



Metaverse: New Concepts of Teaching in the Digital Age

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Abstract:

The evolution of computer networks, computational architectures and Web 2.0 brought more dynamism to Internet resources requiring and facilitating further improvement by those who use them for learning. Within this universe of digital resources available in cyberspace , we give more highlight to metaverse, represented in this work by the Second Life platform that allows greater interactivity between users , by the computer , and provide a virtual world has similar characteristics to real world . This feature attention to the fact that a search for greater proximity between the

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student and the teacher, recreating thus a more humane environment. Nowadays, the educational institutions, especially in working to support teaching and learning tools , or Distance Learning , greater demands on the platforms that provide learning that the virtual world everything is the daily life of students. Some scholars now see the three-dimensional environments as a new way of teaching focused on the digital generation. Digital natives born with the emergence of internet and experienced the rapid advance of technology during the process of understanding the world. The characteristics of the new generation using different types of media and perform several activities simultaneously in their daily routines, makes multifunctional environments such as games or simulators become essential tools for knowledge sharing in a fun and motivational way, thus favoring form a significant learning mediated by digital technologies .

Key words: Metaverse, Teaching and Learning, Digital Generation, Distance Education.

Introduction

Nowadays the cyberspace can be characterized as a place that shape new ways of acting and interacting in a modern society where space and time become confused and lose their physical references before demarcated geographically and chronologically. Castells (1999) attributes these changes to the advancement of Information and Communication Technologies (ICT's) that have changed very fast the structure and behavior of the society in its individual and collective dimension.

In this new social vision new trends have also brought new relationship characteristics and a different culture. Levy (1999) says that in fact it is a new culture that comes from the relationship between society and technology which the values are on the universality and cyberspace is the place where develops cyberspace and became a place for everyone and everything. In this place the boundary between the virtual and the real setting confuse. "The virtual becomes the real update"

(Lévy 1996).

As a result of this turbulent and accelerated society are the digital natives, ie., those people were born and have grown up with digital technologies present in their experience, as Prensky (2001) calls them. They can naturally and simultaneously interact with various media, have fun and still absorb content on the various areas of knowledge.

Among the social networks that make up the universality of cyberspace stands out the Digital 3D Virtual Worlds, which in a playful way, offers a variety of tools to its users (avatars) within an imaginary world, as is the case Second Life (SL) that currently has been exploited by some universities of Distance Learning, as a way to streamline the new methodology of teaching and learning.

The Metaverse

On Internet era, Web 2.0 is the platform concept that designates a second generation networks and services, which provide environments for interaction and participation and bringing together several languages and motivations. Tim O'Reilly (2005), the originator of the term, explains that for success on that new platform, the most important rule is to develop applications that leverage the network effects that, when used, become better, leveraging the collective intelligence.

This "new platform" interaction, inserted into cyberspace favored the emergence of various social networks and provided greater dynamism and focus collaborative activities such as blogs, wikis, postcasts and others. It is what we might call "all for all" that emerges for collective intelligence (LÉVY, 1994).

Inside the universality of cyberspace is also in the Metaverse or 3D Virtual World that for some authors like Levy, in the broad sense, "is a universe of possible estimated from a digital model and to interact with the virtual world , the

users explore and updated simultaneously" (Levy 2008, 75).

The term Metaverse appeared in 1992 in the novel "Snow Crash" written by Neal Stephenson in which he refers to the Three-dimensional world in which human beings interact by virtual characters called "avatars". Today the term is used to describe a type of virtual world that tries to replicate reality, by means of digital devices in order to make their residents living another virtual people, creating houses, playing, customizing their avatars or developing other activities proposed by environment.

The Metaverse is the realization or "technological representation" that according to Lemos (2007) comes from the past wishes, i.e., the old dream of creating a parallel world, an imaginary world that now is materialized by means of the Three-dimensional virtual World.

