Chapter 20
Collaborative Learning and Co-Author Students in Online Higher Education:
A-REAeduca – Collaborative Learning and Co-Authors

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ABSTRACT

The technologies themselves cannot be analyzed as instruments per se, nor can they be exhausted in their relation with science. There is a social and even an individual dimension that affects our own way of relating to society. It is in open education that we have been developing our educational practices. This chapter presents a collaborative learning activity, the curricular unit Materiais e Recursos para eLearning, part of an on-line Master in Pedagogy of eLearning, Universidade Aberta, Portugal. In the present work, the authors dedicate their attention to co-learning and co-research, as processes that help to exemplify some situations, the a-REAeduca. The data collection was supported essentially by the content analysis technique.

INTRODUCTION

This chapter focuses on education and the concept of Open Educational Resources (OER), the perspective of distance learning and eLearning. The particular focus is on aspects related to collaborative learning, Open Education, and its implications in education. The basis for its development is OER, a topic of great expression and value for teaching. The increasing growth in online open resources facilitates, on the one hand, individualized learning trends, self-regulation processes, and autonomy in the learning process. On

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the other hand, they constitute a pertinent resource to be incorporated into the pedagogical practices of today's teachers. Thus, it is important to rethink and readapt innovative teaching methodologies, towards an active and differentiated, effective, and successful teaching and learning process.

Starting from the fundamental assumption that knowledge is socially constructed, in the interaction between the actors of the pedagogical process, we present a project in the scope of Open Education. We started with aspects related to collaborative learning and its implications in the field of education. A more active and participatory learning process allows the development of the students' interaction, collaboration, negotiation, creation, and solving capacities. This chapter will relate the presentation of the experience report to the discussion of concepts such as participatory culture and collaborative learning, the main objective of which is collaborative learning in practice and how media resources can act as a space for interaction and collaboration in students' interlocution, teachers, and community.

This paper describes the creation of an open educational resource, its course, and its state of the art. The result of this whole learning process is presented from its project to the development of an online journal for Education for the 21st Century - a-REA*educa* - which has as its base the philosophy of OER.

It is important to contextualize this issue in a forum of society linked to the digital world, in which information and communication technologies (ICTs) guarantee a particular centrality in the various dimensions of everyday life, seeking to integrate in this analysis an open vision.

This project emerged from an activity of the curricular unit *Materiais e Recursos para eLearning*, of the Masters in Pedagogy of eLearning, Universidade Aberta, Portugal. The authors of this project present a descriptive analysis supported by bibliographical references, reflections, and discussions drawn from the pedagogical practices experienced. Thus, for the creation of OER, the development methodology followed a pre-planning and review of the literature on the topic of OER for the scientifically founded creation of the journal. The a-REA*educa* is structured in different thematic approaches and projected on a web page, which presents other outstanding references for the study of the OER philosophy and a global understanding of its movement. The official website of the journal can be consulted at http://www.reaeduca.com/ and the public page in the social network to promote and revitalize the journal at http://www.facebook.com/reaeduca/

The impact of the project was quite satisfactory, an impact evidenced both by the testimonies left on the journal page and in the social networks where it was shared. We believe that the fact that all the elements that compose the journal are themselves OER, promotes a dynamism and even more intense receptivity.

With the production of the journal, originally REA*educa*, the prefix "a" was added, which refers to its openness and mission, to democratize and diffuse knowledge through cyberspace, extending it into three domains of action: a. academic, b. organizational, and c. didactic -pedagogical.

The results obtained and triangulated show that the movement of OER should be an integral basis for the change of the educational paradigm, which involves the integration of technology associated to the correct methodology and the promotion of improvements both for the teaching practice and for the student. We must not forget that the opening, sharing, and re-use of educational resources opens the knowledge doors as well as the development of this in an active and collaborative way among teachers and students, among teachers, among institutions, or groups of leadership. The a-REA*educa* is, therefore, an open strategy to make knowledge viral.

BACKGROUND

Many discourses present Information and Communication Technologies (ICT) as likely to transform teaching/learning and/or access to knowledge. They are an interaction vector in the co-construction of knowledge (George, 2003), or even of "collective intelligence" (Levy, 2006). Since the early 1980s, there has been a growing interest in the formation of individuals who lead to collaborate and share knowledge in solving problems or decision-making situations (Bolton 1999). By encouraging knowledge sharing and comparing sources, collaboration can offer students the opportunity to build knowledge by linking academic knowledge and "lay" knowledge (Calon Lascoumes et al., 2001).

