

ORIGINAL ARTICLE

IZOTON, Clayton Augusto Fontana ^[1], SANTOS, Douglas Manoel Antonio de Abreu Pestana dos ^[2], DIEHL, Marcio César ^[3]

IZOTON, Clayton Augusto Fontana. SANTOS, Douglas Manoel Antonio de Abreu Pestana dos. DIEHL, Marcio César. Virtual learning environments and their collaboration for the development of Distance Education in Brazil. Revista Científica Multidisciplinar Núcleo do Conhecimento. Year 05, Ed. 12, Vol. 08, pp. 153-172. December 2020. ISSN: 2448-0959, Access Link: <https://www.nucleodoconhecimento.com.br/education/development-of-education>, DOI: 10.32749/nucleodoconhecimento.com.br/education/development-of-education

Contents

- SUMMARY
- 1. INTRODUCTION
- 2. THE EMERGENCE OF DISTANCE EDUCATION
- 3. THE USE OF TECHNOLOGIES IN DISTANCE EDUCATION
- 3.1 VIRTUAL LEARNING ENVIRONMENT AS AN ONLINE CLASSROOM
- 4. TRENDS IN DISTANCE EDUCATION IN BRAZIL
- 5. FINAL CONSIDERATIONS
- 6. REFERENCES

SUMMARY

Distance education is a term that has been developing for many years, but it only reached great dimensions in the beginning of the 20th century, mainly, with the use of information and communication technologies online. Through bibliographic research it is intended to present the advancement of distance education in the world and in Brazil, describe the evolution, showing that it started by exchanging correspondences until reaching the use of the internet, with synchronous or asynchronous interaction, verifying the most used platform for distance education, demonstrate the increase in the number of people enrolled in this

teaching modality in addition to the main trends that the authors expect for the coming years. Distance education has great chances of gaining acceptance in the academic environment, however it is necessary that people know how to work with the technologies involved in the process, that is, be part of digital inclusion, and that both institutions and the State provide cultural and financial incentives for this alternative of knowledge transmission, because only in this way will we be able to achieve the goal of education, which is to eliminate people's social exclusion.

Keywords: distance education, online technologies, trends.

1. INTRODUCTION

This article seeks to present how Virtual Learning Environments can contribute to facilitate access to and expansion of distance education. The intention with this work is not to say whether face-to-face teaching or distance learning is better, but to show how distance learning can help spread education in Brazil, especially using electronic means of learning.

Through bibliographical research, it is intended to demonstrate how distance education has been gaining space, changing the prejudiced view that some people still have in relation to this type of teaching, because we are accustomed to a teacher-centered system where students enter the classroom and passively absorb what is spoken, as an absolute truth and, with the distance Education the student begins to have a greater interaction, the transmission of knowledge ceases to be by a single way and become from teachers to students, students to teachers or even students to students.

This article is structured in the first part, briefly addressing the history of distance education in the world and in Brazil. In a second moment will be addressed in general the online educational technologies in distance education, detailing the most common information and communication tools and the main Virtual Learning Environments available in the market, and finally, what are the main trends for distance Education in Brazil, making a comparison with the most recent surveys made by institutions that specialize in distance education.

2. THE EMERGENCE OF DISTANCE EDUCATION

Distance education is not a relatively current term, but only now at the end of the 20th century and beginning of the 21st century is this modality of teaching gaining popularity and acceptance among people.

To begin understanding about the subject, it is first necessary to understand the concept of Distance Education, therefore, according to Moore and Kearsley (2007) distance education is a learning that is planned and usually occurs with teachers and students separated in time and place, requiring special communication techniques through various technologies.

According to Martins (2005) and Nunes (2009) the first records on distance education were correspondence classes by Cauleb Philips in March 1728, because the person did not need to live in Boston to study shorthand. Then came other teachers with other correspondence courses, and today, there are several countries on several continents that have Distance Education at all levels of formal or informal education.

The information described above is the most common among the authors, pointing out the beginning of Distance Education in the eighteenth century, because it is what has to be officially registered as an attempt to transmit knowledge. However, some authors state other theories about its beginning, pointing to even biblical times.