An example relatively recent and widely known as Metaverse within cyberspace is "Second Life". It was created in 1999 and developed in 2003 by Linden Lab Company. Second Life (SL) is seen as a simple game or simulator, a virtual business or a social network. Thanks to 3D animation, their users represented by an avatar can make use of many tools to interact with other residents, to move or to telesport" to different places (island), to promote or attend lectures, to promote a brand, buy land , set up a business and others. SL even has its own currency "Lindendolar" with which to buy clothes, accessories and other items available within the environment. Bolsoni (2009) sees SL as a space that can interact both in socialization by virtual community and make real businesses.

The book Second Life - The Official Guide, almost a manual of SL, shows the innovation that brought the project to virtual environments. Rymaszewsky & et al says that SL works as if you were "a god in real life". Not an almighty God, but as a mythological god who can fly, teleport and do whatever you want. "The virtual world of SL mimics the real world you know"

(Rymaszewsky et al 2007, 8).

From these reflections within the context of cyberspace, cyberculture and Virtual Worlds Digital we can note the myriad possibilities of interaction and communication offered by 3D animation. It's important to remember that Second Life as well as other social network, due to extensive creative freedom does not guarantee real identity reference but makes the digital self a complement of reality . One has to understand that the virtual is not only fictional, it produces effects as Lévy (1996) highlights "the virtual is a resolution process that triggers another problem complex" (Lévy 1996, 5).

The use of technology and the digital generation

It is known that all dimensions of society and not less than education are undergoing changes resulting from the evolution of Information and Communication Technologies (ICTs). The model teacher who remains in the model of the old pedagogy to speak or lecture in the classroom as a "knowledge holder" opposes the new education model, where "students teach themselves with the guidance of the teacher" (PRENSKY, 2010, p. 201). In this new scenario that serves the role of technology which according to Prensky "supporting the new teaching paradigm" (Prensky 2010, 202).

Today's students belong to a digital generation, in other words, born with the emergence of internet and followed without many difficulties the rapid change until this moment. Prensky (2001) refers to this new generation, i.e., those born after 1980, "Digital Natives". According to the author they are used to get information quickly, process more than one thing at a time and perform multiple tasks. They prefer random access and games than serious works.

In the face of this apparent and emerging need for a new way to teach, a new teacher profile emerges: one that will teach the basic subject schools such as reading, writing,

adding and others and will also place the student in the immense world of information "the digital and technological age" that is actually the reality and everyday life of most of them that updates itself every day in cyberspace where the person will not be separated from each other but connected to center (Lévy 1994).

Cyberspace has favored the inclusion of this new pedagogy mediated by digital tools. Communication and interaction is already present in blogs, discussion forums, wikis, hypertext, and others that have become teaching tools in the teaching-learning process.

In fact, according to Souza & Gomes (2008) we are facing a new world conception of man and society that according to Souza and Gomes (2008) this new model of society is not related to new learning methods, but new ways of thinking and acting on the knowledge. Today, the teachers who behave like a "encouraging the collective intelligence of groups who are in their charge" (Lévy 1999, cited in Souza & Gomes 2008, 106).

Second Life and Distance Learning

Currently Second Life has excelled in Distance Learning (DL), because it is a virtual environment where you can recreate classrooms, recitation room for lectures by inserting videos, slides and voice and other resources in order to decrease the physical distance between teacher and student. In education, DL has experienced the largest number of innovations both technological and pedagogical. But this reality has to expand to all areas of education. This would be a way to track the mutation of the current civilization since a growing number of digital natives also are in basic and higher education, both in the classroom teaching mode.

Basing on empirical evidence, many students complained to feel lonely in your studies, even with several interactive tools

(⁴synchronous and asynchronous) available by Virtual Learning Environments (VLE). For this reason, the metaverse can be an excellent possibility of a more intense and closer relationship between students and teachers and support to uncomplicated, direct and "humanized" interaction. The application of this new methodological approach can be based on Vygostky's theories when he says that the different ways of thinking are built from the collective knowledge that is promoted by the interaction between the individuals.

The platform of Second Life offers the user (resident):

1. Interaction with others through chat, movement and speech;
2. playful activity through the game, but without the goal of winning;
3. Locomotion anywhere (islands) of the virtual world using tools like walking, running, flying or "teleportation";
4. Freedom to create your avatar and change it whenever you want.