Vygotsky (1978) has stated that all mental functions (i.e. perception, voluntary attention) develop through social interactions, provided by the surrounding culture. Thus learning is a process of participation (Lave and Wenger, 1991) and is the core of human functioning. Koschmann (1999) adds to these social characteristics, stating that learning is a change caused by interaction with others and their contexts.

If we apply these sociocognitive and sociocultural learning environments to pedagogy, the idea of collaborative activities in small groups, or the whole class, occurs frequently. These activities are based on collective action and a common agreement (Clark & Schaefer, 1989). According to Roschelle (1992), this agreement can promote conceptual change, and thus allow a learning necessary for a real understanding of many scientific concepts.

The grounding process helps to identify the collective goal and establish common goals (Clark and Brennan, 1991). These patterns of thinking assume the epistemological rules, which can be considered as the "rules of the game". Collaborative activities provide students with opportunities to develop a normative understanding of these rules through a process of trial and error. In higher education, this interest results in the development and implementation of collaborative learning situations through ICT, especially in distance and networked learning.

The development of technological networks does not spontaneously generate human networks (Godinet, 2007) and the integration of ICT in learning situations require the actors - teachers and students – to use skills that go far beyond a simple appropriation of digital resources.

According to Valente (2013), the Digital Information and Communication Technologies (TDIC) present several facilities that can aid the development of curricular activities. In addition, for Rodrigues and Colesanti (2008), different technologies imply differences in attitudes, values, and behaviors in the mental and perceptual processes which can contribute to the process of Open Education.

These skills - research and processing of information, formulation and verbalization of ideas, negotiation, argumentation and listening from the point of view of the other, and production of synthetic and consensual documents - take part in what is today is known as 'Digital culture' (OCDE, 2005 ; UNESCO, 2005).

The concept of scriptwriting has been specified, particularly in the context of collaborative learning; the authors presented a collaborative scenario and an exemple co-author students in online higher education: a-REA*educa.* Thirteen students enrolled Master's course in Pedagogy of Elearning (MPeL) of the Open University of Portugal (UAb) participated in this study: Materials and Resources for eLearning, in the academic year 2015-2016 using the Moodle platform.

NEW SCENARIOS AND NEW LEARNING

In education, a new educational paradigm emerges that suggests a new educational school environment, providing a new form of cognition, which will lead the student to produce knowledge. This places the teacher in a new vision of teaching and learning, counting on an information and communication technology, within an interactive context. Faced with all of these processes, the traditional roles of the university and the teacher is being challenged, since the formation of citizens able to use technology critically and creatively in their daily lives has become imminent (Hotte et Leroux, 2003).

Great challenges are posed to the teacher since from this process of radical changes a new nature of work has emerged: the individual must be able to learn, transmit knowledge, and produce knowledge. In this context, education mediated by digital technologies is the new educational paradigm that marks modern society, based on the concept that students and teachers must become life-long learners (Petit et al., 2006).

Technology-mediated education makes it possible to carry out activities in an asynchronous way (the interaction between students is time-shifted) or synchronous (the interaction between individuals occurs in real time) and allows knowledge to be constructed from collaborative form. The great challenge of e-learning is anchored in the incorporation of all technological resources for the creation of learning environments supported by digital technologies, which generates the potential for the process of transforming information into knowledge, regardless of time or place. It is of fundamental importance that the teaching and learning process takes place in an environment of knowledge construction, where interdisciplinarity and contextualization function as a foundation for its development.

The e-learning should include interfaces in virtual learning environments that allow interactivity and collaborative learning with the other subjects involved - teachers and especially other students - through synchronous communication processes (chats, video conferencing) and asynchronous (discussion forum, list, blogs, etc.). It should provide favorable conditions for the process of self-learning and bring the subject closer to the issues related to the role of information and communication technologies in pedagogical practices.

Learning in virtual environments means students: a. express ideas, b. make decisions, c. dialogue, d. offer counter arguments, e. exchange information and experiences, and finally, f. produce knowledge, without necessarily having the physical presence of other students. Technological resources must be capable of creating a collaborative environment in order to make learning fundamentally a social experience, of interaction through language and action; should promote the emergence of a community of learning, discourse, and practice, in such a way as to produce meaning, understanding, and critical action, while ensuring the centrality of the individual in the construction of knowledge.

The interaction with all those involved in the educational process becomes the basis that should orient the learning in virtual environments such as forums or lists of discussions, favoring the convergence and integration of different languages and media. These include:

1. Verbal,
2. Sonorous,
3. Visual,
4. Iconic,
5. Textual, or
6. Hyper Textual.

Only this convergence of world views and languages can establish a polyphonic discursive space in order to encourage and support new ways of creating, thinking, communicating, interacting, learning, and teaching, potentializing the construction of knowledge.