According to Peters (2003, p.29):

I am referring here to São Paulo, who wrote his famous epistolas in order to teach the Christian communities of Asia Minor how to live as Christians in an unfavorable environment. He used the technologies of writing and means of transportation to do his missionary work without being forced to travel. This was already clearly a substitution of preaching and face-to-face teaching by asynchronous and mediated preaching and teaching (PETERS, 2003, p. 29).

In this way it is evident that the concern to transmit knowledge from one place to another without the people involved in this learning being in the same place and at the same time is a very old thought, and that humanity every day has been getting ways to explore the

Distance Education to disseminate knowledge.

In Brazil, distance education has been gaining space and always seeking improvements in the way information is transmitted, it has been incorporating technology to bring and spread knowledge in the best possible way.

In our country this type of learning emerged just before 1900, when it was possible to find advertising of professional courses by correspondence circulating in the newspapers of Rio de Janeiro. This structure was better consolidated when the International Schools were established in 1904, where the courses were aimed at people seeking jobs in commerce and services (ALVES, 2009).

Otherwise, Lopes and Faria (2013) point out as the beginning of the Distance Education in Brazil the foundation of Rádio Sociedade do Rio de Janeiro at the beginning of the 20th century and, from then on, this modality of teaching has been spreading and perfecting over the years.

Some authors share the thought that Distance Education arrived in Brazil through correspondence teaching, as happened in much of the world, however other authors claim that Distance Education has already reached more advanced and gained even more strength with the emergence of a radio focused especially on this purpose.

Distance Education has evolved and other ways to convey learning, new platforms, technology features and software have emerged. Thus, Maia (2002) points out that the first virtual learning environments emerged in isolation within the institutions, presenting courses on web pages, where texts without images and with minimal interaction predominated.

Porter (1997, apud Penterich, 2009) states that over the years and the development of communication tools teachers began to use such tools in isolation to make content available to students and the combination of interaction resources, pages with content and information from teachers and students made develop the concept we now call the Learning Management System (LMS) , or system of content and learning managers.

Thus, it is possible to see how Distance Education has evolved a lot over the years, incorporating increasingly better technological resources to enable learning, and this

transformation will possibly continue, because each year we see new resources being developed.

3. THE USE OF TECHNOLOGIES IN DISTANCE EDUCATION

There are several ways to learn and teach from a distance, from exchange of information for letters to the use of computers with internet access and audio and video transmission.

According to Moore and Kearsley (2008), technologies began to be used in distance education in the early 20th century, with a decade difference between the emergence of radio and television in education. When radio emerged, a lot of expectation was created around this technology, but not as promising as television, because radio stations were more concerned with commercial ads.

Over the years, The Distance Education has developed and other means of transmitting learning have emerged. Its fuse was the combination of the Internet with education that allowed a change in the methodology of the courses, giving students the opportunity to learn regardless of the time and place in which they were helping to shorten the distance that existed between the one who taught and the student. The beginning of the use of the Internet for distance education occurred from the year 1994, when institutions began to research the potentialities coming from it. Over the years, virtual learning environments have emerged and more and more are improving the forms of online teaching (MAIA; MATTAR, 2007).

The internet is a very important tool for Distance Education and today is accessible to many people. With it it was possible to change the interaction of those involved in the learning process, creating new ways of communicating, since in the Distance Education the focus is not on the teacher, but on the students who are interacting and seeking knowledge at all times.

According to Munhoz (2011) the student who chooses to study distance needs to have discipline, know how to study online, have a time planning, choose when and where to study and identify their learning progress. Distance education makes students more critical, who seek learning and share ideas, the teacher in this environment is a moderator, he just does

mediation, guiding the student on how to achieve knowledge on a given topic.

At Distance Education students need to get used to the new approach, they need to develop, because they bring to themselves responsibilities that were once teachers. Students have to be active by interpreting and critically reflecting what they are learning (PETERS, 2003).

Since there is no contact in person in distance learning, students need to know how to deal with this flexibility, learn to learn in the virtual environment, dedicate a routine to studies so that they can identify their progress and understand the functioning of this modality of teaching. They need to know what technologies are available, especially regarding communication, because in this way they will be able to be closer to the institution.

