

## **Globalisation and Social Justice: The exploitation of the digital native**

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### *Abstract*

In this paper we describe the state of play concerning the use of ICT in education in the Australian context. We examine the role of globalisation in the push to make computer technology ubiquitous in classrooms, and the influence of the digital native description. Although the deployment of the myth of the digital native suggests cohesion within education regarding the use or adoption of technology and its provision through the Rudd government's 'Digital Education Revolution', an examination of the field reveals issues of inequality, culminating with the exploitation of the digital native by the digital colonialist. We contend that although computers are being put into classrooms for laudable reasons, the overuse of the digital native trope obscures social justice concerns around the use of technology. We assert that the use of digital native motif is not only imposing a racialised identity upon the current generation of learners but also erasing the differences between young people – such as differences in access to technology, gender, race, ethnicity, geographic location, and socio-economic status.

At the heart of this paper is an argument that seeks to clarify the role of the myth of the digital native as it is located within the wider public discourse on education. We seek to question whose interests does the creation and maintenance of the digital native myth really serve whilst drawing attention to the role of globalisation in the push to make ICT ubiquitous in the classroom and the social justice implications of subsuming an entire generation of learners under the digital native identity.

### ICT development in Australia

Baskin and Williams trace the elevation of ICT in Australian schools within education policy over the last 20 years (2006). They document the increased 'digital rhetoric' from the AEC documents in 1989 which contains discussion on the need to teach computer skills, to MCEETYA 2005 where the goal is a 'leading edge education and training system' so as to drive the 'development of an innovative society' (Baskin & Williams, 2006, p. 455). They note a progression from an emphasis on skills, to an emphasis on access for all, to the call for a whole school approach. This has culminated with MCEETYA's 2005 claim that a new blueprint for ICT would not only 'empower' teachers but would also raise the standards of students' learning outcomes. Baskins and Williams state that they 'discern a quiet mantra: in terms of ICTs in schooling, more is definitely better' (2006, p. 455). This belief in the educational benefits of ICTs is also evident in the Melbourne Declaration, which states:

Rapid and continuing advances in information and communication technologies (ICT) are changing the ways people share, use, develop and process information and technology. In this digital age, young people need to be highly skilled in the use of ICT. While schools already employ these technologies in learning, there is a need to increase their effectiveness significantly over the next decade (MCEETYA, 2008, p.5).

This increased emphasis on the importance of ICT in schools has culminated in the Rudd government's 2.2 billion dollar 'Digital Education Revolution' (DER) initiative where 1.9 billion dollars have been pledged to the National Secondary School Computer Fund with the aim of bringing the ratio of computers to students in years nine to twelve to 1:1 by the end of 2011 (DEEWR, 2009a). 100 million dollars have been committed to the development of fibre connections to Australian schools and for the Professional Development for Teacher programs to train teachers to deliver educational outcomes technologically, both through the explicit teaching of ICT and the embedding of technological practices within current pedagogy, and provide them with access to online curriculum materials (DEEWR, 2009a, 2009b). The Federal Government 'Strategic Plan to guide the implementation of the Digital Education Revolution (DER) and related initiatives (DEEWR, 2008) is based on the premise that ICT technologies can "improve educational opportunities, boost outcomes and energise the learning experience" (p.3) by primarily addressing the computer to

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student ratio. The DER is a commitment that will enable schools to better access the benefits of technologies for their students.

The push for the increased use of digital technology in the schools dovetails with the belief that today's cohort of students are 'naturally' better users of ICT. Further examination of this conflation reveals that, on the one hand increased use of ICT will not necessarily result in better student outcomes. On the other hand, research suggests that claims about students' natural technological proficiency cannot be sustained in the face of the emerging empirical studies. Before examining this point in more detail, we shall look at the role of globalisation in the increased push to make digital technologies ubiquitous in the classroom.

### Globalisation and ICT

The emphasis on computers is quite strong. It is singled out for special attention in nearly all of the national documents, especially those responding to the larger social and economic problems we are now experiencing. This will give our students new skills, skills that are necessary in the international market competition for markets and jobs. It will also necessitate and create a more technically knowledgeable teaching force...It will also eliminate much of the drudgery of teaching and make the task of teaching more interesting and creative. Will it? (Apple, 1988, p.290).

