Artículos científicos

Una visión contemporánea de las perspectivas de aprendizaje en la sociedad del aprendizaje actual

A Contemporary Vision of Learning Approaches Educational in the Current Learning Society

Uma visão contemporânea das perspectivas de aprendizagem na sociedade de aprendizagem de hoje

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Resumen

La actual sociedad del conocimiento y la necesidad de incorporar nuevas perspectivas de aprendizaje en los centros educativos exige un entendimiento de los rasgos y características de la tecnología educativa que van desde su evolución y desarrollo conceptual hasta su apoyo teórico fundamental. El presente artículo tiene como objetivo presentar una visión contemporánea de los enfoques pedagógicos, así como las teorías educativas básicas y emergentes. Esta descripción coadyuva al entendimiento de la relación entre las teorías educativas y la visión contemporánea de los enfoques pedagógicos. Es una investigación documental desarrollada bajo el paradigma sociocrítico en donde se realiza un breve recorrido histórico de la tecnología educativa.

Palabras clave: aprendizaje, sociedad del conocimiento, tecnología educacional.

Abstract

The current knowledge society and the need to incorporate new perspectives of learning in educational centers require an understanding of the features and characteristics of educational technology that range from its evolution and conceptual development to its fundamental theoretical support. This article aims to present a contemporary vision of pedagogical approaches, as well as basic and emerging educational theories. This description contributes to the understanding of the relationship between educational theories and the contemporary vision of pedagogical approaches. It is a documentary research developed under the sociocritical paradigm where a brief historical tour of educational technology is made.

Keywords: learning, information society, educational technology.

Resumo

A atual sociedade do conhecimento e a necessidade de incorporar novas perspectivas de aprendizagem nos centros educacionais exigem a compreensão das características e características da tecnologia educacional que vão desde sua evolução e desenvolvimento conceitual até seu suporte teórico fundamental. Este artigo tem como objetivo apresentar uma visão contemporânea das abordagens pedagógicas, bem como das teorias educacionais básicas e emergentes. Esta descrição contribui para a compreensão da relação entre as teorias educacionais e a visão contemporânea das abordagens pedagógicas. Trata-se de uma pesquisa documental desenvolvida sob o paradigma sociocrítico onde é feito um breve passeio histórico da tecnologia educacional.

Palavras-chave: aprendizagem, sociedade do conhecimento, tecnologia educacional.

Introduction

After the industrial revolution and advances in techniques promoted mainly to meet the acceleration of the pace of production, technology has transformed reality and has been incorporated into people's daily lives. Of course, the acceleration of the pace of processes - not only industrial, but also commercial, social and transactional - has brought with it an inherent benefit: now people can have the technology to replace some activities, reproduce artifacts or production processes. mechanical way and the opportunity to generate and create new information through it.

In the second epoch of the 20th century, core technologies were developed. These were promoted by the association that was conferred on economic and social development with technological development. Also from the benefits observed from the application of core technologies in objects of daily life such as televisions, digital computers and lasers, to name a few. It should be noted that, of these technological advances, the digital computer has contributed enormously to the acceleration and improvement of design and analysis processes that even today cooperate in various fields of science.

The term technology can be analyzed from what is known as technique. Traditionally, when talking about technique, the question of how we can transform reality is also formulated. Among the responses has emerged what many sociologists and economists call the information society. These advances bring certain social repercussions and come from the need to solve real problems. In this sense, it would be helpful to go back to describe technology from the field of philosophy of technology, given the importance it currently has in guiding human action in the field of education.

For Bunge (1980), a body of knowledge is technology if and only if: "1) it is compatible with contemporary science and controllable by the scientific method and 2) it is used to control, transform or create things or processes, natural or social" (p. 190). On the other hand, for Lara (1998) technology is a "set of specific knowledge and processes to transform reality and solve a problem" (p. 9). Technologies can be divided into core, specific and production. The first are those that focus on a specific problem or phenomenon such as the laser beam, digital computing or some other that solves a problem of a physical, chemical or biological nature; another type is specific technology, which are those that arise from the application of core technologies, from which arise, for example, specific computing technologies, and finally, mass production technologies, which solve the problem of how to manufacture the specific technologies in series. In this way, these three types of technologies must act in accordance to promote technological development and the resolution of social needs (Lara, 1998).

