



The myths of the digital native and the multitasker



Paul A. Kirschner^{a, b, *}, Pedro De Bruyckere^c

^a Open University of the Netherlands, The Netherlands

^b Oulu University, Finland

^c Artevelde University College Ghent, Belgium

HIGHLIGHTS

- Information-savvy digital natives do not exist.
- Learners cannot multitask; they task switch which negatively impacts learning.
- Educational design assuming these myths hinders rather than helps learning.

ARTICLE INFO

Article history:

Received 7 November 2016

Received in revised form

24 May 2017

Accepted 1 June 2017

Keywords:

Digital native

Multitasking

Homo zappiëns

Educational reform

ABSTRACT

Current discussions about educational policy and practice are often embedded in a mind-set that considers students who were born in an age of omnipresent digital media to be fundamentally different from previous generations of students. These students have been labelled *digital natives* and have been ascribed the ability to cognitively process multiple sources of information simultaneously (i.e., they can *multitask*). As a result of this thinking, they are seen by teachers, educational administrators, politicians/policy makers, and the media to require an educational approach radically different from that of previous generations. This article presents scientific evidence showing that there is no such thing as a digital native who is information-skilled simply because (s)he has never known a world that was not digital. It then proceeds to present evidence that one of the alleged abilities of students in this generation, the ability to multitask, does not exist and that designing education that assumes the presence of this ability hinders rather than helps learning. The article concludes by elaborating on possible implications of this for education/educational policy.

© 2017 Elsevier Ltd. All rights reserved.

Contents

1. Digital natives	136
2. A non-solution for a non-existing problem?	137
3. What does this mean for teachers and teacher training?	137
4. Multitasking	138
5. Deleterious effects of multitasking	139
6. What does this mean for teachers and teacher training?	140
7. Conclusion	140
Acknowledgement	140
References	141

* Corresponding author. Welten Institute – Research Centre for Learning, Teaching and Technology, Open University of the Netherlands, Valkenburgerweg 177, 6419AT Heerlen, The Netherlands.

E-mail address: paul.kirschner@ou.nl (P.A. Kirschner).

Many teachers, educational administrators, and politicians/policy makers believe in the existence of yeti-like creatures populating present day schools namely *digital natives* and *human multitaskers*. As in the case of many fictional creatures, though there is

no credible evidence supporting their existence, the myth of the digital native (also called *homo zappiens*) and the myth of the multitasker are accepted and propagated by educational gurus, closely followed and reported on by the media (both traditional mass-media, Internet sites, and social media) and dutifully parroted by educational policy makers at all levels. But while the myth of the existence of a yeti or other creature is fairly innocuous, the myth of their digital variants is extremely deleterious to our educational system, our children, and teaching/learning in general.

In what follows this article aims – in the context of teaching, learning, and teacher training – to describe and discuss the state of research about the problems related to accepting the widely held premises of the existence of the digital native and of our ability to multitask. This article hopes to play an important role in teaching and teacher education by providing the reader with up-to-date knowledge about these two topics and ultimately eradicating these two very pervasive myths.

1. Digital natives

In discussions of educational innovation, especially those discussions relating to either implementing specific information and communication technologies, the need for more effective pedagogies, or experienced problems with motivation, the term *digital native* (Prensky, 2001, 2006) is inevitably thrown into the arena. Take, for example, Teräs, Myllylä, and Teräs (2011) who state that there is “a gap between higher education and 21st century skills. Although these are the natural skills of digital native learners, they are not being supported in education” (p. 1) and Lambert and Cuper (2008) who state that “preservice teachers need to use multimedia technologies within the context of students’ familiar, technology-rich living spaces” (p. 264).