Neill (1995) attests that the worldwide push for computers in schools has more to do with preparing students for the future workforce, than in the improvement of educational outcomes. Selwyn (2007) describes the public, private and political interests that are invested in educational classroom, in which adding digital technologies represents a 'highly symbolic' gesture that demonstrates the strong economic imperative to increase the nation's competitiveness. A notion reiterated by Baskin and Williams who note that 'like Western governments worldwide, in Australia computing technologies are considered a motherhood solution to the needs of a highly skilled and technologically capable workforce' (2006, p. 455). Kritt & Winegar (2007) note the vested interests of global companies like Apple and Microsoft who wish to be involved in the digital education revolution for reasons not necessarily to do with education. If the educational reforms are being imposed upon teachers for political and economic reasons then educational outcomes will always be less than what was promised (Kritt & Winegar).

The Melbourne Declaration makes clear the connection between globalisation, economic competitiveness in a global economy and the role of the Australian education system to produce future workers:

Schools play a vital role in promoting the intellectual, physical, social, emotional, moral, spiritual and aesthetic development and wellbeing of young Australians, and in ensuring the nation's ongoing economic prosperity and social cohesion. [...]

Globalisation and technological change are placing greater demands on education and skill development in Australia and the nature of jobs available to young Australians is changing faster than ever. Skilled jobs now dominate jobs growth and people with university or vocational education and training qualifications fare much better in the employment market than early school leavers. To maximise their opportunities for healthy, productive and rewarding futures, Australia's young people must be encouraged not only to complete secondary education, but also to proceed into further training or education. (MCEETYA, 2008, p.4)

#### The 'digital native' and Education

This is the first generation that has ever mastered a multitude of tools essential to society before the older generations have. They have grown up digital – its their native tongue. They were born to. It's a language in which they are digitally fluent.

They are DFL, they speak Digital as a First Language  
(Jukes and Dosaj, 2006, p. 11)

The political agenda with its emphasis on the importance of ICT for Australian schools dovetails rather neatly with current discourse that describe the current high school or university cohort as 'digital natives' or the 'net generation' who, it is claimed, have appreciably different learning styles and more of an affinity for digital learning than previous generations of students (Pesce, 2009; Prensky, 2001, 2004; Toledo, 2007). They have been variously described as the 'digital natives', 'the net generation', 'cyberkids' and the 'Millenials' (Pesce, 2009; Prensky, 2001, 2004; Toledo, 2007). Sweeping statements and audacious claims are often used to characterise the digital natives, such as, they

are typically intuitive visual communicators who can integrate visual and physical environments, learn better through discovery than by absorption, respond quickly to visual stimulus and shift attention rapidly, particularly if they

feel bored. They are 'doers' rather than 'knowledge acquirers' and they know that knowledge is constantly changing (Oliver & Goerke, 2007, p. 8).

In fact, they are so different from us that we can no longer use either our 20<sup>th</sup> century knowledge or our training as a guide to what is best for them educationally (Prensky, 2006, p. 8).

More and more of our students lack the true prerequisites for learning – engagement and motivation – at least in terms of what we offer them in our schools. Our kids *do* know what engagement is: Outside school, they are fully engaged by their 21<sup>st</sup> century digital lives (Prensky, 2006, p. 9).

Today's students have mastered a large variety of tools that we will never master with the same level of skill. From computers to calculators to MP3 players to camera phones, these tools are like extensions of their brains. Educating or evaluating students without these tools makes no more sense to them than educating or evaluating a plumber without his or her wrench (Prensky, 2006, p.10).