One of the most important technological changes in recent years is the development of information and communication technologies (ICT). Although they are supported and created from the digital computer and the Internet, they have changed many of the ways in which individuals interrelate, and have also changed the way in which the industrial, commercial and service sectors carry out exchanges. Education has not been the exception within the latter sector. ICTs bring a new language and intrinsic characteristics to reproduce.

The object-interface-human interaction has forged a new language that has had repercussions on the vision that people have of the world: a given language of the meaning given to words and how these symbols are interpreted. Indeed, according to our own perception of the world, symbols give meaning to what surrounds us. It is through social interaction that we give them meaning. This change in the ways of interacting brought to school raises the possibility of redefining it as a space for social interactions (Olivera, 2006).

It is within the various forms of this vision that a gap is conceived, where those who do not have access to generate this interaction can be excluded from this new vision of the world. It can be considered that within this new language, digital skills, ICT skills, or recently called information, communication and knowledge technology skills for digital literacy and learning (TICCAD) are of vital importance (Alcalá, 2020). The assimilation of the changes that this entails requires a reconstruction of facts, forms of interpretation and, above all, new methodologies that reconfigure the forms of exchange, whether in the social, cultural, economic or environmental spheres. In the field of education, it is essential to encourage the development of educational strategies and policies that cover insufficiencies of methodological guidelines supported in the fields of pedagogy, didactics and educational theories, all of which, together, are capable of incorporate individuals in this digital age.

Given the current paradigm shift, it is necessary to return to practices and theories that lead us to the construction of a new educational proposal that does not separate facts from theory, but rather incorporates elements of both that promote sustained development of education. education, which leads to the rethinking of the true value of education and to expose the consequences of not adopting a useful position both for the performance of the individual in society and for his own personal development. In this sense, it would be necessary to stop to define if the value of education lies in the transmission, reproduction of knowledge or in adaptation to the world.

Faced with this uncertainty created by the vertiginous technological change, educational institutions must turn their gaze towards their educational practices and the science of pedagogy. By combining both worlds, pedagogical innovations could be created based on the new meaning of teaching and understanding what really happens within the institutions in these aspects. Ask yourself if learning is taking place within them, if it is the university that provides the value of education and pay special attention to the spaces where education takes place (Latour, cited in Bialakowsky, 2014).

Therefore, an adjustment is urgent, either to take elements from existing theories that guide good educational practices, or to develop new guidelines within the educational field that support the processes and training of quality human resources capable of to contribute in the field of technological development through specific technologies that also raise the quality of the products and services produced in the country, as well as the level of competitiveness and economic development, which translates into a higher level of well-being and improvement of the living conditions of individuals.

This article describes in a general way the conceptual evolution of educational technology and the main learning theories that are proposed as guidelines for educational practice in the new digital age. The foregoing with the aim of generating a contemporary conceptual construction of the learning approaches that support it. This development leads to the understanding of a discipline in progress and with an urgent need to link with solid learning theories that guide its application in accordance with the current knowledge and information society.

Methodology

This is a documentary research with an inductive approach that aims to answer the question: what are the various contemporary educational approaches? The documents were chosen through a heuristic process of chain sampling, which seeks to understand a cultural reality and where one case or document leads to the next and the next until enough information is found to help fulfill the objective of the investigation (Quintana, 2006). In this way, we started from a priori categories that guided and delimited the search. It should be noted that recently published texts and texts by classic authors are included, which are taken up due to the importance of their contribution to such approaches. Figure 1 shows the categories that guided the heuristic process of documentary research. The main categories of educational approaches were educational technology, its history and concept; learning from the instructionist, constructivist and cognitivist approach, as well as new learning theories such as connectivism and invisible teaching.

