

Los entornos virtuales. Otra mirada *Virtual environments. Another look*

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Resumen

La presente investigación tiene como objetivo elaborar una nueva definición de entornos virtuales a partir del análisis de la evolución de este término haciendo especial énfasis en los elementos distintivos de cada una de las definiciones analizadas. Para el desarrollo de la misma se utilizaron métodos del nivel teórico como el estudio documental, análisis-síntesis e inducción-deducción que permitieron determinar elementos que caracterizan la evolución del término entornos virtuales.

Palabras clave: Entornos virtuales; Nuevas tecnologías; Informática; Comunicaciones

Abstract

The objective of this research is to elaborate a new definition of virtual environments from the analysis of the evolution of this term, with special emphasis on the distinctive elements of each of the definitions analyzed. For the development of the same, methods of the theoretical level were used, such as the documentary study, analysis-synthesis and induction-deduction that allowed determining the elements that characterize the evolution of the term virtual environments.

Key words: Virtual environments; New technologies; Informatics; Communication

Introduccion

The political, economic, social, cultural, scientific, communicational and technological transformations that speed up the dawn of the 21st century are widespread, vertiginous and transcendent. They promote new changes in the educational policy of each country, and at the same time, the revision of certain social demands, for which the individual is permanently formed as a social being. This has become a challenge for the educational sector, since the progress made by Information and Communication Technologies facilitate various ways to develop learning in more collaborative, dynamic and individualized contexts, despite the current globalization.

The development achieved by computing and telecommunications in the last years of the 20th century and the beginning of this century gave rise to the emergence of New Information and Communication Technologies (NICT). New technologies have revolutionized the academic training process and at the same time have raised the level of motivation and predisposition of students towards a new way of learning in which interaction with knowledge is made viable.

According to Martínez, (2000) cited by (del Toro, 2004, p.14), the NICT includes all means at the service of improving communication and the treatment of information, which arise from the union of advances, propitiated by the development of technology, which are modifying the basic technical processes of communication. Three innovations have made possible the communication and information revolution: microelectronics, computing and telecommunications.

The technological tools available are intended to facilitate communication and the processing, management and distribution of information, adding to education new possibilities for learning as they allow connections, previously impossible to imagine, that facilitate carrying out various processes regardless of differences in space-temporal between subjects.

In this sense, virtual environments as platforms closely linked to Information and Communication Technologies (ICT) facilitate social interaction, communication, collaboration, as well as learning, which are one of the ways to contribute to the comprehensive training of society by creating environments where it is possible to build, share and use knowledge in an appropriate context through the use of tools that promote the development of skills and competences in which he teaches as well as in which he learns without the need to coincide in time and space.

According to (Guerrero-Muguercia, Sánchez-Pérez, & Moreira-Carbonell, 2019, p.1) virtual environments have important characteristics that contribute to improving the interaction between subjects, which favors the communication process, which in these environments has significant character.

For these reasons, the Cuban State is submerged in a conceptual transformation at the cultural level aimed at developing a general-comprehensive culture in each and every one of the members of current Cuban society, for which reason it dedicates resources to access virtual environments at different levels of education.

Development

The evolution of virtual environments is largely due to the accelerated development of Information and Communication Technologies, particularly the progress and improvement of computer networks. Collaborative virtual environment, course / content management system, learning management system, virtual campus, learning / e-learning platform, among others; are some of the names and definitions that are assigned to these by various authors.

Telematics, according to the Dictionary of the Royal Academy of the Spanish Language (DRAE) in 2001, “comes from English telematics, acronym of **tele-** and **informatics**, informatics; which means application of telecommunication and computer techniques to the long-distance transmission of computerized information”.