According to Guarezi and Matos (2009) and Mattar (2009) the communication process in Distance Education can be synchronous or asynchronous, because as students and teachers are not together in the same physical space it is necessary to create means of interaction between them, knowing how to use these technologies, combining them to have the best possible return. Some examples of synchronous media are chats, video conferences, audio conferences, and telephone. Asynchronous means, on the other hand, are possible to point out postal or electronic correspondence, discussion forums, etc.

The interesting thing in distance learning is that through a single equipment, in this case the computer, associated with the use of the Internet, brings together a set of tools that include audio, video and texts. In addition, it is present worldwide and uses synchronous and asynchronous means at the same time better than any other media, it is enough that for this institutions know how to set up channels of communication with students assertively.

Munhoz (2011) states that we cannot fail to consider the benefits that technology can bring to learning processes, in addition, the advancement of technology contributes to important social changes. With this teaching model the student needs to seek the information, involving tasks that need to be developed in groups spreading knowledge.

Deitel, Deitel and Steinbuhler (2004, p. 269) say that online distance education is also called e-learning, which are “the use of the internet and technologies related to the development, distribution and improvement of learning resources and has enormous potential as a new

means for education.”

The term e-learning is a nomenclature in the English language to describe the use of electronic means for education and in recent years has gained greater relationship with the technologies used through the Internet. It is important to at least quote it, since some authors approach this term in this way, but the most relevant is that regardless of the language used to describe this relationship the Internet helped to boost the advancement of this type of teaching and increase the interaction between students and teachers.

According to Rosenberg (2002) e-learning is a term related to the use of internet technologies to provide solutions to improve knowledge and performance. As it is networked it becomes possible to update, store, recover, distribute and share instant information, in addition, it is accessible because it uses standard internet technology creating a universal delivery platform.

According to Lazilha (2011) not only the academic environment benefits from distance education and the use of virtual learning environments, but also the corporate environment. This thought is also shared with other authors as follows:

E-learning reduces travel time and travel expenses, especially related to corporate training, as it often requires the student to move elsewhere for a certain period of time and allows students and staff to learn from the best teachers (DEITEL; DEITEL; STEINBUHLER, 2004).

With the use of educational technologies in distance education, new interaction practices can be observed among students, teachers and knowledge, going beyond the limits previously faced. You can create extraclass relationships by accessing various learning-related information such as virtual and digital libraries (BERTONCELLO, 2011).

It is evident how the use of technology can expand knowledge, because teachers and students are no longer limited to the space of classrooms, working only with the material available in that place and at that moment. Now they can interact and develop knowledge, being encouraged to search for information, anytime or locally through online.

3.1 VIRTUAL LEARNING ENVIRONMENT AS AN ONLINE CLASSROOM

The educational institutions that teach distance learning courses need to shape an environment that is possible to transmit knowledge as well as the monitoring of students through the Internet in the best possible way, since the lack of face-to-face contact causes a distancing from the student and institution relationship. Typically these online environments are called Virtual Learning Environments (AVA) or Learning Management System (LMS) and work from software that can be free or private.

Teles (2009) states that with Distance Education the concept of teaching changes totally, since there are no more classrooms with willing wallets all facing forward and a blackboard stuck in the wall. With this type of teaching, access to education can be made from anywhere in the world at any time the student wishes.

A Virtual Learning Environment is a software (program) that allows the management of online courses. These environments enable online course management through a broad set of features ranging from publishing and making content available, synchronous and asynchronous communication tools, collaborative text building, and evaluation tools. They also allow the monitoring of the activities developed by students during the course through reports that indicate the number of accesses, resources accessed by students and their gradebulletin (LAZILHA, 2011, p. 14).

According to Munhoz (2011) the various virtual learning environments receive different nomenclatures. In Brazil the AVA nomenclature is the most found in the literature, but we can also find the term LMS, referring to the abbreviation of the name in English, but regardless of the name used, these systems use several programs with sufficient technology to make possible the exchange of information and materials.

Within the Virtual Learning Environment we have several tools that help in the pedagogical practice of the student, and these must be shaped according to the objectives of each institution. Thus Moore and Kearsley (2008) state that, associated with the web-based course development and transmission system, institutions use Learning Management Systems (LMS) to manage student information and records and integrate synchronous and asynchronous

activities into an online classroom. To assist professionals in ava management there are also authoring tools that are computer programs, developed to be used by non-programmers in order to create training, interactive presentations and multimedia in a simpler way, so that the program translates the commands to a programming code used by the computer and hardware devices.

