

2011

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This article was originally published as: McMahon, M. T., & Jung, J. H. (2011). The Natives are Restless: Meeting the diversity and needs of millennial students in a large undergraduate unit. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (EDMEDIA). Lisbon, Portugal. Original article available [here](#)
This Conference Proceeding is posted at Research Online.
<http://ro.ecu.edu.au/ecuworks2011/794>

The Natives are Restless: Meeting the diversity and needs of millennial students in a large undergraduate unit

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Abstract: Today's students are referred to as 'digital natives'. But what does it mean to be digitally native? How does the digital nativeness affect the way student learn and we teach? This paper examines the key characteristics of Millennial students, and outlines teaching and learning strategies. A modular structure was implemented in first year undergraduate unit to trial the new strategies. Challenges and successes of the trial are described.

Introduction

Universities are now faced with challenges of ever-diverse groups of students: the baby-boomers, Generation X, and the Millennials (Jonas-Dwyer & Pospisil, 2004). Facilitating the Millennial students is particularly challenging as they have distinctive values, social and intellectual characteristics that have been identified as significantly different from previous generations and constitute a large number of the current undergraduate student cohort. Synonymously referred to as the 'Net Gen' or 'Gen Y', Millennials have been summarised by Gardner and Eng (2005) as:

- Having great expectations.
- Expecting customization.
- Being technology veterans.
- Utilizing new communication modes.

Such students are often referred to as 'digitally native'. That is, they were born into a world where the use of digital technologies is integral to their daily lives to the extent that such technologies are often seen as an extension of Self (Prensky, 2001). In learning, this generation of students have been shown to prefer technological and collaborative experiences that exhibit clear goals, enhance motivation, and involve authentic activities (Brown, 2000; Frand, 2000; D. Oblinger, 2003). Bonk (2004) noted that such students will enter the online learning arena expecting interactivity, visual effects, and rapid access to information, resulting from exposure to a range of sophisticated games and simulation technologies in their leisure lives. The implication of this is that educational institutions and educators need to learn more about Millennials and adapt and adjust learning designs and environments to cater for the skills and expectations of this younger generation of technology savvy students (Jonas-Dwyer & Pospisil, 2004; Rickard & Oblinger, 2003). Foreman (2004) and Oblinger (2003) discussed the need for new instructional models at Colleges and Universities to account for these new technologies and resultant expectations.

There certainly appears to be research evidence to support such contentions. In one study, where students were provided with laptop computers as part of their studies, they went beyond their integration into learning to use the technologies as lifestyle devices (McMahon & Pospisil, 2005). Students reported using the devices in a wide array of settings, with one student going so far as to note the value of being able to render 3D graphics while at a dinner party. However, the context of this study, which focused on students of digital media, needs to be taken into account. The assumption that all Gen Y students are digitally native may in fact be a

gross overgeneralisation. Kennedy et al (2008) found in a large cohort of 1st year students that they used only a small proportion of those technologies that are often associated with this generation. The common sense conclusion that students only use those technologies that are readily available and provide immediate benefits is an important one to take into account. Just as one person may not know how to use a washing machine, another may not know how to set a timer on a video recorder. The reality is that while the vast majority of students may own a smart phone only a few will be familiar with its features beyond making a call, simply because they have no perceived need for them. The same could be argued for a range of digital technologies used in industry and learning. In fact, the study found that very few of the participants had engaged in activities such as building websites or contributing to wikis (Kennedy, Judd, Churchward, Gray, & Krause, 2008).

These are sobering thoughts when considering the design of large units of study that may include novice Gen Y students. While some of the cultural and social characteristics of the group may be quite salient, caution may be needed when prescribing learning activities in assuming learners' familiarity with emergent technologies and communication modes. The tension between perceived and actual Millennial traits was a major issue for the unit *CMM1108 Communications and Digital Technologies*.

Context of the Unit

The School of Communications & Arts (SCA) is a large school, which offers a diverse range of courses including Interactive Media, Graphic Design, Film and Video, and Interior & Spatial Design to name a few. The School is situated in an interdisciplinary teaching and learning environment and share two core undergraduate units, *CMM1108 Communications and Digital Technology* and *CCA1102 Representation & Interpretation*. The purpose of the core units is to provide generic skills that equip students to successfully undertake tertiary studies in their chosen discipline. Students are normally required to complete the two core units in the first year of their degree. The focus of *CMM1108* is to introduce students to contemporary digital technologies across a range of disciplines. The vast majority of students are school leavers so could be characterised as Millennial. In the original unit, all students undertook the same curriculum consisting of lectures and tutorials that provided a context for digital information and communication technologies in education and industry and engaged learners in skills relating to information literacy, digital media development and communication using digital technologies.

CMM1108 has suffered from poor evaluations of teaching, largely because of a perception that the unit is pitched at a level that is either too easy:

"i [sic] thought it was pretty ridiculous all up like it kinda [sic] reminded me of year 8 computing" (Removed for submission purpose, 2007).