This understanding of language and technological means in the formative process implies a profound change in traditionalist didactic procedures based on the principles of knowledge transmission. By imposing a new interactive communication logic that allows for student participation, manipulation, modification of information, and co-authorship, and that facilitates exchanges, collaboration, associations, and formulations of new knowledge, this new paradigm empowers the individual with the conditions necessary for him to become subject in the construction of his knowledge.

Perceiving these assumptions related to e-learning education means responding to the current demands of education, which privilege the shared construction of knowledge, hypertextuality, interactivity, intersubjectivity, autonomy, and the development of studens' critical awareness. It means understanding the process of formation as the construction of meanings and knowledge, which are built through the process of social interaction.

COLLABORATIVE LEARNING SCENARIO

If the use of digital platforms and spaces is necessary to respond to current educational activities in distance learning, its implementation is not enough to fulfill the learning objectives. A learning scenario should take students beyond content, a learning environment that allows the assimilation of the content and the development of related competencies. The collaborative learning scenario should include the specific description of the context in which it is used, the identification of the parts that integrate it, and the clarification about the role students will play, the interactions in the construction of knowledge, proposals for ad hoc activities, and include integration relevant tools, etc.

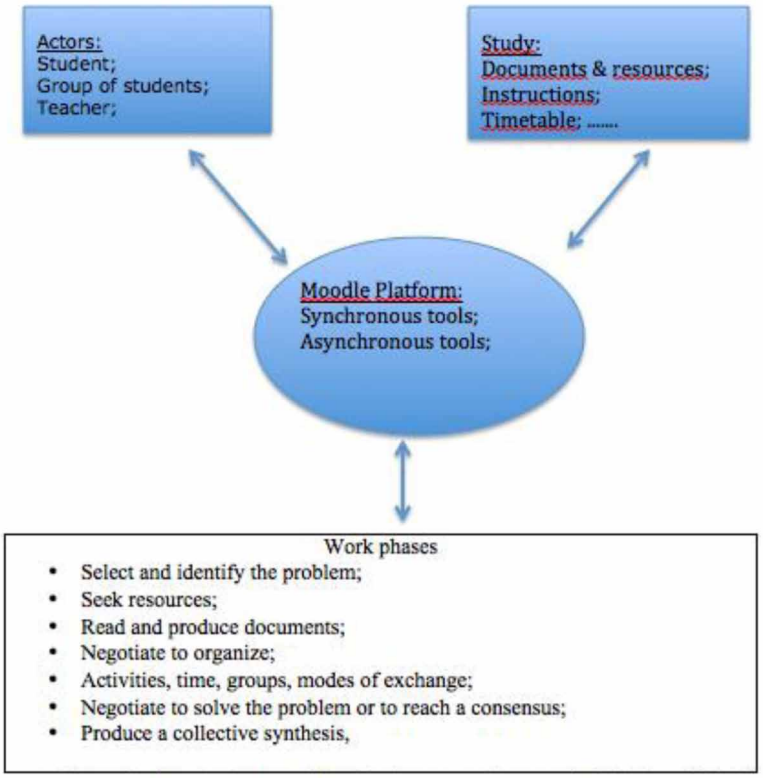
In order to reach this objective, a working model of the collaborative learning situation, we adapted the scenario model of the "case study" described by Godinet (2005, 2007). Figure 1 displays how we adapted the case study format in this study and displays the scenario which includes:

1. The roles of the actors (students, content authors);
2. The activities to be implemented and their different phases of implementation;
3. And collaboration tools available, asynchronous (e.g. workspace, forum, email, blog, etc.) or synchronous (e.g. chat, skype, hangout, etc.).

The learning objectives in this case are as follow:

1. To enable students to cope with situations that require more than the restoration of memorized knowledge;
2. To encourage learners to seek and reuse existing resources, but also to take initiatives to situate themselves in a particular moment or space of action;
3. To negotiate with others students to make a decision;
4. To argue in order to reach a consensus;
5. To take a critical look at peer productions; and
6. To collectively produce new resources.

Figure 1. Adapting the model of the "case study" scenario
Source: Godinet, 2005; 2007



Dillenbourg (1999) states that collaborative learning refers to "a situation in which specific forms of interaction between people must occur, which would awaken learning mechanisms, but there is no guarantee that the expected interactions will actually occur" (p. 11). For Torres, Alcantara and Irala (2004), collaborative learning is a teaching strategy that seeks the student's participation in an active and effective process. In this scenario, the learning activity was developed in a collaborative environment in which students were asked to organize themselves into groups to produce their projects related to the theme Open Educational Resources.

OPEN EDUCATION: NEW POSSIBILITIES FOR INTEGRATING COLLABORATIVE LEARNING?

