CONSIDERAÇÕES INICIAIS SOBRE UM AMBIENTE RIZOMÁTICO DE APRENDIZAGEM

INITIAL CONSIDERATIONS ABOUT A RHIZOMATIC LEARNING ENVIRONMENT

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RESUMO: O presente estudo propõe a criação de uma rede de aprendizagem estruturada em conformidade com os pressupostos da educação aberta, visando promover a aprendizagem, a troca e a colaboração entre professores participantes de uma formação em serviço. A formação, estruturada em formato de rizoma, permitirá que os participantes tenham liberdade e autonomia para transformar o próprio espaço na medida em que compartilham suas práticas e transformam a si mesmos. A avaliação será feita processualmente ao longo de todo o processo, possibilitando que todos os que participarem das comunidades de aprendizagem, fazendo uso do trabalho com projetos, tenham a possibilidade de receber um certificado de conclusão. A proposta visa que cada participante reflita, construa e descontrua práticas de educação inclusiva a fim de compreender de forma significativa o que funciona no seu contexto, para os seus alunos e sua realidade. Abre-se assim a possibilidade para que sejam criadas comunidades de aprendizagem onde se compreende que a aprendizagem é fluida, sem começo e final, em um incessante devir.

PALAVRAS-CHAVE: Comunidades de aprendizagem. Aprendizagem colaborativa. Educação aberta. Rizomas.

ABSTRACT: *This study proposes the creation of a learning network, structured in accordance with the assumptions of open education aiming to promote learning, exchange and collaboration among teachers participating in an in-service training. The development, structured following the rhizome shape, will allow participants to have freedom and autonomy to transform their space as they share their practices and transform themselves. Assessment will be done throughout the process, allowing all those who participate in learning communities, making use of the work with projects, to have the possibility of receiving a certificate of completion. The proposal aims at each participant to reflect, construct and deconstruct inclusive education practices in order to understand in a meaningful way what works in their own contexts, for their students and reality. This opens*

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up the possibility for learning communities to be created where it is understood that learning is fluid, without beginning or end, in an incessant becoming.

KEYWORDS: *Learning communities. Collaborative learning. Open education. Rhizomes.*

This paper comes from the interlacing between the idea of proposing a Virtual Learning Environment (VLE), created in accordance with the precepts of open education, along with concepts proposed by Gilles Deleuze and Félix Guattari, as the becoming and the rhizome. Although it is not our intention to discuss these concepts in depth, it is an important intersection in view of the historical and cultural moment we have been experiencing and the ever-evolving formative needs of the information and knowledge society.

In this sense, it is important to reflect on concepts such as open education, open educational resources, connectivism and rhizomatic learning environments, given that these are themes that are articulated and strengthened due to the cyberculture, to the new tools proposed by digital technologies and new ways of communicating and interacting in learning environments.

Open education is a concept linked to the idea that access to quality educational resources and experiences is truly a right for everyone. The idea of openness in education is more linked to a philosophy that states the importance of sharing information and working together for the collective construction of knowledge than to some specific isolated initiative.

Although there is no consensus on exactly when this movement for open education began, an important milestone in relation to the movement in Brazil was given with the Cape Town Declaration for Open Education in 2007. Other important initiatives were: the first Open Educational Resources (OER) Global Congress at the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris in 2012 and the use of the acronym OER for the first time in 2002.

Among the several initiatives designed to promote greater dissemination of content and resources, OERs stand out as they enable modification, sharing and adaptation of resources so that they are used not only for the purposes for which they were originally created, but also, to be reused in other contexts and in other realities, as long as copyright is observed.

OERs are materials with free access and with a license that allows their use for teaching, learning, research and other purposes. The term emerged during the UNESCO Open

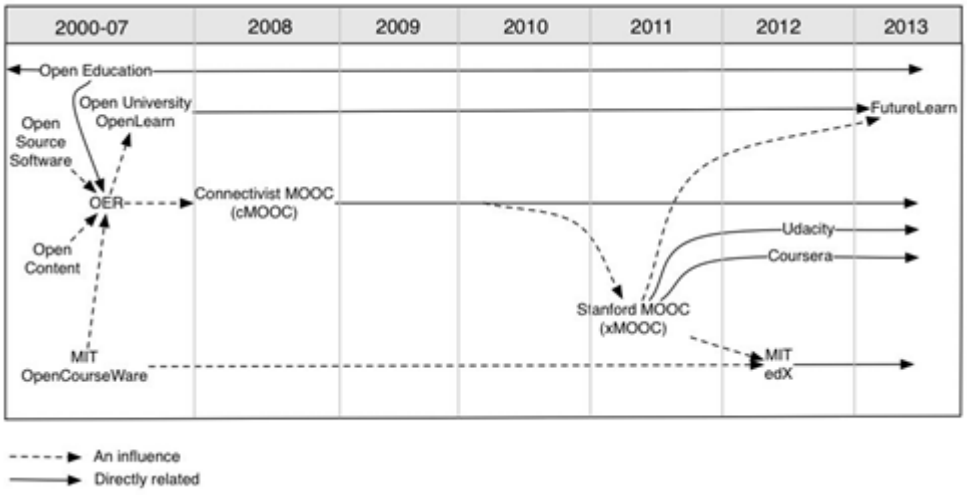
Course Forum in 2002 and, by definition, the resources classified as OER can be copied, adapted, reused and shared.

