have lectures anymore. Blogs from various facilities - such as the suggested Library Suggestions/Feedback blog - would be handy, but I would be wary of using technology for technology's sake. If there is no actual need to be, for example, creating Flickr accounts in units or creating multimedia aspects except to show that the uni can be technologically adept, rather than enhancing the educational side of a student's degree, then I'm not sure that would be the best approach to take. I'm all for the use of web-based materials, but I'd rather they were relevant than just used as almost a token attempt at being 'with the times'.

Creating blogs is one such application that is being explored in a variety of learning situations. Blogging offers a way to engage students in developing online communities through sharing knowledge and resources and encouraging debate (Crowe & Tonkin, 2006). Students may be blogging to share their thoughts about particular readings as part of an assessment task, or sharing experiences of student life, or initiating political discussions. The challenges of such accessible information are only just beginning to be explored in the classroom context (Williams & Jacobs, 2004).

A blogging culture was evident in both the UWA and Melbourne surveys, with 23 per cent of UWA students writing blogs, while similar numbers of Melbourne students were blogging on a weekly basis (21.2 per cent). Lurking, or reading but not contributing comments, was higher amongst Melbourne students with 58.6 per cent reading blogs regularly, compared to 37 per cent of UWA students reading other people's blogs. The percentage of students who are active bloggers in these groups is beyond the norm for the overall population. David White (2007) argues, in his discussion of a similar survey of visitors to the Oxford University online learning page conducted during the same timeframe as the UWA survey, that:

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it's an emerging rule of thumb that suggests that if you get a group of 100 people online then one will create content, 10 will interact with it (commenting or offering improvements) and the other 89 will just view (Guardian online July 20, 2006 cited White 2007).

The White study explored blog use to a further level, discovering that of the approximately 40 per cent who read or created blogs, about a third did so for social reasons, another third for study and the remaining third for work. The biggest group of bloggers in White's survey were the under 18s, perhaps indicating that the upcoming generation will be even more at home in the Web 2 environment.

Expectations

The students surveyed were expected to attend lectures on campus and therefore able to access computing services on campus. Their level of satisfaction with access to the internet was quite positive, with 89.3 per cent reporting access as adequate or above. However, given that only about 40 per cent owned wireless devices, the percentage expressing dissatisfaction with wireless service and the extent of the network (26 per cent) is quite high.

Conclusion

Discerning generational trends is an imperfect exercise, whatever data we collate, yet educators need to be alert to trends in students' interests and knowledge if they wish to tap into those skills and use them in service of learning. Gaining a clearer picture of what students have and what they can do is a first step to confirming the stereotypes around Gen Y students. Kennedy *et al.* (2006) argue that 'while some students have embraced the technologies and tools of the 'Net generation', this is by no means the universal student experience'. This survey reinforces that picture of Australian Gen Y students. Gen Y is a diverse group and not all are ICT-inclined and may never wish to explore the online environment beyond their 'need to know' boundaries.

Nevertheless, there is evidence that substantial numbers of Gen Y students are using ICTs to communicate amongst themselves, and access information, and these technologies offer innovative and exciting ways to aid learning. These students are most likely to give us an indication of how things will develop in the near future. It is imperative to be communicating with these students, preferably through their preferred media, and exploring how their use of ICTs can aid learning and engagement. An additional focus, and one that is a priority for the NODE project, is to find ways to provide flexible services to accommodate the pressures on time-poor students. The survey results encourage the NODE team to continue to explore those web tools that facilitate innovative learning, create online communities and provide options for flexible service delivery, in order to engage students.

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