Often the concept of technology is confused with media, in this way, according to Moore and Kearsley (2007, p.7) “the technology is the vehicle to communicate messages and these are represented in a media”. Also according to the author we have four types of media, texts, images, sounds and devices.

To better describe, below is an explanatory table with the main technological tools used in Distance Education:

Table 01: Main technological tools used in distance education.

Tool	Description	Communication
Email	Sending correspondence in texts or with attached files. It helped lower costs and increased the speed of information transmission. It encompasses all those involved with the course or administration of the AVA and is considered one of the main means of communication in Distance Education.	Asynchronous
Forum	Message board that has topics for discussion. It can be arranged in chronological order or by message. Care should be taken not to be afraid to expose their ideas.	Asynchronous
Chat	Establishes discussions by textual means, sending and receiving messages, establishing conversation in groups or in particular. The teacher must mediate the chat so that the subject does not swerve. You can make the chat available so that students who didn't participate can see what's been discussed.	Synchronous
Mailing Lists	They allow the sending of electronic mail to a group of addresses previously registered on a list server. Allows moderation of content that is passed on.	Asynchronous
Virtual Reality	Allows you to simulate a real or imaginary environment in three dimensions. It can provide sensations through natural and three-dimensional movements of the body. Requires large bandwidth from the internet.	Synchronous

Audio conferencing	Allows two or more students to connect via telephone line or equipment developed to connect the lines.	Synchronous
Audiographic	Kind of blackboard, but virtual for the transmission of knowledge and also the use of audio.	Synchronous
Video conferencing	It allows participants to maintain, in two or more locations, communication through the use of electronic equipment sharing acoustic and visual spaces as if they were in the same place. It is the only one that allows you to explore body language with image and sound in real time.	Synchronous

Source: BRITO, Mário Sérgio da Silva. Technologies for Distance Education via internet. In: NOVA, Cristiane; ALVES, Lynn (org). Education and Technology: walking paths. Salvador: Uneb Editor, 2003. (Adapted by the author).

According to Brito (2003) there are several technological tools available synchronously or asynchronously for Distance Education, depending on the type of activity you want to develop and the way students should communicate institutions can combine them to achieve their learning goals.

Among the various technological tools, videoconferencing is one of the most important, since it allows the interaction of students and teachers closer to traditional education in which they are already accustomed to work, forming groups that can discuss synchronously the subject, in addition, it is a tool that can be transmitted via the Internet or satellite (MOORE; KEARSLEY, 2003).

It is through the AVA that the student keeps in touch with the institution, within this environment he performs activities, attends classes, checks his grades, makes a request to the secretariat, etc. As this environment is part of the student's academic daily life, institutions need to use platforms that best adapt to the objectives they seek to achieve.

Litto (2009) and Lazilha (2011) state that AVA systems can be free or paid and that institutions must choose them according to their need, however, generally, free systems are the most popular, not only by the financial part, but also because institutions can shape them the way they want, since they have open source, and *Moodle* is the most widely used platform worldwide.

To better illustrate the main types of AVA platforms and their characteristics, here is the table below for comparison:

Table 02: Types of AVA Platforms.

Ava	MAIN FEATURES
Moodle	One of the most popular environments used in Brazil and in the world. It has open source and institutions can use it freely, as long as they make the source available to others. Uses PHP programming language. In this environment there is no limit of registered users and the same user can have more than one profile. There is no limit to courses and activities registered. Layout of the entire environment can be customized including its icons.
Blackboard	Proprietary closed-source system. It belongs to the company Blackboard Incorporation and was established in 1997. It serves 72% of the 200 largest universities in the world. It has flexible tools, content management, student engagement and evaluation of results. The proprietary company helps manage changes and increments. Several tools for students, educators, IT professionals and academic leaders.
TelEduc	Free software developed by researchers from the Center for Applied Informatics (Nied) of Unicamp. Used mainly in Brazil, with only one foreign institution using it. It is possible to create, participate and administer courses. Tools designed according to need. Easy handling, including people not computer specialists, having a lean set of functions. It makes it possible to make available to the student several tools.
Claroline	Developed in Belgium by the Catholic University of Louvan in the year 2000, this system is free. Provides the most common features and tools with user-friendly interface. Its operation does not require advanced technical knowledge. Platform present in more than 100 countries.
Dokeos	It was developed from the Claroline software and is also free. It allows the teacher to create pedagogical content, structured in learning routes, allowing interaction between students. Very simple interface for the user.
WebClass	It is a national closed-source system that provides the main tools and resources of other systems on the market.