According to Prensky (2001), who coined the term, digital natives constitute an ever-growing group of children, adolescents, and nowadays young adults (i.e., those born after 1984; the official beginning of this generation) who have been immersed in digital technologies all their lives. The mere fact that they have been exposed to these digital technologies has, according to him, endowed this growing group with specific and even unique characteristics that make its members completely different from those growing up in previous generations. The name given to those born before 1984 – the year that the 8-bit video game saw the light of day, though others use 1980 – is *digital immigrant*. Digital natives are assumed to have sophisticated technical digital skills and learning preferences for which traditional education is unprepared and unfit. Prensky coined the term, not based upon extensive research into this generation and/or the careful study of those belonging to it, but rather upon a rationalisation of phenomena and behaviours that he had observed. In his own words, he saw children “surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age” (2001, p.1). Based only upon these observations, he assumed that these children understood what they were doing, were using their devices effectively and efficiently, and based upon this that it would be good to design education that allows them to do this. Prensky was not alone in this. Veen and Vrakking (2006), for example, went a step further coining the catchy name *homo zappiens* to refer to a new breed of learners that has developed – without either help from or instruction by others – those meta-cognitive skills necessary for enquiry-based learning, discovery-based learning, networked learning, experiential learning, collaborative learning, active learning, self-organisation and self-regulation, problem solving, and making their own implicit (i.e., tacit) and explicit knowledge explicit to others. Other names are Net generation (Oblinger & Oblinger, 2005; Tapscott, 1997),

Generation I or iGeneration (Rosen, 2007), Google[®] Generation (Rowlands et al., 2008), App Generation (Gardner and Davis, 2013), and so forth. One cannot deny that this does seem to contain a certain appeal, as many youngsters have helped adults in their use of technology (Correa, 2014).

What do we actually know about the knowledge and skills of this generation? A growing number of research studies (e.g., Bullen, Morgan, Belfer, & Qayyum, 2008; Ebner, Schiefner, & Nagler, 2008; Kennedy et al., 2007; Kvikvik, 2005) in a number of different countries and cultures (e.g., Austria, Australia, Canada, Switzerland, the United States) question whether the digital native actually exists, let alone if their existence would be a valid reason to adapt education to them. These researchers found that university students, all born after the magical year 1984, do not have deep knowledge of technology, and what knowledge they do have is often limited to the possibilities and use of basic office suite skills, emailing, text messaging, Facebook[®], and surfing the Internet. A study carried out by Margaryan, Littlejohn, and Vojt (2011) reported that while university students (i.e., again all born after 1984 and thus belonging to the generation of digital natives) do make frequent use of digital technologies, the range of technologies they use for learning and socialisation is very limited. According to Bullen et al. (2008), “... it appears they [university students] do not recognize the enhanced functionality of the applications they own and use” (p.7.7) and that significant further training in how technology can be used for learning and problem-solving is needed. When used for learning, this was mostly for passive consumption of information (e.g., Wikipedia[®]) or for downloading lecture notes.

A report commissioned by the British library and the UK Joint Information Systems Committee (JISC; Williams & Rowlands, 2007) also overturns the assumption that the Google generation is web-literate. Rowlands et al. (2008) concluded: “... that much professional commentary, popular writing and PowerPoint presentations overestimates the impact of ICTs on the young, and that the ubiquitous presence of technology in their lives has not resulted in improved information retrieval, information seeking or evaluation skills.” (p. 308).

Finally Selwyn (2009) notes that “there are few ways in which the current “digital native” generation can be said to constitute a total disjuncture and discontinuity from previous generations” (p. 375) and that “young people’s engagements with digital technologies are varied and often unspectacular – in stark contrast to popular portrayals of the digital native [with] ... a misplaced technological and biological determinism that underpins current portrayals of children, young people and digital technology” (p. 364). Or as Ito et al. (2008, p. 4) conclude, we should be “wary of claims that a digital generation is overthrowing culture and knowledge as we know it and that its members are engaging in new media in ways radically different from those of older generations”.

However, maybe digital natives were not born in 1984, but in 1994 or 2004? In a study of first-year undergraduate students at Hong Kong University, Kennedy and Fox (2013) found that while students appear to use a large quantity and variety of technologies for communication, learning, staying connected with their friends and engaging with the world around them, they are using them primarily for “personal empowerment and entertainment, but not always digitally literate in using technology to support their learning. This is particularly evident when it comes to student use of technology as consumers of content rather than creators of content specifically for academic purposes” (Kennedy & Fox, p. 76).

Looking at pupils younger than university students, the large-scale *EU Kids Online* report (Livingstone, Haddon, Görzig, & Ólafsson, 2011), placed the term ‘digital native’ in first place on its list of the ten biggest myths about young people and technology. They state: “Children knowing more than their parents has been

Download English Version:

<https://daneshyari.com/en/article/4941570>

Download Persian Version:

<https://daneshyari.com/article/4941570>

[Daneshyari.com](https://daneshyari.com)