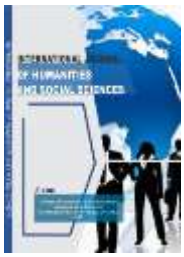
Cyberculture in Higher Education: Narrowing the digital gap between Mark Prensky's "Digital Natives" and "Digital Immigrants"



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Abstract
The invention of the internet has totally transformed the way we used to experience the world around us. New forms of knowledge, thoughts, cultures, techniques and perceptions have emerged which are all mediated by the new digital technology or cyberculture. Our digital tools (computers, mobile phones, laptops…) are not only means of communication, but they embody a new set of technologies, practices and cultures experienced on cyberspace. In fact, cyberculture also refers to the way we manipulate and distribute information on cyberspace, trespassing geographical borders through "the electronic frontier"(Howard Rheingold,1993). In higher education the integration of digital technology has always drawn the interest of scholars and pedagogues who hold divergent perspectives about this heated issue. Mark Prensky's seminal work on digital natives and digital immigrants highlights the digital gap between the new generations of students who are digital savvy and their teachers who are stuck to traditional methods of teaching and, therefore, are compelled to switch to the new technology, becoming, in this context, digital immigrants. The integration of ICT in higher education is sine qua non for efficient learning to respond to the needs and expectations of the "net-geners".

Keywords: *Cyberspace, Cyberculture, Digital Natives, Digital Immigrants, Digital Technology, Higher Education, Net-Geners.*

I. Introduction

The rise and ubiquity of cyberculture has given a new conception to the world we live in today. Reality is constantly mediated by digital technology affecting social, cultural and educational environments, on the one hand, and creating a new digital lexicon, namely cyberspace, CMC, VR, AI, e-learning and wireless technology, on the other hand. We have gradually developed a consistent attachment to digital tools, replacing face-to- face communication with machines, creating what is known as cyber society or in Howard Rheingold's term "smart mobs". The prefix cyber is, then, indicative of the new communication theory that defines people's interaction and activities on the Internet. Communication through the Internet has become a new mode of life, a normative practice and a culture. People are more comfortable with their new digital tools/devices than with the old media outlets. These tools (computers, lap-tops and smart phones) provide easy, fast and instantaneous access to the virtual world, giving, thus, a new meaning to communication. Commenting on the ubiquity of technology in our societies, Sherry Turkle argued that "we expect more from technology than from each other…Technology doesn't just do things for us. It does things to us, changing not just what we do but who we are." (Turkle, 2011).

In this context, we understand that cyber environment, landscape, andsociety have no physical infrastructure or morphology. This environment consists of a complex space which virtually breeds infinite number of websites, networks, virtual communities, identities, blogs, social media, chat rooms, forums, discussion groups and so on.

The concept of Cyberspace was invented by William Gibson in 1984 in his science-fiction novel *Neuromancer*. Cyberspace refers to the virtual reality that emanates from the dissemination of digital technology. It is a space that has no physical or tangible shape, being imagined, metaphorical and conceptual. It simply exists in the user's mind. The following quote summarizes Gibson's conception of cyberspace:

> *A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts …A graphic representation of data abstracted*

from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data. (Gibson, 1989).

First, it is highly beneficial to view cyberspace in "computational terms". In this electronic space, virtual reality is in constant flux/fluidity; it is a permanently shifting environment, with no physical and temporal circumference or borderline. Spatial temporalities do not exist to limit the movement of cyberspace. This is why the concept of cyberspace could be seen as a semiotic signifier of the "death of distance".

Besides its unlimited temporality and amorphous spatiality, cyberspace is characterized by its malleability. Its fluid and dynamic magnitude allows users to experience a "second life" on the screen that is a life customized to fit the needs of both individuals and online communities. Cyberspace can be shaped and reshaped, responding, thus, to the growing projections with which people are correlating their digital devices.

In fact, these technological tools have become reflexive of the users‟ mind and psyche. In our high-tech society, the tenuous line between man and machine has been seriously torn apart; we live in a digitally mediated world. "We become what we behold. We shape our tools, and thereafter our tools shape us", as Marshal McLuhan fluently stated. Our digital tools are, indeed, an extension of ourselves (McLuhan, 1964, p.1); they are the culmination of this interaction between the human mind and the new technology.

Since cyberspace is profoundly rooted in people's psyche, it reflects a new state of consciousness or psychology structured by the machine. Through the virtual reality bred by the computer, users undergo different sensory experiences related to social relationships, identity, anonymity and lack of face-to face communication. In fact, cyberspace could trigger hidden emotions, thoughts and desires suppressed in offline reality which makes, in some contexts, cyberspace a „liberating space‟ or what is called by psychologists "transference reactions" (Suler, 1996). User's psychological reactions are, then, transferred to the digital world.