Source: LAZILHA, Fabrício Ricardo. Learning Environment in EAD. Maringá: Cesumar, 2011. (Adapted by the author)

The main Virtual Learning Environments currently used are *Moodle* and *Blackboard*, the first being the leader of free source software and the second leader among closed source software. According to Davis, Carmean and Wagner (2009) 20.1% of the world's educational and corporate institutions use *Moodle* as a platform, against 13.1% of organizations and institutions that use the *Blackboard* system.

Feldstein (2010) states that in the United States the *Blackboard* platform had the absolute leadership of the AVA software market, however this reality has changed every year with the migration of various organizations to other systems, especially open source systems, *Blackboard* has been losing market, especially by reducing costs by institutions.

It is evident how transformations in distance education are always taking place, where institutions are looking for new ways to improve the learning relationship and there is a strong tendency of institutions that use private systems such as *Blackboard* to shape themselves to use free systems, especially *Moodle*, which apparently has been serving those that use it very well.

According to Warschauer (1997, apud Teles, 2009, p. 73) the AVA's have a lot of pedagogical potential since it becomes possible to interact group by group and no longer just one by one. Another important factor that virtual learning environments allowed was the independence of place and time, since it is possible to connect from anywhere that has internet access, at any time.

Since the beginning of Distance Education technologies have been contributing to the improvement in the teaching process. With its advancement it is possible that we have a different teaching structure from the traditional one, physically separated the exchange of knowledge. To do this, institutions must be able to adjust their systems in order to maintain maximum approximation with their students to achieve their goals.

4. TRENDS IN DISTANCE EDUCATION IN BRAZIL

It is apparent how distance education is expanding, gaining space among people and no longer being a mere complement to face-to-face education. It is another modality of teaching different from what we know and with great potential to be explored.

According to Moran (2007) apud Guarizi and Matos (2009 p. 39):

Despite the still existing prejudice, today there is much more understanding that Distance Education is fundamental for the country. [...]. The exponential growth of recent years is a solid indicator that Distance Education is more accepted than

before. But it is still seen as a path to impact or supplementary actions. It is seen as a way to reach those who are inside, who have few economic resources, who cannot attend a face-to-face institution or to quickly achieve high-impact goals [...].

According to Maia and Mattar (2007) today many countries regardless of their social condition serve thousands of people through distance education, offering different types of courses in the most different degrees of education.

We cannot deny that in recent years we have heard more and more about distance learning, and this will tend to become increasingly common, because the ease of access to technology and the need for many people to acquire knowledge in the most different areas will make this modality of teaching increasingly sought. Kipnis (2009) states that access to distance education in Brazil grew by 571 percent between 2003 and 2006 according to the sense of higher education conducted in 2006.

In the same sense Deitel, Deitel and Steinbuhler (2004) say that distance education associated with the use of e-learning has very high chances of growth, expected to double in size every two years. However this growth will depend on the advancement of technology such as broadband and multimedia resources.

Even with all these indexes we must not forget that for learning to be full in Distance Education it is necessary that people know how to work with technology, that is, it is necessary to eliminate the digital exclusion, because, as much as the person knows how to work with the available resources, he needs to know all the potential he can obtain from them, otherwise teaching will not be able to eliminate social exclusion and a very promising form of education can end up failing due to lack of preparation.

The training in service of people without time or opportunities to return to school is no longer a dream of many educators to become a reality with technological evolution. But it is still observed that the serious process of social exclusion is increased with the sum of the process of digital exclusion, which affects a large portion of the population of developing countries (MUNHOZ, 2011, p. 198).