Portuguese education has been challenging for both teachers and students due to the great changes and transformations in the nature of the pedagogical relationship, the role of formal education, and access to and production of knowledge (Educare.pt). Social changes, based on a digital culture, have blurred the traditional centrality of the teacher as the holder of the knowledge and source of information about a certain school content. Cyberculture - which transcends the so-called 'new technologies' into a broader conception of 'multiform activity of human groups' (LEVY, 1999, p. 28) - places subjects as participants in a large network that forms communities. Different people, in different places, belonging to different

cultures, can find themselves synchronously or asynchronously transforming relationships. In this way, we co-create societies in which not only the consumption by the people is instigated, but the production of knowledge is instigated and valued. These movements unfold in the view of a subject in the digital culture. Silva (2010) explains, "Cyber-citizenship is more than having access to connectivity, it is more than being able to consume online. It is to act in cyberspace with a community and political perspective" (p.15). This understanding of the subject implies a process of transculturality, that is, a subject that today is made and re-established in relationship with the multiple cultures, thoughts, ideas, and, therefore, acts in a world that is not restricted to a specific context, since this subject (contemporary, postmodern, cyber-cultural) inhabits the world through hybrid social networks (online and/or physically).

According to Kolb (1984), "Learning is the process by which knowledge is created by the transformation of experience" (p. 38). Focusing on experience as the main element for adult learning, this concept points out that the adult learning process involves four elementary forms of production and access to knowledge (assimilative, accommodative, divergent, and convergent) that unfold in four stages of learning: a. concrete experience (CE), b. reflexive observation (RO), c. abstract conceptualization (AC,) and d. active experimentation (AE). According to these studies, the adult can experience two phases (specialization and/or integration) and all these processes are dynamic and unique, that is, each adult can experience their learning process integrating two or more stages at different moments of their lives. These stages are not sequential or dependent, all of which are learned in different ways and the stages and, according to our experiences. ways of learning can be repeated and regrouped. Deleuze (2000) says, "if the logic of experience produces agreement, consensus or homogeneity among subjects, the logic of experience produces difference, heterogeneity and plurality" (p. 41). Such ideas integrate Kolb's studies and converge with the Open Education proposal.

In this scenario, movements for an open, free, and collaborative education integrate the discussion and some actions, fruit of our experiences. Open Education, according to Inuzuka and Duarte (2012), is a movement that aims to make education more open and accessible to all. A recent action in the history of Open Education was conducted by the Massachusetts Institute of Technology (MIT) with the launch of the Open Course Ware (OCW) Project with the open publication of fifty internet courses in 2002. The goal was to promote knowledge and educate students. UNESCO, interested in disseminating the initiative for all, gave rise to the term OER (Open Educational Resources) in the same year, promoting an educational forum.

In Portugal, we have the community of OER, based on the definition of UNESCO's OER, teaching, learning and research materials, fixed in any medium or medium, that are under public domain or licensed in an open access, allowing them to be used or adapted by third parties. For Open Education to take place, the use of OER becomes part of this path, of this action/event. Producing, collaborating, sharing, distributing, and valuing the many existing knowledge productions and incorporating them into their daily lives is to be an open educator.

REA PHILOSOPHY

The current situation is marked by the potential of information and communication technologies, which reconfigured a new social model, the networked society (Castells, 1999). For Moran (2000) and Netto (2014), the change of educational paradigm is a demand of this new sociability, that began to spread the information of limitless form through cyberspace (Lévy, 2000). Thus, it is urgent to define pedagogical

strategies that involve students motivated by the learning process (Coutinho et al, 2009, Picudo, 2001, apud Flores, 2014, Wishart & Blease, 1999, Beeland, 2002, Karsenti & Fievez, 2013).

It is in this scenario of change that the OER assumes as a pillar for the learning of the future, collaborative and knowledge co-creation. Initially used in two William and Flora Hewlett-Packard projects, MIT Open Course Ware, University of Massachusetts, United States (2002), and Open Learn, Open University, UK (2006), have launched a free access OER under Creative Common license.

The OER concept, expressed by UNESCO (2012), appears as:

Teaching, learning and research materials on any media, digital or other, which are in the public domain or have been released under open license allowing access, use, adaptation and redistribution by third parties, subject to no restrictions. Open licensing is built within the existing framework of intellectual property rights, as defined by relevant international conventions, and respects the authorship of the work. (p. 2)

According to Adell (2004), the OER dimension diffused by Internet brings pedagogical benefits: a. They promote personalized micro learning, and b. facilitate the creation and sharing of knowledge. Pacheco (2009) affirms that Education should be conceived as stimulating human creativity. It should therefore integrate technology with appropriate methodologies and pedagogies towards successful educational environments (Cox et al., 2003; Keats, 2003; Downes, 2010).