Figura 1. Categorías que guían el proceso de investigación documental
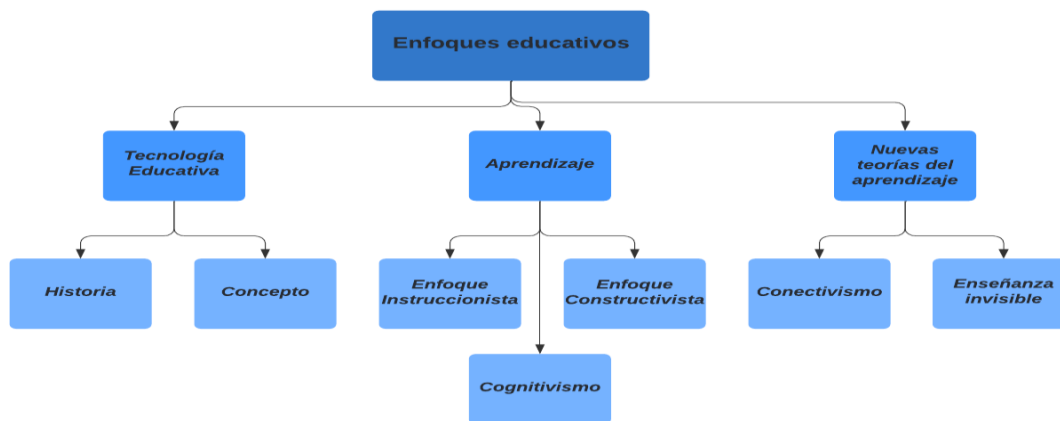
Fuente: Elaboración propia

Results

Development, concept and elements that converge with educational technology

Educational technology was considered as such since its application in military education, when one of the first definitions proposed by Monroe emerged in 1941 (cited in Torres and Cobo, 2017), who defined it as "changes in behavior resulting from the application in the school of materials such as: a) silent or sound films; b) school newspapers; c) still images, which can be viewed directly or projected as slides or filmstrips; d) museum materials; and e) sheets, maps and graphs" (p. 32). Later, with the spread of the mass media in the 1970s, coupled with the development of behavioral psychology, another concept was founded by Eiy (1963, cited in Torres and Cobo, 2017), who stated that educational technology is " the field of educational theory and practice, mainly involved with the design and use of messages that control the learning process (p. 32).

In these conceptualizations, a trend towards the systematized technification of teaching can be identified. However, other authors such as Skinner incorporate elements of psychology for technology in the classroom. One more considers educational technology as the applied study of how technology is used in teaching-learning processes, in instruction processes and, therefore, in the framework of instructional design, direct object of didactics. (Bartolomé, 1988; Cabero, 2007; Prendes, 1997, todos citados en Castañeda, Salinas y Adell, 2020).

Currently, it is conceived from a more holistic perspective, where social elements, ICT, instructional models, pedagogy and psychology also converge. It should be noted that current conceptualizations transcend the idea that educational technology is the use of ICTs and point to a perspective where, by creating learning environments and spaces, it is subject to the purposes of education.

From a classical perspective, educational technology was considered as a direct object of didactics. The contents and specifically the instructional processes of educational technology were governed by it. Therefore, this classical perspective considers that didactics and technology were mutually complementary and sufficient with each other. Later comes another current that affirms that although didactics contributes to educational technology models for teaching and learning, the important thing is to take as the central axis the curricular model in which it is intended to be applied. This means that educational technology goes from being an object of didactics to an element that converges and interacts with it.

The teacher, the student and the contents are affected by the contexts in which educational technology is developed and implemented. This subsequent idea with more holistic overtones has led to reconsidering the contributions of learning theories and learning psychology, essential fields for educational technology from this position, no longer based only on the curriculum. The new vision interprets the student, the teacher and the content as part of a teaching-learning process where other behavioral, cognitive and social elements take place and where the teacher-content-student relationship mediated by technology even has a symbiotic relationship, that is, they are not seen as independent elements. Therefore, the contemporary approach requires an interaction of educational technology with other disciplinary areas that allow the construction of grounded innovations.

Educational technology is still a field in development and under construction. From its concept, its object of study and the disciplines that support it to the new applications and explanations that exist within it, it is difficult to conceive a framework for action, since it is based on technology, which is constantly changing. Even so, it is worth describing and reinterpreting its adaptation to current contexts and to the actors that make it up, all for the sake of quality education that leads to the promotion of learning opportunities, equitable and quality education for men and women (United Nations Educational, Scientific and Cultural Organization [Unesco], 2016).

