

QUALITY AND SUSTAINABILITY OF PEER ASSESSMENT

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Abstract: From the analysis of the literature on the MOOCs (Massive Open Online Course) there are emerging challenges regarding the modalities of peer assessment. In this regard, the challenges are at the level of quality and sustainability. In the present study, we considered pertinent to understand the criteria that can validate the scientific and pedagogical quality, as well as the sustainability of the materials produced by the trainees, during the peer assessment. The research was qualitative and focused on a case study. The results indicate that the mechanisms of interaction, communication and collaboration between the trainees and the trainer, in articulation with the evaluation modality, seemed to be the key to improve the quality and sustainability of the evaluation.

Keywords: Distance Learning; MOOC; Peer Assessment; Quality; Sustainability.

Resumo: Da análise da literatura sobre os MOOCs (Massive Open Online Course) surgem desafios quanto às modalidades de avaliação pelos pares. Neste sentido, os desafios situam-se ao nível da qualidade e da sustentabilidade. No presente estudo, considerou-se pertinente compreender os critérios que possam validar a qualidade científica e pedagógica, bem como a sustentabilidade dos materiais produzidos pelos formandos, aquando da avaliação pelos pares. A pesquisa foi qualitativa e focada em um estudo de caso. Os resultados indicam que os mecanismos de interação, comunicação e colaboração entre os formandos e o formador, em articulação com a modalidade de avaliação, parecem ser a chave para melhorar a qualidade e sustentabilidade da avaliação.

Palavras-chave: Ensino a distância; MOOC; Peer Assessment; Qualidade; Sustentabilidade.



INTRODUÇÃO

In recent decades, society has been influenced by the growing ease of access and use of Information and Communication Technologies (ICT), which has also led to significant changes in teaching. According to Pereira, Oliveira, Tinoca, Pinto and Amante (2015), "teaching is increasingly mediated by technologies and learning is carried out, in whole, or complemented in person by them" (p.6). In this way, new roles are required of the teacher and the student. Teachers "are responsible for creating a challenging learning environment, rather than for the transmission of knowledge, and students should actively build their knowledge and develop their skills" (p.26).

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Based on the evolution of technologies and learning theories alternative approaches have been developed, such as connectivism that is a theory of knowledge applied to learning. It was developed by George Siemens and Stephen Downes and assumes that knowledge is built through a network of connections in which learning depends on the ability to build knowledge in connection with the outside. Knowledge is available in the networks and, in this way, it is built within the framework of people access systems. Thus, it explains the effect that technology has on the way people live, communicate and learn (Downes, 2008).

On the other hand, nowadays the students present different profiles of competencies from those presented in the past, namely, they show high performance in the use of technological resources. There are authors who call them net generation (Tapscott, 1998, 2009, Oblinger & Oblinger 2005) or digital natives (Prensky, 2001, 2003, 2009, Palfrey and Gasser 2008) because of their preference to receive information quickly, and to communicate with the technologies. Nowadays students are able to perform multiple tasks and have a low tolerance for lectures, preferring active and non-passive learning (Jones, C. & Shao, B., 2011).

Several universities, such as Harvard, MIT, Stanford and, in Portugal, Universidade Aberta, have used the Open and Massive Online Courses (MOOC) in order to stimulate students and expand access to knowledge for all. These courses aim at large-scale interactive participation and free access via internet. In these courses, all contents are made available online, using various resources such as videos, texts, forums, presentations, conceptual schemes, etc. and are developed by teachers and researchers (Teixeira, A. et al., 2015 c).

Currently, the need for a MOOC Course is recognized and is also referenced by some authors, namely by Chiappe-Laverde, Hine and Martínez-Silva (2015):

The growth of academic research on MOOCs in recent years is a clear indication of the interest in the phenomenon and perhaps a sense that there is a need to map what is known about existing distance education practices, looking for incomplete knowledge in this area and to deepen the theoretical and practical implications of adopting the new practices (cit. Balula, 2015, p.147).