The Cape Town Open Education Declaration (2007) points out that "this education methodology is built on the belief that everyone should be free to use, customize, improve and redistribute educational resources without restrictions". For Mortera and Escamilla (2009), OER encourages concentration and student motivation and involvement in the learning process.

We also believe the five OER pillars promote an undeniable digital literacy (Wiley, 2016; Wu et al, 2009): a. retain; b. reuse; c. revise; d. remix; e. redistribute. OER are seen as enriching the global educational project and facilitating access to knowledge, deterritorializing it, without physical limitations, and without its traditional association exclusively to the formal school environment. Hylén (2006) and D'Antoni (2009) show that the OER movement seeks to jointly produce and share knowledge, building a broader ecology of knowledge (Litto, 2006), using the vision of Freire (1997), that "teaching is not only transferring knowledge but creating possibilities for its production or its construction" (p. 21). They promote, therefore, the sharing of perspectives and the "general exchange of knowledge" (Lévy, 2000).

OER are a mandatory presence in learning the future, fostering creativity, valuing the human essence, and building collective intelligence. They are an innovation in the way of thinking and ensuring access to the knowledge necessary for education through the dissemination of content, free tools, implementation resources and practices that allow the education professional to save, use, reuse, mix, and redistribute content of open and free form.

COLLABORATIVE LEARNING

The twenty-first century is marked by the emergence of new technological tools and sociocultural changes that emerge from changes in the ways of communicating, which can also be seen as successive cycles that gradually extend to a wider population without frontiers. We can affirm that communication through social networks is a key element for the net modernity in which we live (George, 2003).

Brantmeier (2005) explains co-learning through the interaction centered on collaborative learning, including the construction of a true "community of practice", which in turn leads to the dynamic and participatory involvement of the subjects in the collective construction of knowledge. The first concept, co-learning, is associated with the creation of strategies, formats, and scenarios for the exchange of knowledge generated by users organized in networks, in a constant sharing of information and data. But for there to be co-learning, it is necessary that students not only reproduce information but confront different knowledge, perceptions, and mental models. And it will be in this respect that the didactic intervention is crucial, because the teacher must propose tasks and provide research paths that guide the comparison of ideas, perceptions, and perspectives. If this condition does not happen we may run the risk of not learning meaningful learning, but rather a reproductive activity and juxtaposition of points of view. Thinking about ways of co-learning and open collaborative learning (Okada, 2012; Okada et al., 2008) in online spaces leads to questions about how these spaces can become more productive and accessible to collective construction of knowledge.

Society is becoming dependent on technology and new ways of integrating it into the learning process where being able to learn and adapt to the new training skills that will be required is a basic skill (Laal, 2013). It is necessary to learn based on research in the area of learning, to focus on teaching in understanding and practice (Dadzie, Benton, Vasalou e Beale, 2014).

A constructivist perspective of learning, based on the student-centered learning paradigm considers students as creators of their knowledge from their experiences. The meaning that the student attributes to these experiences and their interactions with colleagues and teachers may have numerous advantages, such as:

- Sharing of opinions between teachers and students;
- Reciprocity between the knowledge of students and that of teachers;
- Definition of strategies appropriate to the interests of students to address the issues;
- Selection of the most suitable themes to be developed collaboratively or individually.

For learning to take place, it is necessary to be explicit in the way one thinks about the discipline, giving students opportunities to increase their confidence as their skills improve. This approach seems to the authors to be consistent, since the social function of teaching is to form to understand reality and intervene in it, a function achieved if teaching is oriented towards complexity. The greater the degree of grounding and reflection on the cause of things, the greater and more rigorous is the ability to intervene in them (Vidiella, 1999).

The creative edition of an OER creates conditions for students to explore new situations, achieve learning goals according to their rhythms, and build knowledge in a grounded and supported way from their experiences and collaborative activity. This negotiation between teacher and students and among the students themselves leads to the recognition of students as active transformers of knowledge and as constructors of alternative conceptions (Porlán, 1998).

The development of a collaborative OER to explain the OER concept helped students to understand the concepts and build their own knowledge. The greater the involvement of the student in the creation of an OER, in the sense of creative manipulation, research, and discovery of new forms of expression of knowledge and knowledge, the greater the didactic effectiveness of this process. To exemplify these words we present our case.