The digital native description encompasses two aspects. Firstly, the youth of today are not just familiar with, but are voracious users of digital technologies. Secondly, this technological saturation has altered their brains. While no direct evidence is offered to support the assertion that digital saturation has changed the brain structure of the digital natives, Prensky (2001) claims that there is indirect evidence to suggest that through mechanisms such as neuroplasticity the brains of today's youth are 'almost certainly' physiologically different. Prensky offers an impressive list of the radical ways that digital natives are interacting with the world differently due to their technological proficiency – they are communicating, sharing, buying and selling, creating, meeting, collecting, co-ordinating, evaluating, gaming, learning, searching, analysing, reporting, programming, socialising, evolving and growing up differently (2004). Various assertions are made about the need to educate this generation differently due to their lifelong immersion in technology which has rendered traditional modes of teaching useless (McLoughlin & Lee, 2008; Oliver & Goerke, 2007). Prensky urges educators to 'listen to the natives' (2006); McLoughlin and Lee (2008) suggest the use of new pedagogies developed for the networked society; Carlson (2005) attests that higher education institutes will have to evolve in order to cope with

what Pesce (2009) calls the 'spectre of change' that is the presence of these digital learners. Jukes and Dosaj state that:

when students walk in class and listen to their teachers speaking to them...  
there's an immediate disconnect.

Consciously or unconsciously, they sense that many of their teachers aren't a part of, not in synch with, and probably don't understand the world the digital natives in (2006, p. 12).

Implicit (or explicit in Prensky's case) in these accounts is the corresponding notion that those over thirty are digital immigrants. They have, rather than grown up with digital technologies, come to them later in life and are subsequently never going to be as proficient or confident with computer use as their native counterparts. The argument further implies that digital immigrants are therefore out of touch with the educational needs and interests of the digital natives.

Researchers such as Kukulska-Hulme and Traxler (2005) offer a more sophisticated analysis, suggesting that there is a fundamental mismatch in the learning processes involved in settings and those out of the classroom. They attest that outside formal education settings individuals act as active participants navigating their way independently through complex multimodal environments; while in school they are expected to submit to a pedagogic regime that is fundamentally premised on the transmission and testing of decontextualised knowledge and skills, and which is dominated by technology underpinned by a radically different philosophy (Kukulska-Hulme & Traxter). Although more nuanced in its account of the 'mismatch' between the capabilities of students and the expectations of the educational system, this analysis is still premised by an expectation of universal access and usage of technology by young people, a premise that other research suggests is unreliable.

The characterisation of those under twenty (or thirty) years old as universally better with ICT - whether described as digital natives, cyber-kids, the net or millennium generation - is not unchallenged (Bayne & Ross, 2007; Bennett, Maton, & Kervin, 2008; Kennedy, Judd, Churchward, Gray, & Krause, 2008; Owen, 2004). We shall now examine the critiques that have been made of this depiction. Donnison (2007), Helsper and Eynon (2009) note that there is little consensus in the literature as to who the digital natives are and Helsper (2008) questions the appropriateness of describing a global generation based primarily on observations and literature from North America. Within the Australian context, for example, research does not support the claims being made (Kennedy, Dalgarno, Gray, Judd, Waycott, Bennett, et al.,

2007; Kennedy, Krause, Gray, Judd, Bennett, Maton, et al., 2006; Kennedy, Judd, Churchward, Gray, Krause, 2008). Helsper (2009) suggests that these labels puts young people in one heap, and glosses over quite severe inequalities within this generation. In addition, the description ignores the evidence that young people are not completely comfortable with ICTs such as the internet because they are often unable to avoid or evaluate online risks (Hope Cheong, 2008; Livingstone, 2008). Bennett, Maton and Kervin (2008) describe the discourse around the digital native - with its implicit suggestion that the education system is failing today's youth through the technophobia of educators - as an educational moral panic. While the claims made about the digital generation do not stand up to scrutiny, resting as they do on rhetorical rather than empirical evidence (Helsper, 2009), the idea of the digital native has taken a firm hold in educational literature.