Krause and Lowe (2014) report that the MOOC has potential for change because, until then, knowledge was limited and closed in traditional universities, and because in some countries the number of students is very high and dispersed, it is necessary to respond to this demand, with the creation of these courses and the opening of the knowledge to the outside.

Another advantage of the MOOC is to facilitate the transition between non-formal education and formal education through certification. This objective can be accomplished by the way the certification options are incorporated in the courses. Another aspect to note is the high level of transparency of the learning process. The platform where the students make their registration has free access spaces that can be visible to anyone (Teixeira, A. et al., 2015c).

As one of the roles of training institutions is to prepare students for today's society, it is crucial to teach them how to use these technological resources and prepare them to cope with the large amount of information they have available, as well as think and reflect on this same information. Thus, it is urgent to change the training models and, consequently, the evaluation of learning.

Faced with this new scenario, the challenge arises of perceiving whether traditional assessment models are adequate to the needs and profiles of students, whether the "exam culture" still responds or whether, on the contrary, it is important to value the "evaluation culture". According to several authors (Birenbaum, 1996, Dochy, 2001, Gulikers et al., 2004, McConnell, 2006), the evaluation culture is essentially characterized by:

- (1) Emphasis on the insertion of evaluation in teaching;
- (2) Participation of the student in the development of his own evaluation in articulation with the work of the teacher;
- (3) Process and product evaluation;
- (4) The evaluation consists of forms, non-standardized, associated and interlinked with teaching practices;
- (5) Use of various evaluation tasks close to real life situations;
- (6) Challenging and investigative tasks;
- (7) Reinforcing students' reflection on their learning;
- (8) Enhancement of a qualitative description of the evaluation, rather than quantitative classification.

In a culture of competency evaluation, it is important to define the concept of competence to be taken into account in this research. Although there are several approaches, we take as a starting point the definition of Pereira, Oliveira, Tinoca, Pinto, and Amante (2015): competence is "the capacity to respond successfully to a personal and / or societal request, or to perform a task or activity that requires the mobilization of knowledge (implicit and / or explicit), skills, abilities, attitudes, emotions and values "(p.10).

Given the complexity of the concept of competence, it is not enough to evaluate the development of competencies by applying only one type of evaluation tool, so it is necessary to use several forms of evaluation (Baartman et al., 2007, Pereira, Tinoca & Oliveira, 2010). Competence assessment then requires a new approach where knowledge, skills and attitudes are integrated (Baartman et al., 2007), and this approach should be based on a variety of assessment methods and tools, using tasks similar to those in that skills will manifest themselves.

In classroom or virtual learning environments, evaluation is inherently linked to the teaching and learning process, assuming regulatory functions in order to provide useful information to teachers and students, and certification that confers the social guarantee of

learning through the study cycle and that occurs at the end of the cycle. In this way, the teaching process and results are mirrored in the evaluation process.

According to Perrenoud (2007), the formative assessment carried out throughout the teaching-learning process has a single purpose: to lead students to learn and to reach their learning objectives. In this sense, it is important to emphasize "the formative dimension of evaluation, thus promoting self-reflection, metacognition and the desired development" (Pereira, Oliveira, Tinoca, Pinto, & Amante, 2015, p.13).

The evaluation should not be seen as unrelated to cooperative work and, therefore, peer review in the evaluation process becomes quite relevant. According to Shepard (2000) and Topping (1998), it is an effective approximation of the evaluation in classroom and is an opportunity for the learning facilitator to have an image of the student's performance (Karami & Rezaei, 2015). While in the classroom the cooperative work is facilitated by the physical presence of the students, in the peer review, the cooperative work results from the tasks and dynamics proposed by the trainer so that there is a process of cooperation among the trainees since their presence is virtual. Also, in a MOOC, there are no synchronous sessions.

Peer assessment can be used as a formative evaluation process as well as summative evaluation. In the peer review that focuses on the formative evaluation, the focus is on the needs of the students while in the peer review that focuses on summative assessment, the focus is on the outcome (Karami & Rezaei, 2015).