According to Santos (2006, p. 117 apud Bertoncello, 2011, p. 14) we can understand as digital inclusion the “access of citizens to digital technologies, under favorable conditions of appropriation of their potential, for personal and collective development”. It is not enough to know how to make use of computers, for example, it is necessary that people are prepared to use this technology to take full advantage of its resources.

People need to understand that Distance Education is not a complement to face-to-face teaching but another modality of teaching with its individualities, with new paradigms that are constantly evolving. Maia and Mattar (2007, p. 69) state that “technology already exists; it is not necessary to know what to do with it to produce something new in education, because, so far, what has been developed is a misplaced copy of the model of classroom teaching; therefore, it has not yet avenged.”

Bertoncello (2011) points out some care we should take regarding the use of educational technologies, because, as already mentioned, the model should not be closed, technologies should adjust according to the different contexts in which they will be used. Therefore, teachers need to think about the correct use of technologies, develop projects to discover how they will contribute to pedagogical practice and what objectives are expected according to the established strategy.

According to Sander (1997) for this type of teaching to grow, it is indispensable that teachers know how to work with students, know them, strengthening relationships, as in face-to-face teaching, in which the teacher knows what his students are feeling when attending the class. The Distance Education teacher needs to know how to use technology to his/her favor and understand what students feel when they have contact with distance-mediated knowledge.

Distance learning is a student-centered process so it is very important for educators to know the sociocultural principles of students, as well as their experiences and knowledge, demands and expectations and to use correctly the available technology in order to compensate for the existing physical separation and create learning conditions (BELLONI, 2006).

The technological preparation of those involved in the process of distance learning is very important to ensure that the information clearly arrives from one part to the other, but we must not forget that technology is only one way, just as in face-to-face teaching the

institution must have a good structure, the teacher's preparation remains important, after all he needs to be a mediator of knowledge.

According to Maia and Mattar (2007) for distance education to grow, it is necessary for people to understand this type of teaching as a new way of teaching, and the first step is to know how to work with technology, through appropriate training. Distance education evolves very rapidly, as technology is constantly developing. Independent study and open and flexible learning have already become a reality in many institutions and will tend to become popular for the other, making lifelong learning increasingly evident.

Learning throughout life is not just being attentive at the moment you are inside the classroom, whether physical or virtual, it is constantly being open to learning and never stopping, we all learn even in old age. Knowledge has contributed to the improvement of anyone's life, whether in academia or in the labor market, and will stand out as the one who knows more.

Belloni (2006) describes that lifelong learning is very important and crucial for the competitiveness of the individual in the labor market and should be an obligation of society and the State, because the world is constantly changing and everyone should accompany them. This learning model will be the best, or even, the only way to avoid social exclusion.

Maia and Mattar (2007) believe that institutions should know how to take advantage of what is good in face-to-face teaching and distance learning, creating learning opportunities without borders or limitations of space and time. When it comes to education, whether at a distance or in person, we must always think about the future, otherwise we will be harming ourselves.

Knowledge is the key to the success and elimination of social inequalities, so choosing how to disseminate it is very important, whether face-to-face or distance, and as technology is constantly improving we can expect that in a few years new ways of transmitting this knowledge, reducing social exclusion.

Technology is now as or more important to knowledge as it was the printed word when the book came up. [...] However, neither books nor machines build knowledge and social development. Both are works of the human being, who

today finds in the new information technology a new instrument of extensive multiplier effect (SANDER, 2007, p. 20).

Distance education is a great alternative to bring knowledge to different people, in different places of the world simultaneously and is going the right way, which is to improve every day and gradually this modality of teaching is incorporating new technologies, gaining the recognition of people, institutions and the State.

To better illustrate the trends of distance education in Brazil, the ABRAEAD Yearbook 2005, the CensoEaD 2008 and the CensoEad 2011, developed by the Brazilian Association of Distance Education (ABED), were consulted, highlighting the three-year period between the documents.

About the media used by these institutions to teach the courses, in the first document analyzed for the year 2004 we have printed resources, e-learning, television, video, radio, CD-Rom, among others not mentioned. In the 2008 report, in addition to those mentioned above, new media used by institutions, such as satellite, DVD, teleconferencing, video conferencing and mobile phone, have appeared. In the most recent report published in 2011, several new features such as whiteboard, animations, simulations, social networks, and web conferencing are listed. In this way it is clear that information and communication technologies are being widely used in this modality of teaching, adding more resources and improving the environment and communication.