It is interesting to note how its evolution has gone hand in hand with technological and social changes, which marks a distinctive singularity around what we can expect for its

consolidation and intervention. This is how educational technology converges with other disciplines, but its dispersion is almost unstoppable, not only towards educational institutions (which still have a lot to do to adapt their subsystems and incorporate it), but also in other social and economic spheres, where it can significantly help the development of learning processes.

Once this approach is accepted, and the incorporation of educational technology in certain contexts, it is necessary to investigate new ways that make the teaching-learning process more flexible through the use of technological tools and avoid their implementation or omission in radical proportions. In this regard, Gros (2012) states the following

> It is common to find works on ICT in education based on a very naive approach that considers that technology transforms educational practices and at the other extreme those who believe that technology is a simple tool that facilitates certain practices but that what is important is the methodology. (p. 2).

The challenge, then, is to look both inside and outside educational institutions and the various types of education (formal, informal, distance, mixed, open, face-to-face), analyze their methodologies and processes, trying to identify the best practices in relationship with the results and livelihoods based on which they are developed.

Education in the social framework

The current educational phenomenon requires a social perspective that promotes a democratic education. It is a complex phenomenon, where there are various agents necessary for the realization of such a social ideal. It is society that is responsible for setting the goals of education and for the development of man in society. Durkheim (cited in Piaget, 1973) argues that "the man to be educated is a product of society and not of nature" (p. 26) and that education is an eminently social entity and that it is through education that "the transmission of the specific attributes of man is carried out" (Durkheim, 1975, p. 13), which needs to be imparted in an orderly, patient and continuous manner. It is the educational practices that determine, through pedagogical actions, what must be done to adapt the new generations to the social environment.

Interventions and pedagogical actions must be considered to the extent that they provide a flexible, fair and quality education, taking into account the characteristics of each subsystem and the learning needs detected through formal means for the sake of improving

the learning process. teaching-learning. Hence the importance of adapting teaching to the diverse knowledge already conferred by the social environment. In this sense, pedagogical practices must be rethought and put to the test. It is essential that educational agents be able to incorporate elements of the current information and communication society, elements that, in turn, represent an innovation within their field of action. This implies leaving behind instructional and cultural paradigms of the teaching task, the student and the educational context itself.

The need to improve educational practices is associated with the very end of teaching. And what is that end? Piaget (1973) asked himself this same question when reflecting on the usefulness of accumulated knowledge: if the purpose of teaching was learning to learn, learning to innovate or to repeat, and once these ends were considered, identify the branches necessary to achieve them and the "laws of mental development to find the most appropriate methods for the type of educational training desired" (p.19); the main purpose of education was, then, "to form intellectual and moral reason" (p. 184).

On the other hand, the insertion of ICTs in the educational field has caused changes in training processes and in the way of understanding educational realities and the functions of educational agents with respect to their activities. As information is abundant and accessible, the role of the teacher and the institution as a source of information and added value is less justifiable. The foregoing therefore requires a rethinking of the educational system to meet the needs of students who find themselves in a context of communication and hyper-connectivity.

The fact of improving educational practices implies a change in them, a change in their form and action processes (Pablos, Collás and Villaciervos, 2010), capable of achieving progress with respect to the goals already established, and even a rethinking of the learning objectives given the current technological context. Promoting collective and not individualistic development, as well as new forms of integration of the individual in society under the premise that students are not a homogeneous social group (Bordieu and Passeron, 2009), is the preponderant educational challenge at all levels.

Reflecting on pedagogical and educational practices in a varied and diverse way according to the types of intelligence, taking into account the historical and theoretical background of the current system, can bring a new ideal that points to the new trends of the future. Although these reflections must derive from the support of other sciences such as

psychology, sociology and pedagogy, it is the educator's obligation to intervene in favor of a change in educational practice.

Learning perspectives

According to Zapata (2015), learning is:

> The process or set of processes through which or by which ideas, abilities, skills, behaviors or values are acquired or modified as a result of or with the help of study, experience, instruction, reasoning or observation. (p. 73).

Understanding learning from its conception is the turning point for the identification of theories that lead to an understanding of the learning process.