The etymology of the word "environment, from the computer point of view means: set of extrinsic conditions that a computer system needs to function, such as the type of programming, process, the characteristics of the machines that make it up, etc." and “virtual; It has an apparent and not a real existence". (DRAE, 2001)

The definition offered in this Dictionary reveals the mediating quality of virtual environments in the development of interactive processes between subjects separated in time and space by proposing that "they are telematic spaces that mediate the interaction and interactivity of netizens." (DRAE, 2001)

For Sigalés (2001) virtual environments constitute communication spaces that allow the exchange of information and that would make possible, depending on their use, the creation of a teaching and learning context in which the cooperation of teacher and students is facilitated, in a dynamic

interaction framework, through culturally selected and materialized content through representation, through the various languages that the technological medium is capable of supporting. (Sigalés, 2001).

In this statement, the possibilities offered by these communication spaces for the exchange of information are highlighted, which allow, in the opinion of the authors, the creation of a context in which not only the teaching-learning process would be favored, but also the extensionist and investigative.

For Aguilar, (2004) "a virtual environment represents a conceptual space in which a user can establish communication (interaction) in different space-time conditions with other users (or their representation), or with elements of the environment." Aguilar (2004). According to this statement, virtual environments are spaces that allow the development of a communicative process regardless of the differences in time and space between the interacting subjects or the tools that make it up.

Herrera (2005) considers them as Virtual Teaching-Learning Environments and defines them as "didactic telematic spaces, which imitate, in cyberspace, the possibilities to carry out a distance the teaching-learning process" (E. Herrera, 2005, p.28). On the other hand, Pérez (2006) assumes them as a Virtual Teaching-Learning Environment and states that it is "the space configured in a computer network, based on the tools and facilities it provides, where a teaching-learning process is developed in which its protagonists can interact and perform the system of teaching tasks." (Pérez, 2006, p.30).

These definitions highlight the possibilities that these spaces offer from the virtual to simulate the conditions that allow the development of the teaching-learning process without limitation of time and space, elements that can be extended to other university processes to promote interaction between the Higher Education Centers and their social environment.

The authors Castañeda and López (2007) expose the facilities provided by virtual environments with their tools and services in mediating the interaction that is established between teachers and students as part of the virtual teaching-learning process by defining them as "Virtual Environment of Teaching Learning (hereinafter EVEA) to the space (virtual space) in which the different tools and services for learning are grouped and where institutional management personnel, teachers and students interact." (Castañeda & López, 2007, p.1). At the authors' criteria these EVEA facilities

can be used in other university processes. Herrera Lemus, (2007) calls the Virtual Learning Environment to the.

Space for mediating socio-cultural interaction of the relationships between subjects through the use of ICT, built by the meanings of the subjects with others and the meanings of social objects , which condition the development of the subject not only so that he appropriates knowledge, experiences, new elements that generate analysis, reflection and appropriation processes, but also allows him to participate in the formation of the highest level integrating system: the personality." (K. Herrera, 2007, p.38).

This definition establishes the sociocultural quality of the interaction that exists between subjects and social objects, as well as the mediating nature of ICTs in the relationships established during the process of analysis, reflection and appropriation of knowledge, experiences and new elements which favors the development of personality as a result of sociocultural interaction in virtual environments. Vidal et al. (2008) state that.

EVEAs are generally defined as a teaching-learning process or activity that takes place outside a physical space, temporarily and through the Internet and offer a variety of means and resources to support teaching; they are currently the technological architecture that gives functional support to the various e-learning initiatives, however, they do not determine the didactic models and strategies, since knowledge or access to these resources does not exempt the teacher from deep knowledge of the conditions of learning, nor the adequate *design and teaching planning*, but it does provide a new pedagogical vision that is enriched with the use of these technologies. (Vidal, Llanusa, Diego, & Vialart, 2008).

In proposing that the teaching-learning process or activity developed in these environments takes place outside physical and temporal spaces, these authors coincide with what was stated in DRAE 2001. On the other hand, they point out that these environments offer a diversity of means and resources that in the opinion of the authors of this research they not only favor teaching but also the development of other social processes.