On the other hand, Santos (2013) emphasizes that not all the educational content available on the internet can be considered OER. She clarifies that some observations need to be made in accordance with the reality of each country, for instance, some works are automatically considered as OER only when they become public domain, which in Brazil happens only 70 years after the author's death.

In the document published by UNESCO and entitled Open Educational Resources in Brazil, Santos (2013) states that the term "REA" was introduced as a result of two important initiatives, two projects funded by William and Flora Hewllet Foundation: OpenLearn, an initiative of the Open University, which initially allowed 5% of all content to be accessed for free (under the Creative Commons license) and the OpenCourseWare consortium created by Massachusetts Institute of Technology (MIT), which in 2002 offered 50 courses with free access for the entire population.

As can be seen in figure 1 below, Open Educational Resources were the forerunners of courses known as massive open online courses (MOOCs). According to Yuan and Powell (2013), the dashed line indicates the resources or courses that were influenced by others, for example the first connectivist MOOC was born under the influence of Open Educational Resources. This background is important since it helps understanding the origin of connectivist MOOCs, that is the closest proposal to the idea of a rhizomatic learning network, which is presented in this study.

Figure 1: Timeline of Open Educational Resources and MOOCs



Source: Yuan e Powell (2013, p. 6)

The first course classified under the acronym MOOC was created by educators Stephen Downes and George Siemens of the University of Manitoba in Canada in 2008. The course was called Connectivism and Connective Knowledge (CCK8) and had approximately 2,300 enrollees.

The terminology "MOOC" was coined by Dave Cormier and Bryan Alexander and was originally meant to courses with a "pedagogical commitment" associated with connectivism, that is, courses designed with the purpose of facilitating connection, or fostering the exchange of experiences among participants. The researchers' idea was to go beyond the supply of materials and didactic resources to students, i.e., adding something new to the OpenCourseWare model offered since 2002 by MIT.

The initiative was a success and other institutions, some that already offered distance courses and disciplines, but without allowing free access or without this concern of fostering the exchange among students; modified their structures or created free courses. Thus, they have increased their scope and scale of impact, leaving local and regional scenarios, to become national or global, breaking economic and social barriers.

In 2012, MOOCs consolidated their presence on the international scenario, largely influenced by the impact of an article published in the New York Times, entitled "The Year of MOOCs." The paper mentioned several courses, in particular one called "Introduction to Artificial Intelligence", offered online and free of charge by professors Sebastian Thrun and Peter Norvig of Stanford University. The course had the enrollment of over 160,000 participants from 190 countries and, culminated in the creation of the Udacidy platform, so that new courses could be offered in this model. According to the paper, in November 2012, edX, a non-profit start-up created by the partnership between Harvard and MIT, had 370,000 students and Coursera, established in January of that year, had more than 1.7 million.

In Brazil, in June 2012, *Unesp Aberta* was inaugurated, initially offering courses in the areas of Human Studies and Exact Sciences, in a structure composed of more than 300 videos, 138 digital books, more than 300 written materials, available as complementary reading, as well as 17 thousand educational items, such as maps, images, animations and software. A year later, in June 2013, Sao Paulo University (USP) launched, as well, free online courses, in partnership with Veduca portal.

Currently there is a great variety of distance learning courses offered openly and free of charge. Nonetheless, there is still no regulation that determines rules for the structuring of courses offered in this modality. Among the main differences are the issuance or non-issuance of certificates at the end of courses, the application of a final face-to-face or online test,

assessment with grades given by machines at the end of each module or, the absence of tests in general; the practice of peer assessment, the use of short or long videos, and especially the total gratuity, or the need to pay a symbolic value [4] or the course or for the final certificate' issuance, and the affirmative or negative possibility of using this certificate to be recognized at work or to obtain university credits.