With the arising of information technology and the use of the Internet, the classroom has become an open space because it has become a space for sharing processes and products with others. The use of the internet is mandatory in daily life, "in business transactions, in the relationship between the citizen and the State, the patient with the healthcare services, the access and control of bank accounts". Information has also come to transpose the traditional media, emerging as a space for debate and information, "citizen journalism", multiplying institutional information, "expression of the individual", social networks (facebook, twitter, etc.) and virtual communities. If we focus on the school, the digital environments that students have access to are numerous: virtual libraries, blogs, wikis, aggregators and social markers, social networks, virtual worlds, etc. (Pereira, Oliveira, Tinoca, Pinto, & Amante, 2015, p.1).

Thus, it becomes urgent to rethink, not only the way students are taught, but also the way that students are evaluated. Many forms of evaluation based on virtual forums, blogs or team-based online work have proved to be adequate for the assessment of skills. Although objective tests with automatic feedback are used, this system is not considered as a means to evaluate a competence. Thus, in order to evaluate competencies, it is necessary that the student elaborate and produce explicitly (Bolivar, 2011).

THE MOOC MODALITY

The growing need to promote the innovation process of training and the urgency of a process of massification of education led to the emergence of the MOOC.

In the view of Pernias Peco and Lujan-Mora (2013) and Blanco et al. (2013), many experts consider MOOCs to be responsible for a revolution in education because it is an emerging technological and pedagogical trend that is spreading on a large scale.

Currently, these courses are an example of new learning modalities and are expanding in the educational field, particularly in higher education institutions (López, Hernández and Barrera, 2015).

MOOCs are courses with a form of massive transmission of knowledge that allows free access and involves large numbers of people. These courses are open to the whole community and are taught at distance, using an internet connection and a dedicated platform. The platforms that are most popular are Canvas Network, CogBooks, Coursera, ECO, EDX, EMMA, FUN, Future Learn, MiriadaX, OpenClassRoom, Open2Study, Udemy, Udacity, UNED COMA, UniMOOC, Unow and Veduca.

In the last years several designations have appeared for this type of course, taking into account the purpose and the target audience for which they are intended.

Downes (2012) identified two types of MOOCs, the xMOOCs and the cMOOCs.

The xMOOC are courses with a behaviorist approach, in which there is a teacher who transmits the contents to the group of participants, and directs the discussions. Thus, the participant is guided by the content of the teacher, but can also contribute with external content, and can exchange ideas on the course platform itself.

The cMOOCs are courses with a connectivist approach (from which the letter "c" comes), from a perspective of network learning, where the teacher directs, aids and guides some information shared by participants. The participant has to search for and generate external information (in addition to the material provided by the teacher) and the contents of the course are enriched with external material and the sharing of information among the various participants. They are courses with an exploratory typology, composed of an attempt-error-reflection approach.

Alternatively, Lane (2012) defines MOOCs taking into account other characteristics of the distance education modality, mentioning that MOOCs are composed of three common elements: *network-based*, *task-based* and *content-based*. However, each one has a dominant goal. The network-based courses are network-based, being the main objective the development of skills. The focus is not so much on content. Task-based activities are based on activities, and the student is required to complete certain types of work. And in the content-based courses, content acquisition is primarily aimed, and the acquisition of contents is more important than the network or the completion of activities.

Other authors such as Sanchez-Gordon and Luján-Mora (2014) created other variants of the MOOCs taking into account the specificities of each one: BOOC (Big Open Online Course), COOC (Community Open Online Course); DOCC (Distributed Online Collaborative Course); MOOR (Massive Open Online Research); SMOOC (Synchronous Massive Online Course); SPOC (Small Private Online Course). BOOCs combines distributed learning (cMOOC) with personalized

feedback (xMOOC) and is limited to fewer participants. COOCs are small-scale courses and learning is internally motivated and enriched by sharing. DOCCs underlie on the concept that knowledge can be easily achieved as long as it is distributed by participants from different contexts. In this way it is intended that there is a collaborative participation of knowledge, ideas and materials. MOORs are mainly focused on research projects and allow participants to work closely with professionals (researchers or scientists) in a very practical way. SMOCs are distinguished from previous ones because they contain lectures from tutors transmitted live, and participants must log in at specific times to view them. Taking into account these specificities, this type of courses have a limited number of participants. SPOCs are courses that allow participants from specific areas of knowledge to promote interactions and improve learning outcomes. The number of participants is also limited.