Another recent survey was conducted in February 2013 by the Learning & Performance website (LEARNING and PERFORMANCE BRASIL, 2003) where it points out that almost half of organizations prefer to buy an LMS system rather than create their own system. Most organizations have implemented the system to centralize and manage learning activities, and more than half of the organizations that responded to the survey are satisfied with the integration of this system and will continue with the platform.

5. FINAL CONSIDERATIONS

With this research it is possible to identify the beginning of distance education in the world and in Brazil, the technological resources involved in this type of teaching and what are the

trends of this new way of transmitting knowledge.

With the use of technologies for education, new paradigms have been created and new possibilities for expansion and access to knowledge emerge. With asynchronous tools such as email and discussion forums, students and teachers no longer need to share the same physical space and time to interact, however, currently, the main technological tool that stands out for its proximity to traditional teaching is videoconferencing, because it is possible to work with interpretations of body expressions much better than other tools, in addition, brings a greater interaction between students and teachers, reducing the sense of exclusion that is present in distance learning.

Using LMS concepts, institutions are able to create management systems to provide study materials and monitor students according to their needs. We have the development of several platforms, however the *Moodle* platform is considered as one of the main LMS systems, because because it is open source, it allows this work to shape the environment as the institution wants, besides being free. Second is the *Blackboard* system.

At all times technology has been developing and, as education is increasingly tied to technological means to transmit knowledge, it develops together, affirming the expansion trends of The Distance Education through the censuses carried out. The Internet has a lot of potential over this type of teaching, both with regard to the increase in the number of students enrolled, which helps to lead education in places where with face-to-face education was difficult, as in improving the resources available for knowledge transmission and learning monitoring, because at each census we see a significant increase in the diversity of resources available to institutions, so it is very important that people understand and accept this new concept of education, because it is part of the present and, above all, of the future.

6. REFERENCES

ALVES, João Roberto Moreira. A história da EAD no Brasil. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.9-13.

ASSOCIAÇÃO BRASILEIRA DE EDUCAÇÃO A DISTÂNCIA. Censo ead br. São Paulo: Pearson

Education do Brasil, 2010.

ASSOCIAÇÃO BRASILEIRA DE EDUCAÇÃO A DISTÂNCIA. Censo ead br: relatório analítico da aprendizagem a distância no Brasil. São Paulo: Pearson Education do Brasil, 2012.

BELLONI, Maria Luiza. Educação a distância. 4. ed. Campinas: Autores Associados, 2006.

BERTONCELLO, Ludhiana. Novas tecnologias de informação e comunicação na educação contemporânea. Maringá: Cesumar, 2011.

BRITO, Mário Sérgio da Silva. Tecnologias para EAD via internet. In: NOVA, Cristiane; ALVES, Lynn (org). Educação e Tecnologia: trilhando caminhos. Salvador: Editora da UNEB, 2003.

DAVIS, Beth; CARMEAN, Colleen; WAGNER, Ellen. Moodle moves to the front of the LMS adoption pack. Disponível em: <
<http://www.learningsolutionsmag.com/articles/111/moodle-moves-to-the-front-of-the-lms-adoption-pack>>. Acesso em: 07 jun. 2020.

DEITEL, H. M; DEITEL, P. J; STEINBUHLER, K. E-business e e-commerce para administradores. São Paulo: Pearson Education do Brasil, 2004.

FELDSTEIN, Michael. The evolving LMS market, part I. Disponível em: <
<http://mfeldstein.com/the-evolving-lms-market-part-i/>>. Acesso em: 07 jun. 2020.

GUAREZI, Rita de Cássia Menegaz; MATOS, Márcia Maria. Educação a distância sem segredos. Curitiba: Ibpx, 2009.

KIPNIS, Bernardo. Educação superior a distância no Brasil: tendências e perspectivas. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.209-214.

LAZILHA, Fabrício Ricardo. Ambiente de Aprendizagem em EAD. Maringá: Cesumar, 2011.