This interactive dynamic and diverse attracted several renowned Universities to adopt SL as part of their educational process. Among them: Harvard , Stanford , Open University , and in Brazil, Senac-SP, Mackenzie Presbyterian University, Anhembi University (SP), Federal University of Rio Grande do Sul (UFRGS), Pontifical Catholic University (PUC) , Vale dos Sinos University (UNISINOS) and others.

Nowadays, some universities already use Sloodle (Simulation Linked Object Oriented Dynamic Learning Environment). It is free plug-in for integration of SL into ⁵Moodle created by researchers at the San Jose State University (USA) and sponsored by ⁶Eduserv (UK).

⁴ **Synchronous** are tools used to leave messages offline. i.e. e-mail, blogs, others. **Asynchronous** are tools can use online, i.e. Chat.

⁵ Moodle is a learning platform designed to provide educators, administrators and learners. (www.moodle.org)

⁶ Eduserv is a different kind of IT provider.

The Sloodle is a three-dimensional learning platform that offers a range of tools that support the learning process in immersion environments. According to the coordinator of the Center for Distance Learning Foundation School of Sociology and Politics of São Paulo, Andreia Correia Silva (2010), the Sloodle is a complementary tool to the lessons available on the web or even the actual classes. Sloodle can also be used as a repository of content in SL storing data on the web as well as being a tool that allows fair access, and virtual lab serves as a low cost conferencing tool.

Although SL show up as an affordable and self-explanatory interface feature, which helps a lot the contact between student and tool, it is necessary to remember that the technical prerequisites involving installation, configuration and operation can be a hindrance to anyone using this environment. Second Life , from its version 2.0 , is a little more picky about the hardware being used for its operation that requires cards with 3D acceleration with NVIDIA TNT2 , ATI RAGE or RAGE PRO , 320M , 340M , 345M , among other boards with similar capacity .

The Version 3.0 of the Second Life as increased demands on the hardware required. The plates permeate with nVidia, GeForce 6600 (128MB) or ATI Radeon 8500 (128MB) DirectX 8.1 compatible and OpenGL 1.3.

In terms of Operating System (Windows versions up to 2003), if the user wants the program to operate on a 64-bit system, download an app that does this compatibility must be done, it is not necessary for other versions of Operating System.

Regarding connectivity is important to note, that at this point the more speed, better, with attention to wireless networks, IEEE 802.11 standard, depending on your version must be tested to verify its compatibility with Second Life. The recommendation is to network via cable or ADSL, at least.

However, the innovation of this feature reveals how cyberspace can be exploited in terms of quality education that

provides to digital students "learning to learn" in order to prepare them for the autonomy and critical thinking.

Lévy (1996) steps up this idea the evolution of knowledge, the mass of people called to acquire and produce new knowledge and the appearance of new instruments are able to give rise in the "cloud" of information, original and distinctive landscapes, unique identities own this space and new social historical personalities.

Final Considerations

The advancement of technology has questioned several areas of knowledge and modified the concept of society therefore changed the concept of social networking. Those were previously defined as a group of people who identify through common interests, also are in cyberspace, what has resulted in "identity miscegenation".

Because of this interactive virtualization, the metaverse has become a platform that promotes the interaction between networks related to different interests such as education, politics, entertainment, business and others.

The Distance Learning has experienced various media tools throughout history. For this reason, it sees the metaverse, exemplified by SL, a possibility of humanization in the teaching-learning process. Referring to Education in general, SL is a way to arrange for generation of "digital natives" a teaching methodology anchored in the principles of "learning to learn" in a playful and autonomously form to focus the intellectual development from "whole", i.e, from the common knowledge.

One has to know that learning no longer has significance if it is not inserted in the social context and routine of the student. Students' today are digital natives. They are connected all the time to technologies: Smartphone's, laptops and others. Digital generation handles technologies as well as

learning alone with them and becomes an expert. In this new scenario of education, the student shall be the researcher and the teacher his guide that will ensure the quality of the final product: critical thinking and knowledge construction.

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