

DIGITAL NATIVES AND IMMIGRANTS. FINDING THE GAP

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Abstract

The presented paper investigates the needs of digital immigrants (generally those born before the year 1985 (those before the Millennial generation are considered to be digital immigrants and those born after 1985 are digital natives, having grown up only in a world defined by the internet and smart devices, Prensky, 2001). Digital immigrants should integrate and use the ICT argued for the introduction of Information and Communication Technologies (hereinafter ICT) in public policies in education. However, there is consensus on four basic arguments (OECD, 2001): are a basic skill, such as reading, writing, and math, they represent an opportunity for economic development and a requirement for employment, they are a tool for school management, they are a tool that improves the teaching and learning process. The first two arguments are linked to the potential socioeconomic benefits attributed to the use and appropriation of ICTs. These have an impact on human development, both that one of the development goals for the millennium postulates that it is necessary to “ensure that can take advantage of the benefits of new technologies, in particular those of information and communications” (ONU, 2013). In relation to the potential economic benefits, it is reasonable to assume that, with the use of ICT, the inhabitants of developed countries acquire skills and competencies that complement their possibilities to function successfully in society. However, these arguments should be considered with more caution in developing countries, since in these people do not necessarily have the basic skills necessary to effectively take advantage of the potential of ICT.

Key words: digital natives, digital immigrants, educational gap

In the 1960s, the concept of "functional literacy" emerged, defined as "learning that enables people to function in various roles (citizens, fathers and mothers, workers, members of a community) with a view to improving productivity" (Martínez R., Fernández A., 2010). However, this definition creates tensions and debates when considering that the functionality it cannot be an end in itself. The International Literacy Symposium (1975) defines the literacy “not only as learning to read, write and calculate, but as a contribution to the liberation of the person and their full development” (Infante Y. Letelier P., 2013). Few years later, in 1978, it is specified that a functional alphabet is a person who "can undertake those activities in which literacy is necessary for effective performance in your group and community" (UNESCO, 1978).

According to Itzcovich (2013), in the debates around the new definitions of the notion of literacy, certain transformations of society can be read, which imply that new competencies are necessary to achieve full social integration and, at the same time, that these competencies are changing in a vertiginous way, which originates a great paradox: by when reduce the incidence of

illiteracy, being literate means something else. Therefore in the current context of the digital age, one wonders what does it mean to be literate in the 21st century? For Fourez (1997), in general, it is a metaphor that alludes to the importance that literacy has had since the end of the last century.

This expression would designate a type of knowledge, of capacities or competencies that, in our current scientific-technological world, it would be a simile to the relevance that literacy had in the last century. In this sense, it arises the term “digital literacy” to refer to the learning of the knowledge typical of an era where communication is essential, establishing a general consensus that the ICT universalization must be part of literacy processes (Itzcovich, 2013).

Currently, without adequate literacy, both traditional and virtual, people they are at constant risk of exclusion. According to Jabonero and Rivero (2008), it is relevant develop initiatives aimed at scientific and technological literacy and the computational domain of popular sectors, since the prevailing digital divide accentuates the levels of inequity in the countries of the region.

In relation to the above, in this path of

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evolution towards the information society is generating the so-called “digital divide”, which may have different connotations, but which taken to the educational, citizen and social sphere, it translates into:

- Access gap, referring to problems in accessing technology, generally conditioned by family income.
- Gap of appropriation and cultural capital, related to the effective use of ICT.

In this sense, it is not enough to be surrounded by technology to be a fully integrated digital citizen; training in digital skills is essential.

MATERIAL AND METHOD

A systematic review of scientific articles was carried out in two phases. The first one explored the Pub Med and Google Scholar databases in a general way, to investigate the feasibility of addressing the subject, based on the following questions that guided this study: How to identify the characteristics of natives and immigrants? How to specify the gap between natives and immigrants? And how to overcome the existing gap in the educational field? A second search was carried out in the EBSCO, Redalyc, Science direct and Scopus databases. The descriptors digital immigrants, digital natives and generation gap were used.