CASE STUDY: COLLABORATIVES LEARNING AND CO-AUTHORS STUDENTS

The teaching presence is manifested "when the teacher defines the program, plan and prepare the course, and continues throughout the supply of this, to guide students where necessary" (Kerckhoffs, 2011, p. 24). If the culture of open thought is mobilized by the OER integration movement as innovation for the democratization of access to knowledge (Von Hippel, 2005), the centrality of the special task of teachers (cognitive process and social relations) is understood. Making modes of production increasingly participatory and collaborative requires thinking about the conditions and contours of teaching and the conceptions and pedagogical models involved (Amador, Nobre & Barros, 2016).

Thus, we highlight examples of resources and activities of the Master's course in Pedagogy of Elearning (MPEL) of the Open University of Portugal (UAb): Materials and Resources for eLearning in the academic year 2015-2016. This curricular unit had the structure of a learning agreement contemplating: 1. Goals; 2. Skills; 3. Contents; 4. Methodology; 5. Features- Bibliography; 6. Learning Environment; 7. Sequence; 8. Evaluation; and 9. Roadmap activities. See Table 1 for more details of this plan. This contract was made available to students from the beginning of the semester with explanations of the dynamics planned by the teacher and the appropriate schedule.

In this curricular unit, the OER are the core content, developed in three subjects: a. concepts related to OER, b. selection and use of OER resources, and c. the production of OER. Table 1 displays an explanation of those subjects.

a-REA*educa* - www.reaeduca.com/

For the development of this project we used the exploratory research method, with the literature review on the OER theme. The keywords searched in Google® search engine were: a. Open Educational Resources, b. Online Education, c. Learning of the Future, d. Education Magazine, e. Network Society, and f. Educational Projects. These keywords were searched in Portuguese and English, matching them with the Boolean operator *and*. After the bibliographical survey, reading sheets were developed, to analyze the sources under identical criteria of appropriation and objectivity, as well as their critical and innovative nature. Different strategies were also used for the development of this journal, both for its structure and for its content. A questionnaire survey was also developed in order to ascertain readers' satisfaction and identify improvements for the program. The data will be analyzed and triangulated in the second volume of the journal. In order to assess the existence of the journal itself, it is still planned to carry out

Table 1. Contents of the CU materials and resources for eLearning

Issue I. Open Educational Resources	1. Some basic concepts connected to the notion of "openness"; 2. Origin, social, technical and educational importance/impact; 3. How to use and for what. Importance of adaptation, design and sharing.
Issue II. Selection and Use of Open Educational Resources	1. Repositories and other sources of onine OER; 2. Research, analysis and selection of OER; 3. Use of OER in a specific learning situation.
Issue III. Production of Open Educational Resources	1. Tools and services that enable the creation and publication of OER; 2. Design, development and publication of a OER.

Source: Virtual Campus Portal - http://elearning.uab.pt

a questionnaire survey, which will verify its existence after one year, measuring its impact, its practices, and its potential for the development of a OER culture.

a-REAeduca's mission is to establish itself as an innovative, problematizing, and reflective OER on the pedagogical potential of the OER. For the definition of the structure and the different sections of the magazine, we planned the production of the tasks necessary for the development of our project. Essential brainstorming, constant e-mailing, shared documents, and thought tuning were key here. It should be noted that, despite a logic of division of tasks, inherent in any group work, our method of work was to participate actively in the whole process, promoting a work with homogeneous characteristics.

The selection of the online platform for the creation of the magazine's webpage was done in an attentive way, analyzing several platforms. We have selected the Wix® platform, for the ease and prior knowledge in working with it, as well as the support tools and structural options that it provides.

Also in this context, it was fundamental to define the licensing of the journal and all the content associated with it. In order for the challenge to correspond in full to what was intended, we have carefully analyzed the Creative Commons licenses so that we can select the one that demonstrates the most open and public scope of this OER. Thus, we have selected the Attribution 4.0 International license, since it allows: a. to share, copy and redistribute the material in any medium or format; b. adapt, transform and build on the material for any purpose, even commercially. The a-REA*educa* is structured in different thematic approaches and projected on a web page, which presents other outstanding references for the study of the OER philosophy and a global understanding of its movement. The official website of the journal can be consulted at http://www.reaeduca.com/ and the public page in the social network to promote and revitalize the journal at http://www.facebook.com/reaeduca/

The first publication had different articles, infographics, interviews, among other important articles. Table 2 displays the decisions made for and content of volume one. Table 3 shows the evolution of the journal in volume three.

CONCLUSION

The interest of developing and implementing a collaborative learning scenario with ICT enables instructors to be able to "anticipate the roles and interactions of the different participants and to define the activities according the relational, technical, and temporal constraints, with regard to the expected results in terms of productions and/or learning objectives" (Godinet, 2007, p. 235). Observing the progress of the collaborative learning activity confirms the need for scripting. Strong pedagogical guidance seems to promote the activation.