Or too difficult:

"It is expected from students to learn a computer program in few hours, when realistically a person would need at least few months" (Removed for submission purpose, 2007).

The resulting perceived lack of relevance was also major detractor from the unit:

"im [sic] unsure why certain programs are valuable to me, and I [sic] am unsure of how analytical you have to be" (Removed for submission purpose, 2007).

It became evident that this was not a homogenous group of students. While many of them probably exhibited such familiarity with technology as to perceive the unit as redundant, for others the challenge of the technologies introduced was excessive, creating frustration rather than boredom. While such issues appear to run counter to the research suggesting Millennials as a consistently exhibiting technological aptitude (Gardner & Eng, 2005; Howe & Strauss, 2006; Zemke, Raines, & Filipczak, 2000), anecdotal evidence provided support for other Millennial traits often associated with this generation. For example, we observed that millennial students have a short attention span and become easily distracted affecting the completion of class activities. Recently, we started to witness students multitasking between non-class activities (e.g. online social networking via FaceBook) and class activities (e.g. web design using Dreamweaver). Students found it difficult to concentrate and shifted their attention to specific activities when:

- they did not have a clear understanding of activities including goals and outcomes;
- they could not follow the tutor's instructions due to lack of step-by-step instructions; and

- they did not see the immediate needs of the activities in the real world context (e.g. collate online information and recording the information for later).

Such informal findings suggested that there were very real issues with the Millennial concept as it applied to these students. While they exhibited intolerance for delay, a social orientation and capacity to multitask, it was evident that it did not necessarily translate to a capacity to find information in a just-in-time manner, avoid distraction or draw links across technologies or domains of learning. For example, students may know how to use obvious features of Word but in this context they were not motivated to go beyond what was obvious to learn advanced features. They also found it difficult to comprehend relationships between different technologies and envisage applications of acquired technological skills outside of the practiced learning environment. This may be because of the millennial students' focus on the *product* of newly acquired technological skills in the specific learning area, instead of the learning *process* that led them to the final product. For example, students were familiar with the AutoCorrect feature in Word, which corrects typos automatically. However, the AutoCorrect feature was not being used by students when completing a written assignment in other programs such as Dreamweaver to design a website or WordPress to write entries in a blog.

Module-Based Learning and Teaching Structure

From 2009 we have been working to improve the experience for learners based upon the four key characteristics for students identified through a review of the literature on Millennial learners and practical experience of the particular cohort of students:

- They excel and learn effectively in areas where they are interested in and familiar with.
- They lose interest quickly and are less efficient when acquiring new skills in areas where they are not familiar with.
- They are goal focused and enjoy product-based learning activities where they see authentic learning opportunities.

They appreciate structured learning activities that provide clear and explicit instructions and guidance.

These were addressed through the following strategies:

- Incorporating guest lectures and reconfiguring the course content to address the range of industries that graduates may find themselves in;
- Modularising the workshops to provide choice and flexibility in terms of personal relevance;
- Developing workshops with a variety of activities leading to a product; and
- Developing workshops with a variety of activities leading to a product or an assignment solution; and
- Providing tutor-led workshops in a structured learning environment.

The first of these involved broadening the concept of the applicability of digital technologies across a range of disciplines by having experts in their field make them relevant to individual students' needs. One of the authors also presented a capstone lecture, 'Living Digital', that explicitly drew links between disciplines and the nexus between the application of technologies to study and industry.

The second point required a rethink of the workshop structure of *CMM1108*. This revision involved the expansion of the workshop program to add other options for technology use such as web-based publication through blogs and social media tools– as well as the previous focus on Web development using industry standard authoring tools such as Adobe Dreamweaver. Currently five modules are offered in the unit and students are required to complete three of the five (Table 1).

Table 1: Descriptions of CMM1108 Modules.

Modules	Descriptions	Technologies & programs used
Information Wrangler	This module introduces students to a digital information literacy cycle, which enables them to search, collect, store, and apply information in their work.	Internet, EndNote, MS Word

Office Rocket	This module introduces students to advanced features that are relevant to academic publication skills.	Internet, MS Word
Presentation Guru	This module teaches students how to create engaging and meaningful presentations following three steps of: preparation, design, and delivery.	Internet, PowerPoint
Web Master	This module provides students an opportunity to showcase their capabilities and achievements in the form of online portfolio (i.e. website).	Internet, Dreamweaver, Transmit
Social Animal	This is an alternative online module that focuses on web-based publication without the requirement of technical skills of creating a website.	Internet, WordPress

Original titles are used for the modules to create friendly unit atmosphere and add fun factor which aligns with Millennials' learning preferences (Zemke et al., 2000) In a discussion of managing millennials at workplace and their learning preferences, Zemke et al. (2000) noted that entertainment qualities such as a little humor and a bit of silliness attract Millennials. Students are encouraged to select modules that are complimentary to their major stream. For example, students who are enrolled in Journalism are encouraged to select *Information Wrangler*, *Office rocket*, and *Social Animal* to promote skills relevant to the major (e.g. information searching and recording, blog-based publishing). Nevertheless, the final decisions of selecting modules are left to students to give them a sense of control over the unit, and to compensate the perceived disadvantage that the unit is compulsory.