Characteristics of connectivist MOOCs

Porter (2014) clarifies that not all courses classified under the acronym MOOC have the same characteristics and can be roughly separated into: cMOOCs or connectivist MOOCs which includes those focused on the use of technologies to promote interaction between students, encouraging learning communities' dissemination and; xMOOCs for the other courses, in which the focus is not interaction, but allow free and unrestricted access to educational materials and resources on a given subject.

In order to be considered as connectivist, the MOOC must have a series of characteristics, with emphasis on the decentralization of the teacher figure, who starts in leadership, indicating materials and activities, but allows learners to gather these contents, transforming, modifying and improving either the contents as the course. In this sense, a transparency relationship is necessary from the course beginning, so that trust can be established (SIEMENS, 2011).

The principles are the same as those of OERs, that is, the contents organized and structured at the beginning of the course served more to initiate discussions and to foster curiosity rather than to be considered "absolute truths" or as contents to be memorized and reproduced in assessments.

Siemens (2011) points out that this type of course must be licensed in order to allow reuse, adaptation and dissemination of materials, using licenses such as Creative Commons, what, according to him, does not happen in most courses.

According to Siemens (2005), learning and knowledge are constantly evolving, and an environment thought to foster this sharing of experiences among participants should have as its main characteristics:

- being informal and unstructured; having flexibility so that participants can take part in the creative process, in accordance with their possibilities;

[4] The terminology "symbolic value" refers to the fact that the amount charged by these Education Institutions is much lower than the costs needed to carry out these same courses in person.

- being rich in tools and thought to allow for dialogue opportunities and sharing possible among participants;
- having consistency and last over time, bearing in mind that people need to be confident that the environment in which they are sharing knowledge will not disappear overnight, but it will evolve consistently;
- conveying confidence. The virtual environment needs to be secure to generate trust and comfort;
- being simple; the navigation tools in the environment must be intuitive and cherish simplicity;
- being decentralized, supportive and connected, rather than centralized, governed and isolated;
- having a high level of tolerance regarding experimentation and failure.

The characteristics pointed out by Siemens were listed here because they address what should happen in a rhizomatic learning environment (from our point of view), thought to provide a constant being-becoming, a transformation, a re-creation of oneself at all times, an environment made by the participants who will build their own course as they live the course itself.

A rhizomatic learning environment

In view of the precepts mentioned, it is important to emphasize that the proposal herein presented, is part of a doctoral thesis in progress and, grounded on the existing literature and, in the results obtained by a Master's dissertation that analyzed the answers given by 675 participants, besides the observation of the interactions made in three courses offered in a MOOC format. Based on the analyzes made, we were able to confirm the richness of possibilities of a virtual learning environment where it is possible to create, share, teach, make friends and learn, even without the direct help of a teacher or tutor (ZADUSKI, 2017).

Therefore, with the support obtained from previous studies and theories, we believe that it is possible to design and implement a rhizomatic virtual learning environment, which can be modified, restructured and reinvented by each and every participant. In this way, it will be contextualized with the participants' formative needs and modifiable throughout the course, in a constant being-becoming.

The structure of the learning environment will be designed based on the concept of rhizome, proposed by Deleuze and Guattari in the work "A Thousand Plateaus". As a

definition, we find the concept of rhizome in the middle of the studies of botany, in which it is defined as a root whose shape is unequal when compared to that of other roots since each branch can be different, with different size, shape and thickness. In the words of Deleuze and Guattari (1995, pp. 23-24), "There are no points or positions in a rhizome, such as those found in a structure, tree, or root. There are only lines".

Like the rhizome concept, the proposed learning network will also nourish itself with the subjectivity of individuals, ensuring that each student has the autonomy and freedom to create something new, capable of responding to their individual needs with the support of the community. This is not to say that the course will be disorganized, or unstructured. As the authors explain:

> Every rhizome contains lines of segmentarity according to which it is stratified, territorialized, organized, signified, attributed, etc., as well as lines of deterritorialization down which it constantly flees. There is a rupture in the rhizome whenever segmentary lines explode into a line of flight, but the line of flight is part of a rhizome. These lines always tie back to one another. (DELEUZE; GUATTARI, 1995, p. 6)

The segmentary lines of this rhizomatic formation will be triggered starting from the discussions about inclusive education, main axis of this teacher training proposal offered in a MOOC format, initially for a pilot group of in-service teachers.

Inclusive education is a complex, extensive and multifaceted theme that encompasses situations and challenges for which there are no silver bullets or definitive solutions. In this sense, discussions about inclusive education can benefit from a rhizomatic learning environment, structured without the pretension that all participants reach the same conclusions, discuss or have interest in the same problems.