In collaborative learning in which the instructor utilizes ICT, the teacher has to explain, during the implementation of the scenario, those elements that are widely understood implicitly in most face-to-face learning. In particular, the e-learning collaborative activity raises the questions of the evaluation of the minimum competences required by each actor of the Moodle platform: a. e-learning competences of the learners; b. specific and complementary competences of the different players in the team (teacher, students) and c. methods for evaluating a production, or even certification of knowledge and/or skills acquired by learners, which go well beyond the scope of a conventional summative evaluation.

The technologies and interfaces of cyberculture are not merely "tools" or "resources" to be used to illustrate or motivate students. It is no longer possible to think of a formation, whether initial or con-

Table 2. Important decisions and content for volume one

Sections	Description	
Logo	Definition of the logo of the journal and writing of informative text about the visual identity of REAeduca.	
Promotional Teaser	Development of a promotional teaser that announces the publication of the magazine, unveiling some of the topics addressed in it.	
Web Page	Careful selection of the online platform for creating and editing websites.	
Licensing of the website and material to be developed	In order to correspond in full to what was intended, we carefully reviewed the Creative Commons licenses (http://creativecommons.org/) so that we could select the one that demonstrated the most open and public scope of this OER.	
Home page	We opted to leave on this page the promotional teaser, as well as the periodization of the journal's publications (bimonthly) and the possibility of the visitors subscribing to the journal and receiving the newsletters in the email.	
Information	**Datasheet**	Periodicity; Publishers; Online publication; License CC - Attribution 4.0 International.
	Visual identity	Graphic explanation of our goal of a new learning design.
	Editorial team	Presentation of the founding authors.
	Article Submission Guidelines	Definition of the conditions of submission of articles in the journal.
Links of interest	**Web Page**	Listing of web pages on the subject of the OER and its applicability.
	Online videos	Integration of some online videos on the OER movement in different languages.
	OER	Integration of some ebooks on the OER movement in different languages that explain the OER concept and its philosophy.
Forum	Integration of a discussion forum on the journal's online page.	
Contacts	Space with logos and contacts from Universidade Aberta, MPEL and e-mail from a-REAeduca. Integration of a direct contact space for communication with the authors of the journal - "Fale Connosco".	
Opening note	Text of presentation of the first issue of the journal.	
OER, what are they?	Writing an article developed in co-authoring that focuses on the definition of the concept of open educational resources.	
OER Pillars	Creation of an infographic that clearly, graphically and objectively illustrates the five pillars of the OER philosophy.	
OER Mission	Co-authored article focused on clarifying the mission of open educational resources.	
OER visual identity	Infographic that clearly and objectively illustrates the visual identity of the OER philosophy.	
Licensing	Development of an infographic that simplifies licensing policies for an educational resource, with a special focus on Creative Commons licenses.	
OER Repositories	Presentation of the concepts of repository, open repository and OER repositories and a list of OER repositories.	
The role of OER in teaching practice	Publication of an article by a guest of the master's degree in E-Learning Pedagogy.	
The student and the OER	Development of an infographic with evidence of the advantages that OER present to the student.	
Online Learning and OER	Co-authored article that focuses on the reflection on online learning as an innovative learning modality appropriate to the current network society.	
OER Survey	Presentation of the results of a survey that took place between February 10 and 18, 2016 in the Facebook® social network about the concept and pedagogical potential of OER.	
Perspectives	This is a space for interviews with individuals that stand out in the study of REAeduca. In this issue, we chose to interview Dr. Ana Nobre, a professor at the curricular unit in which the project was developed.	
Satisfaction Questionnaire	This questionnaire aims to be a constant evaluation space, aiming at an adjustment in the objectives and that meets the real needs of the surrounding community.	