Surprisingly, since the 'digital native/net generation' descriptor has been used for at least a decade, there has been remarkably little empirical research into the claims of different thinking patterns and learning styles allegedly preferred by today's students (Bennett, Maton & Kervin, 2008; Kennedy, et al, 2006, 2007, 2008; Margaryan & Littlejohn, 2008; Rikhye, Cook & Berge, 2009). The empirical research that has been conducted reveals that young people are not using technology in the manner that is being claimed (Valentine & Holloway, 2002); there is a lack of homogeneity in young people's techno-literacy (Bennett, Maton & Kervin, 2008; Kennedy, Judd, Churchward, Gray, Krause, 2008; Oliver & Goerke, 2007); not all students have access to the technological devices that young people are supposedly universally using and those with access are not necessarily using them for educational purposes (Kennedy et al, 2008; Margaryan & Littlejohn, 2008; Oliver & Goerke, 2007). In addition, research demonstrates the well established gender differences in technological take up (Zhou & Xu, 2007), and highlights the unproven educational benefits of ICT (Arievitch, 2007; Cochrane, 2006; Selwyn, 2007).

According to Owens (2004) it is not the so-called digital natives making the most use of ICTs, rather it is professional adults and the highest usage of the internet is among 35-44 year olds. In addition, the main demographic for gaming (which is for Prensky a key characteristic of the digital native) is not teenagers - it is 20 to 25 year olds (Owens). Selwyn (2007) attests that the use of ICTs among young people continues to remain firmly demarcated among gender, race, ethnicity and geographical lines. Riley (1999) notes that US federal policy fails to reflect the severity of the technology

gaps faced by certain groups, in particular, Native Americans. Turk (2002) maintains that the situation is similar for Indigenous Australians.

As well as the strong impact of the digital divide issues arising from the socio-economic status of Indigenous communities, there are complex matters relating to the nature of digital knowledge and decision systems. For example, for Indigenous communities there may well be fundamental cultural issues relating to the ontology and epistemology of digital systems (Turk, 2002, p. 3).

### Social Justice and the Digital Native

In addition the digital native description erasing differences between students, it has been suggested that the digital native motif creates a false dichotomy between teachers and students as it undermines teachers' confidence in their ability to impart knowledge (Bayne & Ross, 2007; Helsper, 2008; Helsper & Eynon, 2009).

Furthermore, it ignores the reality that students' learning is influenced by the approach taken by their educators (Margaryan & Littlejohn, 2008). Facer and Furlong (2001) attest that information poverty will likely emerge as an indicator of social exclusion – and depictions of young people as naturally better computer users obscures the information poverty faced by some. Their research reveals that not all students believe that computers have relevancy in their lives, not all students have access to ICTs and there is a potential in formal educational settings to exacerbate existing inequalities in access, ability and students' anxieties around computer use. Alston and Kent note that socio-economic indicators suggest that rural people are significantly disadvantaged by comparison to their urban counterparts. 'A strong link between lack of access to education and social exclusion has been established' (Alston & Kent, 2009, p. 93). Research such as this makes it clear, that within the Australian context, rather than being digital natives, a significant number of young people are facing information poverty and social exclusion. Policy makers need to take the digital divide seriously and begin to understand the more subtle inequities among teenagers that manifest themselves in differences in the quality of student internet access and use (Toledo, 2007).

Another consideration in regards to social justice is the paradox that for those who are accessing and using technology, the ways in which they are using digital networks are being denigrated and denied by the educative systems. For instance there is a strong association between the use of sites such as Facebook and students' development and enhancement of their social capital as well as their



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psychological well being (Ellison, Steinfield & Lampe, 2007). Yet many educational policies prevent students from accessing social networking sites.

Beyond these empirical considerations, the motif of the digital native commits 'hierarchical violence' upon the classroom by placing the teacher in the impossible position of the being conceived as an immigrant who cannot ever become a native, who at the same time is forced to engage with a technologically driven professional development agenda that says she/he must change the way that they teach (Bayne & Ross, 2007). We contend that this market driven discourse around the professional identities of teachers and their obligations to teach in a manner that caters to the natives' learning styles obscures the problematic identity inherent in the term native. The labelling of a whole global generation of students as 'natives' perpetuates in the continuation of a racialised discourse (Bayne & Ross). If Prensky's digital natives are natives, then where are they native of? The term 'native' contains a hidden assumption of place or location, what is the territory occupied by these students?

With no meaningful 'outside' to the digital, and therefore a minimal amount of agency of choice about whether or how to create or affect digital spaces, the digital native and immigrant alike are stranded in a world not of their own making. It simply is, determining and beyond the control of individual learners and teachers (Bayne & Ross, p. 4).