LEARNING & PERFORMANCE BRASIL. A utilização do LMS nas organizações brasileiras. Disponível em: <

http://www.elearningbrasil.com.br/pesquisa/resultados/pesq_result_132.asp>. Acesso em: 10 jun 2020.

LITTO, Frederic Michael. O atual cenário internacional da EAD. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.14-20.

LOPES, Luís Fernando; FARIA, Adriano Antônio. O que e o quem da EaD: história e fundamentos. Curitiba: Ibpex, 2013.

MAIA, Carmen. Guia brasileiro de educação a distância. São Paulo: Esfera, 2002.

MAIA, Carmen; MATTAR, João. ABC da EAD: a educação a distância hoje. São Paulo: Prentice Hall, 2007.

MARTINS, Onilza Borges. Fundamentos da educação a distância. Curitiba: Ibpex, 2005.

MATTAR, João. Interatividade e aprendizagem. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.112-120.

MOORE, Michael; KEARSLEY, Greg. Educação a distância: uma visão integrada. São Paulo: Cengage Learning, 2007.

_____, Michael; KEARSLEY, Greg. Educação a distância: uma visão integrada. São Paulo: Cengage Learning, 2008.

MUNHOZ, Antonio Siemsen. O estudo em ambiente virtual de aprendizagem: um guia prático. Curitiba, Ibpex, 2011.

NUNES, Ivônio Barros. A história da EAD no Mundo. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.2-8.

PENTERICH, Eduardo. Ambientes Virtuais de Aprendizagem. In: VIGNERON, Jacques;

OLIVEIRA, Vera Barros de. (org.) Sala de aula e tecnologias. São Paulo: Instituto Metodista de Ensino Superior, 2009.

PETERS, Otto. A educação a distância em transição. São Leopoldo: Unisinos, 2003.

ROSENBERG, Marc J. E-learning. São Paulo: Pearson Education do Brasil, 2002.

SANCHEZ, Fábio. Anuário brasileiro de educação aberta e a distância, 2005. São Paulo: Instituto Monitor, 2005.

TELES, L. A aprendizagem por E-learning. In: LITTO, Frederic. Michael; FORMIGA, Manuel Marcos Maciel (org). Educação a distância: o estado da arte. São Paulo: Pearson Education do Brasil, 2009. p.72-80.

SANDER, Benno. Perspectivas da educação a distância na América Latina. In: Perspectivas da educação a distância: América Latina, Seminário de Brasília, 1997. Brasília: Ministério da Educação e do Desporto, 1998.

[¹] Master's degree in Education. Specialization in Social Psychology. Specialization in Pedagogical Coordination and School Supervision. Specialization in Clinical Psychology. Specialization in Legal Psychology and Psychological Evaluation. Specialization in Psychoanalysis. Specialization in EaD and New Technologies. Specialization in MBA in Coaching and Competence Management. Specialization in MBA in People Development. Specialization in Educational and Business Communication. Specialization in Business Pedagogy and Corporate Education. Specialization in Technologies and Distance Education. Specialization in People Management. Specialization in Higher Education Methodology. Graduation in progress in Psychology. Degree in Degree in Pedagogy. Bachelor's degree in Business Administration. Degree in Sociology Degree. Degree in Degree in Philosophy. Graduation in Bachelor's degree in Business Administration. Graduation in Human Resources Management.

[²] Advisor. PhD in Educational Sciences. Master's degree in Education. Specialization in progress in Neuroscience and Psychology. Specialization in progress in EAD- Distance learning. Specialization in Neuropsychopedagogy. Improvement in domestic and family violence criminal and preventive action. Improvement in Public Safety and attention to

victims of crime. Improvement in Health Care in the Prison System. Improvement in Educational Management. Improvement in Education and Poverty. Improvement in Management in School Education. Improvement in Neuropedagogy. Improvement in Professional Qualification in Family Approach in Home Care. Improvement in Health of the Healthy Person. Graduation in Pedagogy.

[3] Advisor. PhD in Educational Sciences. Master's degree in Media and Knowledge. Specialization in progress in Public Health. Postgraduate in mathematics education. Specialization in Computer Technology. Graduation in Special Program Of Pedagogical Training for Teachers of Professional Education. Graduation in mathematics. Graduation in Data Processing.

Sent: July, 2020.

Approved: December, 2020.