RESULTS AND DISCUSSIONS

Prensky M. (2001) raises the term digital natives as the first generation that has grown up with digital technologies, natives of the language of computers, video games, the Internet and computer experts (Aesaert K., 2015). In the words of Herther K. (2009), are those who they were born approximately from the year 1980, they grew up hand in hand with technology, which they prefer to use to carry out their daily tasks, for which they share, create, communicate, coordinate and learn differently.

They have a distinctive set of characteristics that they have apparently developed through immersion in digital technology during childhood and adolescence when neural plasticity is high (Fajardo, 2016). These traits are evidenced because they function best when networked, have significant visuospatial abilities and the ability to integrate the virtual with the physical world (Parkes, 2015). They choose the graphic instead of the text; the image is the way they communicate and think. They also enjoy doing several things at the same time, which is why they are considered multitasking; They then move easily from one task to another and pay attention to several things at once.

They prefer random access and receive information quickly through parallel processing with a strong need for instant response. They know what they want and increase their creative capacity due to the skills they have acquired over time (Naves F.A., 2015). This is how they become empowered by the use of all the tools mediated by the internet, with a high risk of being carried away by entertainment and game; for this reason, they spend more time on these activities than on serious work.

For this reason, digital natives have turned the network into a very important place of socialization through blogs and social networks where they can express themselves and participate by giving and receiving information (Lai K.W., 2015) In addition, they obtain a large knowledge base through the Internet and from electronic resources, which allows them to be independent and with the ability to interrogate and validate the data they obtain. In general, they are characterized by adopting changes in the way of communicating, informing and learning in accordance with the current technological revolution.

However, not all subjects born on the dates that coincide with this generation possess the traits that define it. To be a digital native, a global culture must be shared, so it cannot be generalized when the age factor is taken as a reference (Lai K.W., 2015) or when the same opportunities to access and use technology are lacking. Thus, after young people who have less experience in the use of ICT, who belong to a socioeconomic context that does not allow them access and have had little impact on their lives, can be called "non-digital-digital natives" (Hernandez D., 2014).

Digital immigrants are older people born in the predigital era, before the 90's, they communicate correctly and according to spelling rules, and they follow instructions before carrying out a task (Furini M., 2014). Their mental traits are directed to processes of inductive-deductive analysis, step by step, and their learning is based on pre-acquired knowledge (Gallardo, 2015).

Unlike natives, they adapt to the digital world when they are adults and learn a different language, a new culture and a different way of communicating. Prensky (2001) identifies them as the old or non-native generation, because they make use of technology in the frames and forms that reveal its non-digital roots.

In their daily experiences they edit a document on paper, print a message, ask others to see a page from the computer instead of sending them the link, call and confirm if a message has been received after having sent it, solve a problem at the same time, they act based on deductive

analysis, and knowledge is based on previously acquired knowledge (Herther, 2009).

Native concepts and digital immigrants can stigmatize the difference; hence, at times, natives are considered young people who only use technology for entertainment, so it seems that they are distracted and far from reality. Since they can read a text, listen to the teacher and send a text message at the same time without losing concentration, it is assumed that they are not paying attention and are classified as rude (Fajardo, 2016).

From this perspective, immigrants are described as obsolete, since it is difficult for them to learn digital language; so that they do not understand the natives because they do not share the same language. In either case, the conceptions of digital natives and immigrants are taken to extremes without allowing middle points that include those natives who cannot have access to ICT for different reasons and those immigrants who are entering the digital world to somehow getting closer to the language of digital natives.

At the university level, professors can be designated as digital immigrants and students as digital natives, since each one has characteristics that allow them to be identified according to the access and use of technology (Prensky, 2001). The differences between digital natives and immigrants are evident in what they do in their daily, academic and professional life. For this reason, a gap arises between teachers and students, who differ in the way they think, act, communicate and process information, since they have their own learning styles and preferences (Berio-Zapata C., Rojas H., 2014). So, the digital gap in education can be considered a new expression of inequality in terms of social, cognitive and generational inequities. At the social level, it generates the exclusion and discrimination of students who cannot enter the network because they do not have the possibility of have internet connectivity (Larghi, 2015). The expectations of the students have definitely changed. They are totally different from those maintained by their teachers, especially in relation to the type of technologies available, the frequency of use, communication skills, the degree of personalization of learning and the schemes of digital quality, interactivity or multimedia resources.