Blanco et al. (2013) has created an aMOOC (adaptative MOOC), a course that has as main function to adapt to the participant's individual learning preferences, and content is provided with differentiated learning strategies, giving intelligent feedback in real time.

Ponti et al. (2014) denominated mMOOC (mechanical MOOC) as being suitable for non-formal, short-term education and without the requirement of educational prerequisites. The letter "m" means mechanical since there is no teacher or tutor to guide the course and there is also no learning through peer assessment.

Daradoumis et al. (2013) named the quasi-MOOCs of a set of Web-based tutorials (Open Educational Resources-OER) that do not actually constitute a course but support specific learning tasks, and are asynchronous learning resources with no interaction Social.

The Universidade Aberta of Portugal has developed a pedagogical model of MOOC that is based on socio-constructivist assumptions that combine the dimension of self-learning with the social dimension. This model was called iMOOC and had as its objective "to develop a learning space based on social interaction, guaranteed by the Elgg platform, where all the information about the course is added in the Moodle space (content, learning resources, as well as doubts forums and a tool for peer assessment)" (Teixeira, Miranda, Oliveira and Pinto, 2018, p.2). This model emerges from an "integrated perspective of learning that adds the promotion of individual responsibility and interpersonal relationships in an innovative environment that facilitates interaction and inclusion" (Teixeira and Mota, p.2).

The ECOiMOOC "Digital Competencies for Teachers" was a pilot MOOC promoted by the Universidade Aberta (one of the partners of the ECO project) that aimed to promote reflection and discussion on the development of digital skills needed for the use of digital technologies in education, more concretely in the context of the classroom. The reflection also focuses on the ways of integrating social learning tools with the purpose of promoting better student performance.

The sMOOCs are the MOOC model adopted by the ECO (Elearning, Communication and Open-data: Massive Mobile, Ubiquitous and Open Learning) project, with the "s" highlighting the social component of the model. According to Garrison and Anderson (2003), this model underlies the idea that learning experiences are determined through social interactions and active, contextualized and situational, student-centered participation.

METHODS

The methodological options had to do with the admitted assumptions of the epistemological nature and the purposes of the investigation that is intended to carry out. Thus, we developed an investigation of a qualitative nature in the sense given by Denzin and Lincoln (2005), that is, an investigation that includes an interpretive, constructivist perspective against the object of study. In education, the interpretive perspective is understood as "a process and the school is a lived experience. Perceiving the meaning of the process or of experience is the knowledge gained by inductive hypotheses or theory generated by the mode of inquiry" (Merriam, 1998, p.4).

In the scope of this investigation we used as an instrument of data collection the interview survey. The interview is, according to Yin (2010), the most important source of research for the case study. In the same thread, Bogdan and Biklen (1994) consider interview as an essential tool "to collect descriptive data in the subject's own language, allowing the researcher to intuitively develop the idea of how subjects interpret aspects of the world" (p.134).

The purpose of this work concerns the analysis and dissemination of learning assessment practices suitable for open and scalable learning environments, which tend to be massive, namely within the framework of MOOCs, focusing mainly on peer assessment. This purpose will be translated into the following objectives:

- Describe and analyze good evaluation practices in the MOOC course under analysis;
- Investigate the influence of the evaluation on the success of the participants in the said MOOC;
- Analyze the importance attributed by participants to peer review (in general and in the MOOC under analysis);
- Identify the characteristics that must be present in the evaluators;
- Analyze the type of feedback that was provided to participants in the MOOC under study;
- Identify quality and sustainability criteria in the assessment of peer learning.