It is in the interest of managers and educators to test theories that work with their research design and that are suitable for this practice. Now, in educational practice there are two types of theories: the descriptive ones, which can provide a knowledge product of the phenomena, and the practical theories, which provide a more direct orientation towards the achievement of the learning objectives (Zapata, 2015, p.71). For this reason, it is important to investigate the theories that have historically contributed to the current perspectives of learning.

From the behavioral theory, with a focus on observable behaviors in the individual, to the cognitive theory, an evolution can be seen in terms of the management of strategies and materials for the presentation of educational materials and in instructional methods. It is in the middle of the 20th century that various psychologists and educators begin to place greater emphasis on other thought processes, as well as other cognitive processes. There begins to be more attention on internal mental processes for learning.

In the 1970s and 1980s, another current began to emerge that changed the cognitive perspective towards one where an apprentice with qualities of invention was distinguished, an individual who began to confer meaning in the real world, to his cognitive process, which propitiated learning. more active. Consequently, a constructivist current originates that tries to explain the relevance of a dialectical exchange between the knowledge of the teacher and that of the student for the achievement of a productive synergy between both. In constructivism it is assumed that each person perceives their reality and organizes it in the form of constructs and it is thanks to this activity that a sense of uniqueness of reality is achieved. (Ortiz, 2015).

In order for the educator to be able to carry out consistent curricular planning, it is necessary to know from what theoretical perspective it can be developed, both for didactic strategies and for techniques and activities. The educator's preference for some theory noticeably modifies the planning of the curricular program and teaching.

The instructionist current of learning

Theoretical approaches can be divided into two main currents: the instructionist approach and the constructivist approach. The first, whose precursor is Skinner, is an approach that privileges the automation of content and is conducted under the premise that a stimulus produces a certain response, which can occur again through motivation and punishment. Another important precursor is Gagné, who combines this approach with constructivism through the concepts of accommodation and balance (Calvo, 2014).

Behaviorism is an approach that is preceded by the theory of evolution and is closely related to logical positivism. The basic hypothesis on which it is regulated is that of "interdependence-interaction" (Hernández, 1997). According to Skinner (1975), cognitive processes can be explained as expressions of behavior. Watson, for his part, eliminates the internal elements of thought under the premise that it is not possible to access internal mental events due to methodological incapacity. And J. R. Kanton proposes interbehaviorism as a way of understanding behavioral processes and organism-environment interaction (Kantor, 1978), having as object of study the behavioral segment through experimental analysis (Fernández, 2009).

Learning from the cognitive point of view

Some of the dimensions that this theoretical current tries to understand are attention, perception, memory, intelligence, language and thought. One of the disciplines on which it is based is instructional psychology, which served as a bridge between cognitive psychology and the field of education by sustaining that mental representations are the cause of the production of actions and human behavior (Hernández, 1997).

The hypothesis by which it is regulated is the "extrapolation-translation" (Hernández, 1997). And it can be understood through the mind-computer analogy or the human mind and digital computers: the subject is an active entity capable of generating actions as a product of mental representations with the environment and the focus on the study of information processing, either in animate or inanimate objects (Gardner, 1987; Pozo, 1989). What we are

trying to understand is how mental representations guide the individual's interaction with the environment and how these representations are produced. Cognitivist educators are more concerned with the content than with the form, because this content is an element that enhances the meaning of what is to be taught. Thus, the teacher must start from the idea that the student is an active entity that learns in a meaningful way so that this helps him learn to learn and to think. (Hernández, 1997).

One of the models of the cognitive system that can help understand this approach is the one proposed by Norman (1981), who states that an information processing system must be composed of a series of mechanisms that start from the input of information from the environment. so that later the general operations of the central processing (internal processes) are carried out and finally the learning result is generated. Some of the current methodologies based on this paradigm are mental chronometry, verbal learning, studies of attention, perception, memory, intelligence and thought.

The object of study of the cognitive paradigm is the study of mental representation with an epistemological foundation in inference and under the assumptions of the interpretation of models of information processing and the forms of organization of thought. Important contributions to this learning paradigm were made through discovery learning, Bruner's Thinking Curriculum, and meaningful learning. In this way, this paradigm achieves greater consolidation by incorporating key elements for learning such as significant content and motivation as a basic element for the student to learn.