Besides, cyberspace is intimately correlated with cyber culture: the culture born on the Internet. Cyber culture "refers to ways of life in cyberspace, or ways of life shaped by cyberspace, where cyberspace is a matrix of embedded practices and representations"(Bell, 2004). Pierre Levy, the founder of cyber culture theory, argued that "cyber culture embodies a new universality"; with the spread of the Internet, new forms of knowledge and new forms of its distribution emerge. These new forms transform not only the ways we manipulate information, but the society itself. In this sense, cyber culture is synonymous with change. It refers to « the set of techniques (material and intellectual), practical habits, attitudes, ways of thinking and values that develop mutually with cyberspace. » (Quoted by Teixeira et al. 2017, p. 117).

Cyber culture defines the social and communication structures of organizations and institutions which have adapted to the new digital environment. In this sense, cyber culture has become part and parcel of the daily life of societies, communities, and individuals. Cyber culture encompasses the key elements involved in the practice of digital culture, such as virtual communities, online identities, social media, e-commerce, online education, cyber- class…

Cyberculture through Digital Natives and Digital Immigrants

Having laid down the defining characteristics of digital environment bred by "techno-culture"(Kellner,1995, p.2) or cyberspace, it is altogether imperative to seriously reflect on the powerful impact of cyberculture on higher education and how it has driven teachers and students to revise or even redefine the teaching and learning processes. In this context, Prensky argues that "students have changed radically. Today's students are no longer the people our educational system was designed to teach…there is absolutely no going back… with the rapid dissemination of digital technology…" (Prensky, 2001, p.1).

Today's students are digital natives or "native speakers of the Internet. They are surrounded by technology, stuck to their digital devices, immersed on their computers or mobile phones, playing video games, texting, sharing knowledge or doing research, creating, therefore, their own virtual environments and spaces which often take them far away from reality. They live their life on the screen which is their

comfort zone. They think and process information differently from the previous generations. They are more at ease with the use of technology than their predecessors. Technology for them is a normative daily practice, an extension of themselves; they are metaphorically fused with their digital devices, hence embodying Norbert Wiener's human- machine seminal theory of cybernetics (Wiener, 1948)."Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics *before* their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to serious work " (Prensky,2001, p.2). Howard Rheingoldargues that:

> *people in virtual communities use words on screens to exchange pleasantries and argue, engage in intellectual discourse, conduct commerce, exchange knowledge, share emotional support, make plans, brainstorm, gossip, feud, fall in love, find friends and lose them, play games, flirt, create a little high art and a lot if idle talk. People in virtual communities do just about everything people do in real life, but we leave our bodies behind. You can't kiss anybody and nobody can punch you in the nose, but a lot can happen within those boundaries. To the millions who have been drawn into it, the richness and vitality of computer-linked cultures is attractive, even addictive. (Rheingold, 1993,p.5).*

It is clear that the Net-geners are not just strongly attached to their virtual environment created by their digital tools, but they are addicted to it.

Digital technology has changed today‟s students‟ life and even brains or ways of thinking. They don't think like digital immigrants. They have different brain structures or patterns which breed different kinds of thinking and behaviours (Prensky, 2001). Digital natives think better when connected. They work efficiently when networked. They believe they can be successful learners thanks to their easy access to and manipulation of digital information. They prefer graphics, videos, visual presentations rather than texts which give them less gratification. In fact, this new generation of students tends to show low engagement for traditional lectures or passive learning. Tap scott identified these new technological changes induced by this "generational shift". He placed the focus on the student's interactive learning: "The new technologies have helped create a culture for learning… in which the learner enjoys enhanced interactivity and connections with others…students discuss ideas and learn from one another, with the teacher acting as a participant in the learning. (Tapscott, 1999).

Ben McNeelyargued that interaction is the key term in the process of learning in the digital age. He went far claiming that students cannot study without interactive learning: "Growing up with technology has enabled them to use (digital) tools …in classes as supplements to lecture and textbook: it has taught them to learn by doing, that is to know to get skills from doing something rather than reading about it. Digital devices are just tools to get things done; they enhance learning by doing...Using technology only enhances (learning); it does not-and cannot-replace human interaction" (McNeely, 2005).Learning by doing is supposed to enhance the learner's skills and at the same time to shift the focus from technology to the individual student.