Oscar García proposes that a “virtual environment of teaching learning as an organization of a socio-technical educational nature integrated by pedagogical mediation mechanisms that promote resources, applications, help systems and the interrelationships of people in conditions of

cooperation and collaboration and that in together they make possible the teaching-learning process in vitality.” (García, 2010, p.23).

In this way, the socio-educational technical nature of virtual environments and their mediating role in cooperative and collaborative relationships between subjects who interact in the virtual teaching-learning process are revealed. From the authors' point of view, these elements can be extrapolated to the other university processes (Extension and Research).

Michael Holyoke asserts that "a Virtual Learning Environment (EVA) is a set of teaching and learning tools designed to enhance the student's learning experience by including computers and the Internet in the learning process." (Holyoke, 2011).

This statement addresses the composition of virtual environments that are made up of a set of tools, synchronous and asynchronous, that allow the development of the student learning process mediated by computers and the Internet beyond university borders.

By defining as virtual environments "spaces configured in the telematic network, which promote the pedagogical-instrumental mediation of its participants, based on ICT-based synchronous and asynchronous activity and communication." (Sánchez, 2011, p.28), demonstrates the mediating nature of these telematic spaces in the interaction that is established through synchronous and asynchronous activity and communication between the subjects participating in the processes that elements that may develop in them favor the development of other university processes.

López et al. (2012) state that "Virtual teaching-learning environments are developed in an established space within the network and are structured in a sequence of contents, worked from a set of tools, with the mediation of an instructor or teacher". (López, Flores, Rodríguez, & de la Torre, 2012, p.100).

In this research, the authors agree with what Sánchez (2011) stated that virtual environments are configured spaces within a computer network. In addition, they refer to the role of the tools of these environments in the structuring of content and work, as well as the mediator role of the teacher for the development of the virtual teaching-learning process, elements that authors consider may favor the development of the two remaining university processes.

Viera, (2012) states that virtual learning environments “are spaces that through technology support teaching, extending the class beyond the borders of the classroom, where the process develops,

with the almost permanent separation in space and in the time of the teacher and the students” (Viera, 2012, p.34), the authors of this research agree with the above but pointing out that these spaces could also serve as support for the other processes that are developed in the university (the investigative and the extensionist).

Doctor Febe Ciudad calls as a virtual teaching-learning environment,

A system of virtual spaces with a technological scenario and interconnected services, which constitutes a formally structured educational context determined by didactic foundations and principles, which is managed and technically evolved and pedagogically and that through a strategy and a didactic system, it encourages the participants to communicate and work collectively synchronously and asynchronously.” (Ciudad, 2012, p.22).

Taking into account what was addressed by the researcher Febe Ciudad, this system of virtual spaces with interconnected technological and service scenarios that constitute an educational context through collective work and synchronous and asynchronous communication established between the participating subjects, enables the development of the process teaching-learning in virtual environments.

The researchers Juan Lobaina and Yanyorky Sánchez state that “virtual environments are considered configured spaces in telematic networks, which group together a considerable *set of* tools that allow for the diversity of forms of communication: forum, chat, email, discussion lists or distribution, wiki, blog, videoconference, audio-conference, among others”. (Lobaina & Sánchez, 2014, p.3)

In this definition, are in agreement with Sánchez (2011) when connoting virtual environments as spaces configured in telematic networks. Furthermore, it is revealed that it is made up of synchronous and asynchronous communication tools that, in the opinion of the authors of this research, make possible the development of the remaining university processes. Dr. Alfonso assumes the term virtual learning environments as:

Scenarios where conditions are created for the subject to appropriate new knowledge, which generate processes of analysis, reflection, synthesis and creativity. They are platforms that favor social interaction, communication, collaboration and learning, creating an environment where it is possible to manage knowledge (build, share and use) in a favorable

context for both the teacher and the learner through the use of tools that promote the development of skills and competencies. (Alfonso, 2015, p.25).