In order to carry out the teaching-learning process in the classroom under this approach, strategies of the cognitive instructional type must be carried out, such as advance organizers, summaries, analogies, concept maps, semantic networks and questions. These strategies have the goal of forming active students who, upon leaving school, become effective processors of their knowledge. (Hernández, 1997).

A notion of the constructivist paradigm of learning

For constructivism, learning is an active process, capable of linking, extending and restoring. In itself, it is a process where information is manipulated and acted upon. These manipulations create schemes or structures that come from the social environment. In other words, the input of the information received comes from the social environment and from there it is manipulated and interpreted. With this, semiotic constructions are created that come from the sociocultural environment of the individual, that is, with symbols and

representations already culturally codified, learning is built with a social system and with the help of cultural tools.

It is developed under the premise that the person and the environment interact in an active process and that together with other individuals such as the educator, classmates or external knowledge can be built. The main representatives of this paradigm are Piaget and Vygotsky. The first postulates that the learner enters into a process of imbalance that generates a certain anxiety, which will lead him to what Vygotsky calls the zone of proximal development (ZPD). It is precisely in this margin between the imbalance and the ZPD where educational action has a place. Constructivists do not accept the idea that learning is in itself a process with a certain logical order, rather they state that the nature of the being and his mind is plastic in the sense that it is modifiable and manipulable through the social constructions of the individual himself. (Chadwick, 2001).

Educational approaches or paradigms have been of great relevance in the educational field to support the bases of educational interventions and to help educators to have a theoretical basis for their pedagogical instruction. Behaviorism provides elements for the observation of learning outcomes and conditioning mechanisms for their achievement. Although it has had some criticism for being described as physicalist, because part of military education, it laid the foundations for constructivism, which ventures into the internal field of processes and places the subject who learns as a social being strongly influenced by his environment. sociocultural, from which he builds his knowledge through semiotic constructions. On the other hand, cognitivism gives greater weight to internal mental processes such as memory, attention, perception, intelligence and language. And its main problem is to solve the study of mental representation.

It is important to point out that the consolidation of psychology as a science had a great influence on the consolidation and birth of these theories, since it is through educational psychology that the bases that consolidated and contributed to learning theories are generated. The theories closest to what constructivism proposes are Vygotsky's social learning, Ausubel's meaningful learning and Piaget's cognitive theory.

Vygotsky's social learning

Vygotsky's insistent and growing concern with psychological systems and their relationship to behavior and social environments make him one of the leading educational theorists. To understand his perspective, it is necessary to bring to the table the mediation and scaffolding systems for the development of a student's learning, which is guided by an educator and a medium, which is not always his choice.

Mediation systems have also been addressed by other authors such as Cole (1996), who proposes them to make sense of each learner's context, this seen as the experience of the child mediated by adults, the experience of the world mediated by the text and the goal of teaching based on knowledge of the previous world. For Vygotsky (cited in Daniels, 2012), "the understanding of the social becomes available for individual understanding in communication" (p.80). It also makes use of a metaphor to help explain how social and participatory learning occur through the concept of the ZPD: "Human beings make themselves from the outside" (Vygotsky, cited in Daniels , 2012, p. 86). Vygotsky defines the ZPD as follows: "The distance between the level of development determined by independent problem solving and the level of potential development determined by problem solving under the guidance of an adult or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

The main interest of this author was centered in the forms of progress of the students and he treated this concept from the points of view of evaluation and instruction. He also examined the relationship between the student and the instructor, whether or not they are present in the context where the learning takes place. In the words of Vygotsky (1970): "Human learning presupposes a specific social nature and a process in which children end up adapting the intellectual life of those around them" (p. 8). From the foregoing, the importance that he attaches to the context, to collaboration, and to the solution of problems with the help of a teacher can be deduced.

The ZPD and Vygotsky's social approach have raised some questions regarding the control of the learning process and the relationship between student and instructor, in the sense that these elements in the real environment are influenced by an ecology of relationships where others Participants also influence simultaneously and continuously (Erikson, 1996). It is then that "other" the educator. Other theories are linked to this interpretation and proposal of the social construction of knowledge, such as the theory of

activity, also compared metaphorically with ecologies insofar as learning requires mediating objects or instruments with the community and its rules.