Richard Sandford suggests that as it was the so-called digital immigrants who developed the technologies employed by the digital natives perhaps a better and more fitting description would be that of 'digital colonists' - 'an early generation who faced hardship and inconvenience, slowly building a better world that the next generation inhabit' (Sandford, 2006,online) Ultimately Sandford advocates the dropping of terms 'natives' and 'colonists' altogether with the acknowledgement 'that there is no brave new world, no new land to conquer: whatever we have, we built ourselves and we can continue to shape ourselves' (2006, online). We feel that there is some value in a 'digital colonialists' identity as it would serve to highlight the problematic relationship between students and those who would foist the native identity upon them in order to expropriate their intellectual potential and assumed technological proficiency for the future needs of the economy and the workforce.

## Conclusion

It is undeniable that schools have responded to the call for technological preparedness for the global economy by ensuring access and use of computers in the education of all students. Nonetheless, what we have aimed to argue is that this course of action is based on the economic imperative of globalisation. At best, the relationship between educational investment in computers and economic growth in an information society seems weak, more a matter of faith than any empirically provable reality. Neill (1995) asserts that the workforce has not been revolutionised by computers, and nor is it likely to be. Cuban's 2001 groundbreaking research, *Oversold and underused*, suggests that the education system is likewise unlikely to be transformed by computer technology. That being said, the DER means that to some extent the debate between those who willingly embrace computer technology in the classroom and those that would avoid it is, in some ways, rendered redundant. Laptops are being rolled out and teachers will be faced with the challenge of creating a socially just classroom in an environment where students have differing interests, abilities, values and desires for digital technologies.

We argue that the social justice goals of the Australian education system are unlikely to be met if a generation of students are viewed as being digital natives (or any of the other generational labels that they have been variously affixed with) as these descriptors obscure the very differences between students (such as gender, ethnicity, socioeconomic status or geographic location) that we need to be aware of in order to ensure educational equity. As educators we have to be critical of discourses which bundle students together and ignores the reality that the skills, attributes, interests and access to technology vary. With the DER upon us, the onus is on us to teach in innovative ways that incorporate the skills and interests of those who are technologically proficient and give skills to those who have not yet acquired them. We assert that the use of digital native motif is not only imposing a racialised identity upon the current generation of learners but also erasing the differences between young people – such as differences in access to technology, gender, race, ethnicity, geographic location, and socio-economic status. The myth of the digital native needs to be seen for what it is in order that we can adjust our pedagogy so that technologically mediated education ameliorates rather than exacerbates existing inequalities.