Table 3. Volume 3 of the journal exhibits the evolution of the publication

Sections	Description
Opening note	Text of presentation of the third issue of the journal.
Network society: use of virtual communities in continued teacher training	Paper: In a society that is in constant transformation, mainly technologic, the improvement of teaching practices becomes an important factor for a high-quality education. This article approaches the use of virtual communities in teacher's continuing education. It is a reflection on collaborative learning as main point of this training process, where virtual communities can provide a favorable environment for sharing information and building new knowledge. It shows positive aspects of virtual communities in this context and it concludes that collaborative work is the key to big changes in the educational entourage
Education: guiding scenarios of the future	Paper: This article focus on the characterization of the future of learning, framing it in the social and educational context in which develops. The methodological guideline was content analysis, with the purpose of achieving the article's objectives, triangulating the gathered information. The results demonstrated that the future of learning shows a close link with the technological advancement of the network society which we live in. The future of learning must merge specific characteristics of various learning scenarios such as gamification, mobile learning, collaborative environments and open educational resources. Therefore, including these learning scenarios, learning environments progressively no longer be restricted to a limited physical space, earning potential here the Online Education. In this sense, we present a schematic illustration of the future of learning, describing the multiple scenarios for the promotion of an effective and successful future of learning.
OER and free software	Paper: This article highlights the role of OER technical openness. In addition to legal openness, which is a fundamental condition for the materials to fulfill the purpose for which they were built, OERs must be designed with technical openness, a condition that leaves them free of the constraints imposed by the use of proprietary software. It is an alert that teachers and students, culturally conditioned, use proprietary software to accomplish most digital tasks. This circumstance may limit the future reuse of built materials at risk of their free reuse being always conditioned by the file format in which they were built.
OER in Brazil: concept, potentials and challenges	Paper: This article has the objective to know how literature conceptualizes Open Educational Resources - OER, its origin, characteristics and how this term has been used in Brazil. For this, it was made a contextualization of the network society, which modified the forms of communication, production and socialization of knowledge, as well as the way people research, teach, learn and share. The society of networking concepts and the discussion of how education develops in this cyberspace were rescued. The regulations of OER in the brazilian national scene, the public policies, OER initiatives, its potential and challenges were also addressed.
A PLE e-learning course to capture and prepare foreign students to university courses in Portugal	Paper: The potential of teaching in e-learning and the relevance of the tools as a way to boost foreign language courses, in this case the language as a way to attract foreign students to universities. Portuguese, and thus contribute not only to the internationalization of the Portuguese universities, but also from the transmission of science in Portuguese language, promoting it as a language of science and knowledge in the Globalization.
Child and juvenile health nursing consultation flyer	Flyer of medical scope information.
Chemistry OER: OER and OEP	Open Educational Resource and Open Educational Practices about Chemistry science.
Mathematics - GeoGebra	Geogebra software presentation OER.
Teaching Systems	Teaching systems presentation of Portuguese languages countries.
Repositories Part III	Presentation of the concepts of repository, open repository and OER repositories and a list of OER repositories.
Flipped Classroom Infographic	Infographic of flipped classroom scenarios.
Profile of Students for the 21st Century Infographic	Infographic of the profile of a 21st century student.
Didactic Cycle Infographic	Explanatory infographic of concepts of the didactic cycle.
Professional Teaching / Vocational Training Infographic	Explanatory infographic of concepts of the professional teaching and vocational training.
Perspectives	Rui Rosa interview in the "Vale a Pena" program with Fátima Peres, held on 02/17/2017 at Rádio Fóia.
Satisfaction Questionnaire	This questionnaire aims to be a constant evaluation space, aiming at an adjustment in the objectives and that meets the real needs of the surrounding community.

tinuous, that is not structured in the use of technological devices capable of promoting interactivity, bidirectional communication, collaborative learning and authorship and co-authorship.

Think of teaching/learning from this perspective and think beyond the role of teacher. The authors believe it is important to think of forming an active being, connected with his/her collegues and other times and spaces, articulating different knowledge and languages, producing and disseminating information and knowledge, and mainly, seeking to train other citizens. After our review of the literature, we can point out that future learning scenarios that involve OERs, promote motivational learning and success.

This is the main objective of a-REA*educa*, which started as a project of an activity of a curricular unit, but which quickly became an engine in the dynamization of this open movement of democratization of knowledge and the promotion of an education adjusted to the needs of the XXI century, which integrates characteristics of formal, informal, and non-formal learning.

After overcoming the initial challenges, in particular the use of various digital tools, which has become a great enriching challenge, the result is extremely satisfactory. Given the final result of a-REA*educa*, there is motivation to follow up with future publications. In the following issues we intend to approach other themes, always based on the OER paradigm.

Finally, we remember that a-REA*educa* was more than an activity, it represents an active project, for us and for all. It is a journal developed in and for cyberspace, which disseminates the OER culture. We know that we can not predict the future, but we are aware that with innovative learning scenarios that lies the learning of the future, "educación debe convertirse en industria del deseo si quiere ser industris de conocimiento" (Piscitelli, 2009, p. 22).

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KEY TERMS AND DEFINITIONS

Computer-Supported Collaborative Learning: It is a pedagogical approach wherein learning takes place via interaction using the internet.

Computer-Supported Collaborative Teaching: When teachers use scenarios and critical thinking in working with students in an online environment.

Open Educational Resources (OER): Open education; collaborative learning online; collaborative learning activities in classes.