To the data record, Skype and MP3 Skype Recorder were used. These are applications that work online, are compatible with Windows and that allowed the audio recording of interviews. Subsequently, the interviews were all written in Microsoft Word and, consequently, converted into text format. The first task was the complete transcription of the interviews followed by their reading.

After having collected the data from the eight surveys by interviewing the trainees who participated in ECOiMOOC, we analyzed the content of the same. The content of the answers was grouped taking into account the previously established indicators.

The interviewees were students from Universidade Aberta who volunteered to participate in the study, after being invited by the researchers. Participants were aged between 36 and 55 years. They were all teachers, except one, who was a computer scientist. Most held a degree, with two having a Master's degree and one a Doctor's degree.

The creation of the indicators proved to be fundamental for comparisons of the answers given, so that we can reach to the conclusions.

The first task was the complete transcription of the interviews followed by their reading. After collecting data from the eight interviews, we proceeded to analyze their content (Bogdan & Biklen, 1994; Bardin, 2012; Amado, 2014).

The content of the responses was grouped taking into account the previously established indicators. The creation of indicators proved to be essential for us to carry out the analysis and comparison between the various answers given to each of the questions. The interview was conducted question by question and some responses were associated with the indicator that best suited each of them. Although the questions to the interviewees were the same, the answers did not always appear in the course of the respective question, but in the context of another, so it was necessary to read the interviews several times.

The study was carried out, question by question, and some of the answers were associated with the indicator that best suited each one. Although the questions to the interviewees were all the same, being a semi-structured interview, the answers did not always arise in the extent of that question.

RESULTS

THE EVALUATION OF PARTICIPANTS SUCESS

The dimension of evaluation in the success of participants was addressed in the interview through five questions.

With the first question, we intended to know the role of the evaluation modalities used in the MOOCs, and the answers indicated that the evaluation modalities have a role in the motivation of the participants. One of the interviewees mentioned the importance of gamification "that drove a competition", and the participants used the gamification to be "in the ranking" and the performance became "a little playful" (E.7). Although the majority of respondents considered that the modalities of evaluation were "very efficient" (E.1) and that evaluation had a motivating role ("I was motivated" (E.8)) in their performance, throughout the course, there is one interviewee who mentions that it was "a little disappointing because a person is taking a course and we have to evaluate the work ourselves" (E.2).

The interviewees were also asked about the most important situation in the evaluation. With regard to this question, the participants mentioned that the second evaluation was more important than the first because they already had a concrete example. One of the interviewees mentioned that the most important situation of the evaluation was "meeting the criteria" because it showed the "progress and pointed out the shortcomings of the work" (E.7). The "ability to perceive the advances I had during the course" was also one of the situations indicated by another interviewee (E.8). However, one participant refers to some disappointment with the peer assessment process, noting that "after seeing the answers they gave in relation to the work I did, we see that some are sincere answers that try to correct some things and say what is wrong and what is right, but others are to dispatch "(E.3).

Regarding the classification of success, the participants mentioned that the course was "very satisfactory" (E.1) or that they liked "a lot of this experience" (E.7). However, another participant stated that "even being a course with lots of people and at distance, those who learn can do it as if it were classroom, with the same rigor as if it were classroom" (E.4). The same participant also stated that "with the fact that the course producers are at distance, is usually more demanding to demonstrate that the course is of quality and rigorous" (E.4). There are also those who mention that the success of the course is not so great because it lacks a "referee", that is, someone who follows the whole process and participates in this process (E.5).

When questioned about the influence of the evaluation process on participation, most interviewees said that it has a positive impact, justifying that "if the participant does not feel secure or does not understand how the evaluation process occurs, will not be motivated to continue the course ... and there is a withdrawal throughout the process" (E.8). However, one of the interviewees mentions that in order to have an impact, the evaluation objectives must be very well defined. Other interviewee reinforces the importance of this influence, but says that it "depends a lot of the approach of the teacher, ..." (E.6).