## References:

- Alston, M., & Kent, J. (2009) Generation X-pendable: The social exclusion of rural and remote young people. *Journal of Sociology* 45, 89-107.
- Apple, M. (1988). 'Teaching and technology: The Hidden Effects of Computers on Teachers and Students'. In L. Beyer and M. Apple (eds.), *The Curriculum: Problems, Politics, and Possibilities*. State University of New York Press: Albany.
- Arievitch, I. M. (2007). An activity theory perspective on educational technology and learning. In D. W. Kritt & L. T. Winegar (Eds.), *Education and Technology: Critical perspectives, possible futures* (pp. 49-72). New York: Lexington Books.
- Baskin, C., & Williams, M. (2006). ICT integration in schools: Where are we now and what comes next? *Australasian Journal of Educational Technology*, 22, 455-473.
- Bayne, S., & Ross, J. (2007). *The 'digital native' and 'digital immigrant': a dangerous opposition*. Paper presented at the Annual Conference of the Society for Research into Higher Education.
- Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British journal of Educational Technology*, 39, 775-787.
- Carlson, S. (2005, October 7). The net generation goes to college. *The Chronicle of Higher Education*.
- Cochrane, T. (2006). *Learning with wireless mobile devices and social software*. Paper presented at the ASCILITE Conference, Sydney, 3-6 December 2006.
- Cuban, L. (2001). *Oversold and underused: Computers in the classroom*. Cambridge: Harvard University Press.
- DEEWR. (2008). *Success through Partnership: Strategic Plan to guide the implementation of the Digital Education Revolution initiative and related initiatives*. Accessed 10th June 2008  
<http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/Pages/default.aspx>
- DEEWR. (2009a). National Secondary School Computer Fund Overview. Retrieved 15th July, 2009, from  
<http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/ComputerFund/Pages/NationalSecondarySchoolComputerFundOverview.aspx>
- DEEWR. (2009b). Professional Development for Teachers. Retrieved 15th July, 2009, from  
<http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/Pages/ProfessionalDevelopmentforTeachers.aspx>
- Donnison, S. (2007). Unpacking the Millennials: A Cautionary Tale for Teacher Education. *Australian Journal of Teacher Education*, 32(3), 1-13.
- Ellison, N.B., Stenifeild, C., & Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4) article 1.  
<http://jcmc.indiana.edu/vol12/issue4/ellison.html>.
- Ellsworth, E. (1988). Why doesn't this feel empowering? Working through the repressive myths of critical pedagogy. *Harvard Educational Review*, 59(3), 297-324.
- Facer, K., & Furlong, R. (2001). Beyond the myth of the 'Cyberkid': Young people at the margins of the information revolution. *Journal of Youth Studies*, 4, 451-496.
- Helsper, E. (2008). Digital Natives and ostrich tactics? The possible implications of labelling young people as digital experts. *Beyond Current Horizons*.
- Helsper, E. & Eynon, R. (2009). Digital natives: where is the evidence?. *British Educational Research Journal, iFirst Article*, 1-18.
- Hope Cheong, P. (2008) The young and techless? Investigating Internet use and problem-solving behaviors of young adults in Singapore. *New Media and Society*, 10 (5), pp771-801.
- Jukes, I. & Dosaj, A. (2006). Understanding Digital Children (DKs): Teaching & Learning in the New Digital Landscape. Retrieved 20<sup>th</sup> December, 2009 from

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<http://www.ibo.org/ibap/conference/documents/IanJukes-UnderstandingDigitalKids.pdf>

- Kennedy, G. E., Dalgarno, B., Gray, K., Judd, T. S., Waycott, J., Bennett, S., et al. (2007). *The net generation are not big users of Web 2.0 technologies: Preliminary findings*. Paper presented at the ASCILITE conference, Singapore, 2007.
- Kennedy, G. E., Krause, K.-L., Gray, K., Judd, T. S., Bennett, S., Maton, K., et al. (2006). *Questioning the net generation: A collaborative project in Australian higher education*. Paper presented at the ASCILITE 'Who's learning? Whose technology?', University of Sydney.
- Kennedy, G. E., Judd, T. S., Churchward, A., Gray, K., & Krause, K.-L. (2008). First year students' experiences with technology: Are they really digital natives? *Australasian Journal of Educational Technology*, 24, 108-122.
- Kritt, D. W., & Winegar, L. T. (2007). Technological determinism and human agency. In D. W. Kritt & L. T. Winegar (Eds.), *Education and Technology: Critical perspectives, possible futures* (pp. 3-29). New York: Lexington Books.
- Kukulska-Hulme, A., & Traxler, J. (2005). Mobile Learning and Teaching. In A. Kukulska-Hulme & J. Traxler (Eds.), *Mobile learning: A handbook for educators and trainers* (pp. 25-44). London: Routledge.
- Livingstone, S. (2008) Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media and Society*, 10 (3), pp393-411.
- Margaryan, A., & Littlejohn, A. (2008). Are digital natives a myth or reality?: Students' use of technologies for learning. Retrieved 23<sup>rd</sup> July, 2009, from [www.academy.gcal.ac.uk?anoush/documents/DigitalNativesMythOrReality-MargaryanAndLittlejohn-draft-111208.pdf](http://www.academy.gcal.ac.uk?anoush/documents/DigitalNativesMythOrReality-MargaryanAndLittlejohn-draft-111208.pdf)
- McLoughlin, C., & Lee, M. J. W. (2008). The three P's of pedagogy for the networked society: Personalization, participation and productivity. *International Journal of Teaching and Learning in Higher Education*, 20, 10-27.
- McLuhan, M. (1964). *Understanding Media: The Extensions of Man*. New York: McGraw-Hill
- Ministerial Council for Education, Employment, Training and Youth Affairs [MCEETYA]. (2008). *Melbourne Declaration on Educational Goals for Young Australians, December 2008*. Retrieved on 20<sup>th</sup> December, 2009, from [http://www.curriculum.edu.au/verve/resources/National\\_Declaration\\_on\\_the\\_Educational\\_Goals\\_for\\_Young\\_Australians.pdf](http://www.curriculum.edu.au/verve/resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf).
- Neill, M. (1995). Computers, Thinking, and Schools in "the New World Economic Order". In J. Brook & I. A. Boal (Ed.s). *Resisting the virtual life: The Culture and politics of information* (pp.181-194). San Francisco: City Lights
- Oliver, B., & Goerke, V. (2007). Australian undergraduates' use and ownership of emerging technologies: Implications and opportunities for creating engaging learning experiences for the Net Generation. *Australasian Journal of Educational Technology*, 23(2), 171-186.
- Owen, M. (2004). The Myth of the Digital Native. Retrieved 15th July, 2009, from [www.futurelab.org.uk/resources/publications-reports-articles/webarticles/Web-Article561](http://www.futurelab.org.uk/resources/publications-reports-articles/webarticles/Web-Article561)
- Pesce, M. (2009). *Digital Citizenship*. Paper presented at the 2009 Digital Fair: Word of Mouse hosted by Australian College of Educators.
- Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon*, 9(5). Retrieved 15<sup>th</sup> July, 2009, from <http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>
- Prensky, M. (2004). The Emerging Online Life of the Digital Native: What they do differently because of technology, and how they do it. Retrieved 15th July, 2009,