Significant learning of Ausubel

Another of the approaches that has been a pillar in terms of learning theories is Ausubel's significant learning. This author considers essential the formulation of a valid theory as a starting point for the generation of essential principles of teaching. Even more, the principles must be formulated from terms of psychological processes that can help the educator to identify them, as well as their cause and effect relationships. He also emphasizes the importance of knowledge as an end in itself and the value of learning in the process of understanding the culture to which the subject belongs.

From these considerations, it can be seen that his approach starts from what the student already knows, from the context that is already established within his mental processes and the importance of this acquired baggage to give meaning to new concepts or prepositions. For meaningful learning to occur, two conditions are required. The first is from an attitude of meaningful learning and the presentation of potentially significant material to the student. As for the latter, it is essential that it be related in a non-arbitrary way to the appropriate cognitive structure and that this student's cognitive structure contains anchoring ideas with which to create the relationship (Ausubel, Novak and Hanesian, 1983).

Substantial and non-arbitrary relationship refers "to ideas being related to some specifically relevant existing aspect of the learner's cognitive structure, such as an image, an already significant symbol, a concept, or a proposition" (Ausubel et al., 1983). , page 48). In this way, intentional learning is urgent, where the educator must choose the materials for his teaching according to the cognitive structure of the student, and there must be an attitude for meaningful learning, this is highlighted to differentiate it from learning by repetition, which Although it can reach the achievement of a meaning, it does not consider from the beginning the significant intentionality of that learning, but rather it occurs as a fact resulting from having repeated symbols, concepts or propositions.

Piaget's contributions to constructivism and active methods

Piaget makes important contributions to constructivism. First of all, he considers learning as a gradual and progressive process and emphasizes the fact that intelligence derives from action. In fact, he defines it as "an assimilation of what is given to structures of transformations, from structures of elementary actions to superior operative structures, and that these structures consist of organizing the real, in act or thought, and not simply in copying it" (Piaget, 1973, p.39). Learning does not only consist of external actions, but also internalized ones.

He also considered the implications of the incorporation of active methods in the school by identifying that they represent a more precise formation of the adult pedagogue. Similarly, Freinet proposes the active school based, in accordance with Piaget (1973), on two central aspects of the psychology of cognitive functions: that the development of intellectual operations proceeds from effective action and that these imply a social dimension .

The need to promote rational activity in students has brought elements of the active school, which is inspired by the influence of the social environment, physical environment and experience, coupled with structural maturation (Piaget, 1973). This accounts for the decisive role of the environment for the development of skills and attitudes and that the choice of methods related to these elements can mean an increase in student performance and, therefore, an improvement in learning levels.

Moving from a methodology based on the reception and transmission of knowledge to an active methodology based on self-discipline and voluntary effort, combined with individual and team work to acquire knowledge through action, represents progress with respect to purely intuitive procedures based on the verbal, image or audiovisual transmission, which although they are aids to understanding, do not constitute mechanisms for the development of the operative activity. From here it is rescued again that intelligence is a derivation of action and that, although actions are internalized or reflexive, they are still actions that allow the organization of reality, a transformation that becomes creative beyond imitative. (Piaget, 1973).

New theories of learning in environments mediated by technology

From the previous currents, new theories arise that try to adapt and understand the learning process in environments mediated by technology. There are positions that are not yet consolidated as theories, but that propose perspectives to understand the learner from a different context, a connected context. Such is the case of connectivism, which is cataloged within a fourth generation of learning theories. Sobrino (2014) places it as a pedagogical proposal according to the new realities derived from web 2.0. Instead, Zapata (2015) states that George Siemens' theory can clearly be replaced by the processes of metacognition, elaboration and self-regulation strategies, which detracts from the novelty of the proposal. According to Leal Fonseca's translation, connectivism has as its central idea that learning occurs through interconnected networks (Siemens, 2007).