Today's students are no longer the same people for whom the higher education system was designed, so it is important to take into account the probability of redesigning education systems and teaching processes. Therefore, students get tired and impatient when they receive keynote lectures that do not motivate them or arouse interest, which

does not allow real and meaningful learning (Calva, 2015).

Prensky and Anderson (2009) state that students think and process information in a very diverse way, since they use a different digital language than their teachers, who were not born in this environment and have had to adapt, which implies that the educational system designed for the training of natives is not the most adequate.

So far, two types of content that should be taught are recognized: inherited, which implies the traditional and includes reading, writing, arithmetic, logical thinking, understanding texts and ideas from the past; and the content of the future, which corresponds to the digital and technological; the two necessary to generate the profiles of the professionals that society needs (Espinosa, 2017).

Thus, education for digital natives should not be directed to a linear-temporal logic, but in a procedural way, in which the concepts are explained in parallel to how they are conceived in the real world. Likewise, immigrants have to promote a participatory culture where the student is the protagonist of their destiny, and begins to make decisions and actions directly related to their context and professional training (Prensky M., Anderson M., 2009). However, it must be considered at an educational level that natives, due to their multitasking ability they have lost their productivity level, the ability to concentrate and their long attention spans, as they want to quickly switch from one topic to another, so, on many occasions, the information they obtain is superfluous due to the fact of opening the largest number of communication channels or online jobs without achieving a high depth of knowledge (Kirk C. *et al.*, 2015).

In accordance with world trends in education and current problems, immigrants need to know the characteristics of their students, understand their needs and learning methods, in order to choose a suitable environment to consolidate and evaluate knowledge and know-how by allowing them to be protagonists of their learning.

In the same way, they should stimulate self-regulated learning that allows the student to be proactive, be self-motivated and use the strategies that allow them to achieve the desired academic results. For immigrants in education for learning to teach with ICT and improve their role in the training of professionals they need the acquisition and appropriation of informational competences to know, learn and apply these technologies, in order to design the objectives of the course, define the learning contents, the didactic strategies and the

evaluation of the acquired knowledge, all mediated by technological tools.

CONCLUSIONS

The differences between the teacher and his students are evident; That is why there must be a common language and style between them that allows more fluid communication for an optimal teaching-learning process. For this reason, the immigrant has the challenge of recognizing from the beginning the characteristics of their students to provide them with didactic strategies and educational models that favor greater academic success. Likewise, in education, both digital natives and immigrants need to acquire informational skills that allow an adequate use of ICT, which implies ensuring an appropriate implementation of these in the curricular content and, therefore, the improvement of teaching practice every day when planning appropriate digital tools for the construction of meaningful learning. Efforts need to be invested in the design of non-traditional pedagogical models and innovative teaching materials that support teaching and learning. Therefore, it is necessary to delve deeper into a procedural logic, in which the concepts are explained in parallel to how they are conceived in the real world. On the other hand, it is crucial to teach both the inherited knowledge that implies the traditional and includes reading, writing, arithmetic, logical thinking, understanding the texts and ideas of the past as well as the future content, which corresponds to the digital and the technological. Both are necessary to generate the profiles of the professionals that society needs to train.

It is important to develop future research that contributes to solving questions about how to use play in the classroom to encourage the participation of digital natives, and how to articulate study programs that allow the student's direct relationship with the text. Also, ensure that both natives and digital immigrants develop informational competencies with an emphasis on the development of communication skills and critical and reflective thinking of information. Finally, the ability to multitask in digital natives should be studied in depth in order to allow continuous improvement in their learning.

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