The modules are developed with the goal-oriented mindset of the millennial students. Each module has a clear product-based outcome where students could obtain a sense of satisfaction from the completion of a learning product (either physically or virtually). For example, in *Office rocket* module, students produce a creative report on a topic, which they choose from a list of topics. The purposes of each of the module activities, which lead to final learning products, are clearly explained before the activities. This provides an understanding of why they are completing the activities and how the activities are relevant to their disciplines (e.g. how the skills can be applied in other learning areas).

Millennial students work more efficiently in a structured environment. Collaboration and teamwork are one of the positive characteristics of Millennials, and they are follower rather than leaders (Zemke et al., 2000). To address this particular characteristic, module workshops are delivered in a tutor-directed manner providing step-by-step instructions where students could complete activities as a team with tutors and classmates. In addition, written activity notes are provided via online unit portal site to further assist the students' learning and increase their chance of completing the activities improving self-esteem in learning.

Challenges and Successes

Initial findings have suggested that the modular structure approach has proved successful. Teaching evaluations (Unit and Teaching Evaluation Instrument) in particular were greatly improved during the initial changes to the unit (13% mean in 2009 UTEI score compared to 29% in 2010 UTEI score). The 2010 UTEI report indicates that students enjoyed the unit and improved their learning. Specific comments reinforced these findings, with students positively commenting in 2010 UTEI survey (*Removed for submission purpose, 2010*):

“even though i [sic] didnt [sic] really want to do this unit but had to because it's part of my degree, I think that I did learn a lot”.

“helpful skills regardless of what career one is searching for” .

“The fact that we could learn and practice at the same time! The two tutors that I had were great and made us discover the technology in a way that I didn't know we could use it!”.

“This has definitely helped me as I now have a deeper knowledge of a really effective layout and expectations for assignments. I can apply this knowledge to any of my units”.

The tutor-led and structured learning environment with step-by-step instructions worked more effectively than past approaches. Students indicated that they enjoyed the new approach of teaching and made the unit more engaging. One student commented in 2010 UTEI report summarising the overall view of the new teaching approach:

“I really enjoyed Jo's teaching approach, it was something I had never done before, but was explained in a way in which i [sic] could understand” (Removed for submission purpose, 2010).

Since the introduction of the new learning and teaching strategies in CMM1108, new challenges have been identified. The nature of the modular structure created mismatch between the lecture and workshop contents. As multiple modules are delivered at the same time throughout the semester, some of the lecture contents did not perfectly align to assist students' theoretical understanding of what they were practicing in the workshops. Synchronising the lecture and workshop contents may not be easy, though it can be addressed by delivering generic lectures in the beginning of semester (e.g. first two weeks) to cover the underpinning of the unit. This will provide students with general understanding of the unit topic, which can be applied across the modules.

Students also noted that in some cases, they found inconsistency in tutors' understanding of the unit and focus of modules. This resulted from lack of tutor training and the newness of the modular structure. Marking guide and instructions, and lesson plans are available for tutors. However, these resources have not been updated to properly train the tutors for delivering the new structure. A revision of teaching resources for tutors may help tutors to share the same vision of the unit.

Discussion and Conclusions

There is no doubt that generational characteristics provide a useful lens for exploring the needs of certain cohorts of learners. For those that can be classified as Millennial, an understanding of their experiences and expectations of technology provides a valuable framework when designing learning experiences. However, care needs to be taken in making such broad generalisations about digital nativity. Such learning experiences involve implicit assumptions about salient traits that may not be true for all learners. The very fact that core units such as *CMM1108 Communications and Digital Technologies* continue to exist and that for as many students who find the content trivial there are those for whom the challenge was extremely high is a significant indication that the use of technology is selective rather than saturated.

Oblinger and Oblinger (2005) emphasised that although Millennial students are comfortable with technology more so than previous generations of students. These students preferred only a moderate amount of IT (information technology) in their classes. Their need to be socially connected means that they want face-to-face interactions, and unlike Baby Boomers are not satisfied with fully online courses based on online communication. This generation of students prefer technological and collaborative experiences that exhibit clear goals, enhance motivation, and involve authentic learning activities (Brown, 2000; Frand, 2000; D. Oblinger, 2003; Raines, 2002). The modifications to CMM1108 reflect the diversity of such contentions. The application of a modular delivery approach that can be customised to individual needs, and the presentation of content and case studies that explicitly draws links to relevant disciplines have helped accommodate this diversity.

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