This rapid technological shift has created a serious digital divide between students and their teachers. I believe, in line with Prensky, that digital immigrant teachers do not and cannot experience and practice digital technology the same ways as digital natives. They were not born in the digital age. They have been mostly stuck to traditional modes of teaching which excluded the new technology. They lacked digital savvy. They believed that computers, for example, do not enhance successful learning and that "learners are the same as they have always been, and that the same methods that worked for the teachers when they were students will work for their students…But that assumption is no longer valid. Today learners are *different"*(Prensky, 2001,p.3).

Most Gen X teachers need to change. We need a cultural and technological migration (Prensky, 2001) to narrow the digital gap between teachers and the new generation of students for who cell phones, video games, social media define their life. We should understand that for digital native students, technology is a culture, a way of thinking, living and interacting. Technology has radically transformed much of what we used to take for granted as absolute or unchangeable norms, beliefs and values. Besides, their language is quite different from ours. They have developed their own peculiar lexicon which

pertains to the language of the Internet, mostly stuffed with slang, acronyms, abbreviations, emojis, and neologism. Digital natives‟ communication is considered a deviation from the standard language norms which digital immigrant tutors have always endeavored to inculcate in students‟ brains. Prensky contended that "our Digital Immigrants instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language" (Presnsky, 2001, p.2).Today's students socialize differently from the way their older teachers were socialized. Today's students tend to socialize on social networks and virtual communities, with a population that speaks their own language and shares the same culture, the culture of the Internet.

After a long time of resistance and skepticism, we were compelled to make substantial concessions concerning the Net geners and the integration of ICT in our classes. We came to the certainty that monolithic traditional teaching does by no means meet the needs and the culture of the digital natives. We, consequently, had to reflect seriously on our obsolete methods of teaching which did only exacerbate the gap between a generation dipped in technology and another still living in the pre-digital age. We gradually accepted to use new technology in our lectures through computers, laptops, videos and PowerPoint presentations. We have also begun to show more tolerance towards our students‟ use of their digital devices to take notes in our classes; the view of students‟ smart phones in the classroom was almost considered an offensive and profane act that used to smear the sanctity of the traditional classroom! We could not imagine how valuable those gadgets are for the digital generation; we could not understand that the new technology can also yield efficient learning, and that cyber culture has persistently permeated all the academic spaces, from classroom, to administration, to the whole campus life: multimedia rooms, data shows, computers, wireless routers reflect how technology has become omnipresent is in higher education. The sight of students in the campus holding their smart phones close to their body or immersed on the screen draws our attention to the digital transformation we are experiencing in the campus spaces, a paradigm shift in the entire academic architecture or design.

Our need and manipulation of digital technology was seriously tested during the Covid-19 pandemic. Universities were required to drastically switch from face-to-face to distance learning which was the only alternative to traditional learning. Academic institutions have an increased need to incorporate innovative techniques and methods to respond to the new generation demands (Toquero, 2020). COVID-19 has shown the limitations of higher education as universities were not prepared to implement digital teaching and learning tools; "existing online learning platforms were not universal solutions; teaching staff were not prepared to teach remotely; their understanding of online teaching was sometimes limited to sending handbooks, slides, sample tasks, and assignments to students via email and setting deadlines for submission of completed tasks." (Didenko et al., 2021).

This drastic shift brought many challenges to most teachers due to their unpreparedness, especially in terms of technological aptitude: digital immigrant teachers lacked experience, skills and adequate training about how to deliver courses online. They had scarcely any knowledge about how to post their content on the LMS (Moodle, for example),nor did they know how to check learners‟ reactions or give them needed feedback. In the beginning, our most digital immigrant teachers‟ trust of and engagement in online learning was very low. There was an aura of dissatisfaction, skepticism and even anxiety, no motivation at all. We never thought we could do it! But we did it as digital immigrants who are experiencing a state of cultural and pedagogical hybridity, a third space where traditional and new methods of teaching are still being negotiated.

II. Conclusion

The Covid-19 experience has completely transformed our conceptions of and deeply seated convictions about higher education. It is, indeed, imperative for teachers to integrate innovative methods and techniques to meet the increasing demands and expectations of the new generations of students for whom digital technology is a normative practice. In the twenty first century, it would be atavistic or even weird to conceptualize a teaching environment without the implementation of at least the very basics of digital tools or ICT. Today's students are intimately attached to their digital devices which do not only generate virtual spaces, but also make online navigation a culture. In this sense, considering navigation a

cultural action would help us understand that digital technology can only contribute in the enhancement of the process of learning in higher education. If we really want to narrow the gap with the net-geners, we have to change, as Mark Prensky pointed out: "if digital immigrant educators *really* want to reach Digital Natives… they will have to change… „just do it!" They will succeed in the long run and their success will come that much sooner if their administrators support them." (Prensky, 2001, p.6).

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