

Do we need to design learning differently for Digital Natives?

For the thousands of years of civilisation on Earth, teachers and trainers have belonged to the generation before that of their students. Right now we have *Digital Immigrants* (DIs) from the Baby boomer generation purchasing and designing learning for the *Digital Natives* (DNs) of the Generation Y and Millennial generations. What are the pitfalls of this?

This issue is not new. Back in Greek civilisation Socrates taught Plato, who was 42 years younger than Socrates. In turn, Plato taught Aristotle who was 44 years younger than Plato. I wonder if Plato thought Socrates teaching methods a bit old-fashioned? And did Aristotle think Plato was an educational stick-in-the-mud who just doesn't 'get' the youth of today? For thousands of years, every generation has believed it is uniquely different to the one that went before. Or else we are all exactly like our parents, which means we haven't 'moved on'.

To counter this, every older generation has, for thousands of years, used its age-grown wisdom to accept the natural arrogance of every new generation and adapt to their needs. This time this generational acceptance must be greater than usual, given that digital technology was indeed a seismic change. So DIs do need to adapt both their e-learning purchasing habits and their e-learning design techniques for DNs.

The differences between digital native learners and digital immigrant teachers.

While at the Infosavvy Group in 2003, Ian Jukes, who now sails the world on a 40 foot and occasionally blogs as a 'Committed sardine', set out, with Anita Dosaj, some of the differences they thought there were between DN learners and their DI teachers.

Digital Native Learners	Digital Immigrant Teachers
Prefer receiving information quickly from multiple multimedia sources.	Prefer slow and controlled release of information from limited sources.
Prefer parallel processing and multitasking.	Prefer singular processing and single or limited tasking.
Prefer processing pictures, sounds and video before text.	Prefer to provide text before pictures, sounds and video.
Prefer random access to hyperlinked multimedia information.	Prefer to provide information linearly, logically and sequentially.
Prefer to interact/network simultaneously with many others.	Prefer students to work independently rather than network and interact.
Prefer to learn "just-in-time."	Prefer to teach "just-in-case" (it's on the exam).
Prefer instant gratification and instant rewards.	Prefer deferred gratification and deferred rewards.
Prefer learning that is relevant,	Prefer to teach to the curriculum

instantly useful and fun.

guide and standardized tests.

Multi-tasking

What stands out is DNs preference for multi-tasking, networking, instant gratification and the presentation of information using multimedia. It is true that most people multi-task but DNs don't have experience of anything but multi-tasking, since they have been brought up on using digital technologies simultaneously. So it is natural for them to watch TV or listen to their iPod, while chatting to a group of friends on IM, watching Youtube on their laptop and texting another friend on the mobile phone.

The preference for multimedia presentation is a hangover of the 'MTV generation', one of the names for Generation X. The MTV generation wanted to watch visually attractive, engaging and short videos to songs. This audio-visual presentation style transfers well to the internet but also improves it by adding a layer of text and instant communication to the mix.

The youth of today

In Junco and Mastrodicasa's book *Connecting to the Net.Generation: What higher education professionals need to know about today's students*, there are some useful facts from a 2007 college survey. 97% of the students owned a computer, 94% a mobile phone, 76% used instant messaging (IM) and 75% had a Facebook account. And amazingly, 15% of IM users said they were logged on 24 hours a day, 7 days a week. Digital natives' use of instant communication technologies like Facebook, texting and IM goes some way to explaining their reputation for being peer-oriented and for seeking instant gratification.

Peer-orientation

Computer-based training has been traditionally a solo task, the idea that it was 'anytime, any place, anywhere (even if you're alone)' training was meant to be its strong feature. However digital natives want to interact with each other. We can do this without much adaptation by allowing students to IM and text each other while doing the learning. And in terms of designing the learning architecture, we can add game elements to the learning so learners share their scores using a leaderboard feature. This would, of course, require the architecture to be based around an online programme rather than a CBT or CD-driven programme.

The logical extreme of adapting e-learning for peer-orientation is to make the learning a simultaneous virtual experience, where their peers are visible to each other in the game they are playing and they can communicate with each other as they play/learn. So it looks like immersive learning simulations are going to gain further acceptance among the Digital Immigrant purchasing community as they adapt their e-learning purchasing habits to meet the needs of their Digital Native new joiners.

Seeking instant gratification

E-learning will have to provide more feedback loops and personal learning paths to provide the instant gratification that DNs seek. Page-turning e-learning which only provides a single, linear learning path and then a simple multi-choice questionnaire at the end of each chapter is typical of out-of-date, DI-designed e-learning. DNs like to explore the learning programme and keep getting feedback on how they are doing. They don't mind a 'oops not that one, try again' feature or adaptive hints (hints that only appear if the learner keeps going deeper down the same wrong path) that help them navigate their personal path through the learning programme.

Traditional e-learning that is often purchased and designed by DIs, tends to be linear, single-path learning with a multi-choice question at the end of a chapter. This type of e-learning needs some adaptation to engage DNs, who are fast becoming the main users of e-learning programmes. And when DNs finally hold the purse strings of Learning and Development budgets in 20 years time, the generation that follows them will complete the circle, by also thinking that DNs are out-of-date.

Glossary:

Generations

Baby boomers: born 1946-1964, during the post-war baby boom.

Generation X: born 1965-1982, during a period of lower birth rates.

Generation Y: born 1978-1994, during a period of increased birth rates and rapidly developing digital technology.

Millennials: born 1995-date, into a post-internet world.

Digital consciousness

Digital immigrants: People who reached adulthood without digital technology. While many embrace new technologies, some do so reluctantly. Most Baby Boomers are digital immigrants.

Digital adaptives: People who have willingly embraced the technologies that began to emerge largely during the teen years of Generation X and the early school years of Generation Y. Sometimes classed as *digital natives (qv)*.

Digital natives: Millennials, who have enjoyed the luxuries of digital technology their entire lives. In 2008, the oldest is now 13 years.

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