- from [www.marcprensky.com/writing/Prensky-The\\_Emerging\\_Online\\_Life\\_of\\_the\\_Digital\\_Native-03.pdf](http://www.marcprensky.com/writing/Prensky-The_Emerging_Online_Life_of_the_Digital_Native-03.pdf)
- Prensky, M. (2006). Listen to the Natives. *Educational Leadership*, 63(4), 8-13.
- Rikhye, R., Cook, A. & Berge, Z. L. (2009) Digital Natives vs. Digital Immigrants: Myths or Reality?. *International Journal of Instructional Technology and Distance Learning*, 6(2), 3-10.
- Riley, L.A., Nassersharif, B., & Mullen, J. (1999). Assessment of Technology Infrastructure in Native Communities. Report prepared for the Economic Development Administration, US Department of Commerce (under award number 99-07-13799) [Available at [http://www.osec.doc.gov/eda/pdf/IG3\\_13\\_atinc.pdf](http://www.osec.doc.gov/eda/pdf/IG3_13_atinc.pdf)].
- Sandford, R. (2006) Digital post-colonialism. *Flux*, 14 December 2006. Retrieved 13<sup>th</sup> August, 2009 from <http://flux.futurelab.org.uk/2006/12/14/digital-post-colonialism/>.
- Selwyn, N. (2007). Plus ca change, plus c'est la meme chose - considering the probable futures of education technology. In D. W. Kritt & L. T. Winegar (Eds.), *Education and Technology: Critical perspectives, possible futures* (pp. 31-46). New York: Lexington Books.
- Toledo, C. A. (2007). Digital culture: Immigrants and tourists responding to the natives' drumbeat. *International Journal of Teaching and Learning in Higher Education*, 19, 84-92.
- Turk, A. (2002). A critique of government grant based approaches to addressing digital divide issues in an Australian Indigenous community. Paper presented at the 2002 International Conference in the Digital Divide: Technology and Politics in the Information Age.
- Valentine, G., & Holloway, S. L. (2002). Cyberkids? Exploring children's identities and social networks in on-line and off-line worlds. *Annals of the Association of American Geographers*, 92, 302-319.
- Zhou, G., & Xu, J. (2007). Adoption of educational technology: How does gender matter? *International Journal of Teaching and Learning in Higher Education*, 19(2), 140-153.