Chapter 18
Digital Natives

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ABSTRACT

The term "digital native" was popularized by Prensky (2001) as a means of distinguishing young people who are highly technologically literate and engaged. His central claim was that because of immersion in digital technologies from birth, younger people think and learn differently than older generations. Tapscott (1998) had proposed a similar idea, calling it "The Net Generation," and there have been numerous labels applied to the same supposed phenomena since. Recent research has revealed that the term is misapplied when used to generalize about an entire generation, and instead indicates that only a small sub-set of the population fits this characterization. This research shows significant diversity in the technology skills, knowledge, and interests of young people, and suggests that there are important "digital divides," which are ignored by the digital native concept. This chapter synthesizes key findings from Europe, North America, and Australia and predicts future directions for research in this area.

INTRODUCTION

A 'digital native' has been defined as an individual who has grown up immersed in digital technology and is technologically adept and interested. The digital native is described in direct contrast to the 'digital immigrant', who having been exposed to digital technology later in life is cast as fearful of it, mistrustful and lacking the skills to use technology effectively. According to Prensky's (2001) vision, all young people who have grown up since the widespread advent of the personal computer can be considered digital natives, and, by elimination, all older people are digital immigrants.

It is argued that the existence of digital natives makes dramatic educational reforms necessary because traditional education systems do not, and can not, cater for the needs and interests of young people. As a result, outdated schools and universities and outmoded teaching alienate students from learning, leaving them disengaged and disenchanted by education's alleged failure

to adapt to the new digital world. By implication, education must be transformed by technology, coupled with new pedagogies. Although this argument is a familiar one to those acquainted with the broader educational technology literature, the digital native hypothesis provides a new basis for claims in favor of revolutionary educational change through technology integration.

This chapter charts the development of the digital native idea and the debate that has surrounded it, provides an account of the research and conceptual work it has stimulated, and suggests future directions research may take in the coming decades.

OVERVIEW

The idea of the digital native appears to have first emerged in an essay entitled *Declaration of the Independence of Cyberspace* by Barlow (1995) in which he admonished parents with the charge: "You are terrified of your own children, since they are natives in a world where you will always be immigrants" (p.12). Papert (1996), in *The Connected Family*, similarly evokes a rift between parents and children, and teachers and students, portraying older generations as being both afraid of computers and technically incompetent. Clearly, the idea of a 'digital generation gap' was gaining currency at this time.

Regardless of its exact provenance, it has been Prensky who popularized the term 'digital native' in his widely cited 2001 article, *Digital natives, Digital immigrants*. Around the same time, Tapscott (1998) had put forward the similar notion of 'The Net Generation', while social commentators coined the term 'Millenials' as a generational label (Howe & Strauss, 2000). Since then a proliferation of less widely used epithets has appeared, all attempting to capture the essence of the same phenomenon (e.g. Generation C, Google Generation, Nintendo Generation etc).

In short, the idea of the digital native captured the imaginations of teachers, parents, journalists, commentators and academics. Closer examination of Prensky's arguments, particularly in his influential 2001 paper, reveals little in way of evidence to substantiate his claims, however. He relies on anecdotes, conjecture and speculation. Nonetheless his ideas have often been uncritically repeated and cited as if fact. Even when similar arguments have cited evidence, authors provide few details of the data collection methods and analysis processes used, thwarting critical scrutiny of these studies (e.g. Tapscott, 1998; Palfrey & Gasser, 2008). This presents a significant challenge in assessing the quality of this research, and therefore of the claims made.

A few years after Prensky's 2001 paper researchers began to seriously address his claims, apparently galvanized by dissatisfaction with his arguments. Since that time a significant body of international research has largely debunked the idea of a uniformly technically savvy generation. Instead it suggests that the label 'digital native' likely only applies to a small minority of the population. Of much greater interest is the wide diversity of technology use uncovered by this research. These differences are often thought of as 'digital divides' because they highlight significant gaps between the ways individuals and/or communities engage with technology. These gaps highlight ongoing challenges to equity and justice in education, and in society more broadly.

More recently there have been attempts to redefine and rehabilitate the term 'digital native'. This emerged in Dede's (2005) argument that aptitude with technology is not necessarily related to age but to other personal characteristics. In recent years Prensky (2009) has also seemed to retreat from his earlier sharp distinctions based on age, praising rather than criticizing the role of the teacher and downplaying the notion of digital immigrants. Nevertheless, the original divisive idea remains potent and continues to be uncritically referenced in current literature.

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