The proposal is exactly the opposite of standardization. Based on Schlünzen's Constructionist, Contextualized and Significant Approach (2015), participants will use technologies to build learning networks, exchange experiences and reflect about inclusive education practices that are meaningful to their own lives, giving significance to the theories that were proposed as guiding axes of this learning space.

Participants will find in the Virtual Learning Environment, organized within the CANVAS platform[5], an introductory organization, with initial texts to read about the theme and project models that can be used as guidance for the development of the final assessment of the course, which will be a project aiming at the change of a personal practice or a proposal of a new practice designed in the perspective of inclusive education.

[5] More information available at: https://www.canvaslms.com/brasil/ Accessed in August 15, 2017.

The attendees will be able to work individually or in pairs and will be evaluated throughout the process, according to the following criteria: proactivity along the training course, participation in the discussion forums, addition of new contents to the platform, indication of external links, videos, texts, images and other materials with themes that are relevant to this networked training, in addition to evaluation and comments on peer proposals, peer evaluation and delivery of the final project.

It is important to highlight that CANVAS is a virtual learning environment that allows all participants to be co-creators of the course, participating in the evaluation, set up of new forums or new discussion topics, restructure and reorganization of some parts of the course or of it all. In other words, the environment allows participants to be really proactive, actors, manipulators and builders of the course. That is the reason to the approach to the concepts of becoming and rhizome. According to the conceptualization proposed by Deleuze and Guattari (1995, p. 112), "Becoming is always double, that which one becomes becomes no less than the one that becomes - block is formed, essentially mobile, never in equilibrium."

The purpose of this training network is precisely that of a becoming, of a constant balance and imbalance, in a shapeless training, in permanent transformation, in a rhizome shape, without a predefined model and without predetermined end. Participants will be free to create their formative course, adding new information, new readings and/or helping to remove those pieces of information that are not interesting. As in a root, although there are minimum requirements to be met in relation to the final product, which will be considered for certification purposes, there is no right or wrong, everyone will develop their project based on their reality, on the needs of their own, changing as their context changes.

To that end, the pedagogical foundation adopted will be the connectivism, a theory proposed by George Siemens (2005) and Stephen Downes (2007) whose premises are autonomy, diversity, interactivity, collaboration and bonding among participants, who will be part of a large learning network, an ecosystem of ideas.

It is expected that the participants of this in-service training will establish lasting relationships with their peers, or yet, that they understand that we are living a moment of open education, ubiquitous learning (SANTAELLA, 2014), in which we are all connected, as in a large rhizome. This opens up the possibility for the creation of learning communities, where learning is understood to be fluid, without beginning and end, in an incessant being-becoming.

Lastly, it should be emphasized that regarding the technical support, it will be provided with the assistance of the Center for Distance Education (NEAD) of Sao Paulo State

University (UNESP), whose team has long-standing experience in teacher training, in addition to having already offered hundreds of training and improvement courses in the most diverse educational themes.

Final considerations

Interaction, sharing of ideas and life in society are part of our culture, of the way we understand and apprehend the world around us. Nevertheless, much of what we see today, when we refer to formal education and the way content is presented in face-to-face and virtual courses, is still related to an instructional pedagogy, in which the teacher is solely responsible for the choice of content that are given to students and little is seen in Brazil regarding open education, the sharing of ideas and the dissemination of knowledge for everyone, without barriers.

When we think of open education, in learning networks, whose focus is learning and not transmitting information, or in open and online courses that are freely available to the entire population, the offer is still minimal, both in quantitative as well as qualitative parameters, given the low range of issues addressed, the lack of formative educational offers in a country big as a continent, where lacks even essential resources as health, education, safety and quality of life.

It is evident that education alone cannot solve all the problems found in society, however, in a country where, according to the Brazilian Institute of Geography and Statistics (IBGE, 2016), only 13.5% of the population aged 25 or over have a higher education diploma, it is necessary to rethink strategies and take measures to guarantee the constitutional rights for all individuals and, not only for those who live in large centers and can afford to attend higher education. It is important to discuss where are the 86.5% who were left out of this equation due to lack of transportation, availability to travel several miles to large urban centers, lack of money to pay monthly payments that exceed the value of their incomes, among many reasons. How to ensure a minimum opportunity for everyone? And after that, how to provide a learning environment where participants are protagonists and not mere repositories?

In ubiquitous times in which we already have enough knowledge, technology and tools that enable us to share information and content dynamically, with quality and long-range, it is up to each of us to ask ourselves if we are doing everything possible to ensure that knowledge is shared, and that we are not only part of a society, but of an ecosystem, whose ties define and strengthen us.

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