For Siemens (2007), one of its characteristics is that knowledge can reside in non-human devices and that the ability to learn is more important than knowledge. According to this, the role of the teacher changes as an organizer of learning: it provides students with strategies and tools using nodes to form a network, these nodes can be people, organizations, libraries, websites, databases, magazines, books or any other source of information (Solórzano and García, 2016).

The basic statement of connectivism consists in the formation of nodes. These nodes can be in networks or they can be isolated and learning then occurs in the connection of these nodes and the skills to traverse said networks (Downes, cited in Sobrino, 2014). This theory also proposes that hybrid learning environments foster conditions for active collaboration with teachers: from being a consumer student to a creative student. With the previous theory, the perception of the role of technology in education is evident.

In recent years, new learning theories have appeared, among which the following stand out: ubiquitous learning, invisible learning and self-regulated learning. Regarding ubiquitous learning, it requires the creation of a new context where knowledge and curriculum are created and constituted by the members of the learning community (Cabero and Llorente, 2015). In addition, it underlies the idea that "learning does not happen only in the classroom, but also in the home, the workplace, the place of play, in the library, in the museum, in the park and in the daily interactions that take place". they establish with others (Cabero and Llorente, 2015, p. 191).

The theory of invisible teaching aims to make visible the skills and knowledge acquired by the student in informal learning by integrating ICTs in this process.

On the other hand, there are projects in a state of experimentation that propose models for the improvement of essential transversal skills for the student through new teaching-learning approaches, tools such as digital portfolios, and mixed evaluation methods, projects such as Assessment of Transversal Skills 2020 (ATV2IS), sponsored by Cisco, Intel and Microsoft in conjunction with the University of Melbourne, whose reference is Vygotsky's theory of proximal development accompanied by tools for the world of work mediated by technologies (Portillo, 2017).

Discussion

The role of educational institutions as a catalyst could become obsolete; exploring new approaches to education, given the current conditions and changes in the world and the information age, means starting to look at new educational approaches that pose new scenarios, prioritizing the effect they have on their students and the way in which the new era of knowledge is transforming education. The new theories of learning propose a revolution in the role of educational institutions without forgetting that their contributions come from other classical theories that, given their strength, continue to be accepted by the scientific community, which does not mean that the new proposals lack validity. attention, due to their contributions in accordance with the current learning society. In order for educational technology to find a place in institutions and be appropriated by managers and educators of schools, it must be seen from a contemporary conception and from a holistic view, and not as an isolated element.

The approach presented identifies the importance of linking learning theories with the new conception of educational technology as a fundamental element for its understanding and application. The fact of conceiving technology as a complement and a conjunction of knowledge where different disciplines provide perspectives that enrich it is of vital importance in the current era, where technology-mediated education is seen as the prevailing modality. Likewise, the approach presented here on the current conception of educational technology considers that this discipline is not limited only to the use of ICT in the virtual and physical classroom, which coincides with the arguments presented by Torres and Cobo (2017) insofar as to the fact that a conceptual consolidation is necessary in order to make it functional in terms of achieving the objectives of education.

It is necessary to mention that in this research the most relevant theoretical contributions are considered. In other words, despite the fact that other learning theories and approaches continue to appear, it seems essential to us to return to their origins

Conclusions

The objective of this research was to present the current conception of educational technology from a historical perspective and to identify the changes that have arisen over time. Along this path, the ways in which it has been implemented are also distinguished. Although it does not intend to be a conceptual cartography, it provides the approaches and disciplines that have been adding to educational technology and that, therefore, have been enriching the panorama of its meaning. From this understanding, learning theories are incorporated, from a pedagogical approach, under the premise that educational technology is not only about incorporating technological tools, but that a tradition from learning theories can be applied with a didactic sense. .

From instructionist theories to new learning theories (some still considered only as paradigms due to their lack of acceptance by the scientific community), there are approaches to be shared with ICT.

Future lines of research

Advances in technology require constant updating of both concepts and adjustments in theories. A paradigm shift needs to be nurtured by evidence that allows identifying the limitations of educational technology when treated in conjunction with didactics and pedagogy. Investigating the new theoretical contributions for educational technology, good practices and an analysis of its subsequent development can provide educators with inputs to form a shared contemporary vision of this discipline.

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