From this point of view, virtual environments are considered as scenarios that allow the development of learning from vitality. In addition, they are revealed as platforms that contribute through the use of their tools to social interaction, communication, collaboration and learning elements that the authors consider would not only favor the teaching-learning process but also the university processes as a whole. For their part, Enriquez et al. (2015) state that virtual learning environments as.

Electronic spaces known as virtual classrooms, conceived and designed so that people subscribed to them transform the educational task, since the technological-pedagogical action facilitates the management and distribution of information, and synchronous and asynchronous interactions between subjects, mediating their relationship with knowledge, with the world, with men and with themselves.” (Henríquez, Veracoechea, Papale, & Berrios, 2015, p. 74).

This definition coincides with the mediating function of technology in the synchronous and asynchronous interaction that occurs in these electronic spaces between the interconnected subjects and between these with the environment itself.

For Russo et al. (2015) a virtual teaching and learning environment is “a web application that integrates a set of tools for teaching - online learning, allowing non-classroom teaching (e-learning) and / or mixed teaching (b-learning), where online teaching is combined with classroom experiences.” (Russo et al., 2015, p.2).

This definition highlights the possibilities offered by these environments for the development of activities at the face-to-face and blended level at the same time, which the authors consider favor for the development of university processes by breaking the boundaries of the classrooms and the Centers of Higher Education not only for the teaching-learning process but also for the other university processes.

By connoting virtual environments as "spaces for sociocultural-technical-educational exchange configured in telematic networks made up of synchronous and asynchronous communication tools." (Guerrero-Muguercia et al., 2019, p. 4) coincide with Herrera Lemus (2007) regarding the sociocultural nature of the interaction that occurs in these technological spaces. On the other hand,

the possibilities offered by telematic networks for the development of sociocultural processes through synchronous or asynchronous communication that occurs as a result of the interaction of subjects in virtual environments are highlighted.

In the digital encyclopedia Wikipedia (2019) it is stated that a virtual learning environment (EVA), virtual learning environment (AVA) or Virtual Learning Environment (VLE) “*is a computer application designed to facilitate pedagogical communication between the participants of an educational process, be it completely at a distance or of a mixed nature, that is, it combines both modalities in different proportions*”. (Wikipedia, 2019, p.1).

This definition highlights the facilitating role of virtual environments in the communication process that is established in them either completely remotely or combined, coinciding with one of the advantages indicated by (Guerrero-Muguercia et al., 2019) in their scientist article in which he proposes that virtual environments allow the development of face-to-face and blended activities at the same time coinciding with Russo et al. (2015).

Virtual environments are considered by Roman, Martínez and Piclín (2019) as:

Small spaces configured in telematic networks, which group together a considerable set of tools that allow the diversity of forms of synchronous and asynchronous communication: Forum, Chat, email , discussion or distribution lists, Wiki, Blog, etc .; as it facilitates, expands and diversifies the variants of tutoring thanks to flexibility in times and spaces, in order to enable continuous training that allows students and teachers to appropriate a general and comprehensive culture throughout life.” (Roman, Martínez, & Piclín, 2019, p.56).

This definition coincides with Lobaina and Sánchez (2014) regarding the types of tools that make up virtual environments and that allow the interaction of subjects. In addition, the authors of this research consider that these spaces not only facilitate, expand and diversify the variants of tutoring thanks to the space-time flexibility, but also the development of all university processes with an emphasis on the extensionist who is in charge of that the intra and extra wall communities appropriate a general and integral culture.

Conclusions

The analysis of the previous criteria related to the evolution of virtual environments allowed to determine the converging points, as well as the more general characteristics that differentiate them, elements that in turn allowed to redefine them as: spaces for sociocultural-educational exchange configured in telematics networks, conformed by synchronous and asynchronous communication tools. Because of their characteristics, Virtual Environments offer advantages that facilitate the development beyond the limits of the Higher Education Centers, not only of the teaching-learning process but also of the investigative and the extensionist.

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