Concerning the positive aspects of the evaluation process, several aspects were identified, namely:

- The relation, the attention and the comments by the trainers;
- Reviewers' comments in the process of evaluating peer learning;
- Self-assessment;
- The sense of belonging to a learning community;
- The evaluation process is in the same thread with the proposed activities.

Negative aspects of the evaluation process were mentioned as:

- The evaluation criteria are not very clear, and had created some injustices in the evaluation of the work;
- Lack of examples that guide the evaluation of peer learning;
- The trainer does not comment on the process of evaluating peer learning and does not mediate the process;
- The gamification did not give great stimulus to the trainee;
- It is necessary to strengthen interpersonal relationships;
- Having to evaluate a trainee who does not know himself very well, with whom he has not had the opportunity to interact;

QUALITY CRITERIA

The dimension of the quality criteria was addressed in the interview through seven questions.

Regarding the importance of peer assessment, the interviewees' response was unanimous; all of them mentioned that they are totally for this evaluation methodology. The reasons given were as follows:

- "the review process allows us to review ourselves as we review colleagues' work and learn from what others produce" (E.1);
- allows to help the teacher due to the high number of trainees;
- gives credibility to distance learning; and
- "because we form teachers, we only learn to evaluate ... by doing evaluation" (E.7).

Concerning difficulties in peer review, the following were experienced:

- Use of evaluation criteria proposed in the course;
- The instructions were a bit confusing;
- Difficulty in correctly evaluating content;
- Lack of experience in this type of evaluation;
- Difficulty in "making a commitment to the evaluation of the other, some still in a trivial way ..." (E.7);
- "The teacher has to share the evaluation process with the class ... [to work] the assessment of a truly collaborative perspective" (E.7);
- Keep "in touch with your failure, with your disability, with the gap of your work, pointed out by another colleague ..." (E.8).

According to the interviewees, what should be most valued in a feedback is:

- The way the work is being conducted;
- The expected results;
- The evolution of the participant;
- The objectives reached by the trainee;
- Realize that the evaluation criteria have been well applied;
- The quality of what is being prepared by the trainee who is being evaluated; and
- The degree of maturity of the trainee who is being evaluated.

Respondents when questioned about the fairness and credibility of the evaluation, and the results found were that the majority thinks in the evaluation as a fair and credible process.

However, it is worth noting some points that seem relevant to ensure such fairness and credibility. According to the interviewees, it is necessary to:

- The work to be evaluated by the mediators and the motivators of the MOOC;
- Have a fair evaluator who must do the work seriously;
- Recognize competence in the evaluator;
- Define the evaluation criteria well; and
- Check if the trainees are applying the criteria well.

However one of the interviewees does not consider the results of the evaluation fair because, according to the interviewee, "we have to take into account that not all people there have the same level of knowledge [and that] not all people take the same level of commitment to the evaluation" (E.7). Regarding reliability, the same interviewee considers that evaluation can be trusted because there are established criteria, but would be 100% reliable if, in conjunction with the peer reviews, there was a teacher evaluation.

Most of the interviewees considered that the work performed was good. The justifications were based on the fact that people who were able to follow the course of the MOOC have realized the dynamics of the MOOC and the evaluations were well justified and consistently done with solid feedback. However, one of the interviewees pointed out that evaluation is the most fragile of the work done and another one mentioned that although the work is interesting, some of the participants "are weak" in terms of their performance in the evaluation (E.8).

Suggestions for improvement and personalized feedback are the indicators with the more advantageous position to the success of the participants.

SUSTAINABILITY CRITERIA

The dimension of quality criteria was addressed in the interview through three questions.

Respondents questioned about the importance of experience and motivation for commenting stated that experience and motivation were critical because "experience guarantees some fidelity to the comment" (E.4) and also because to the "participant who has no experience in peer review, the evaluation lacks consistency" (E.6). Concerning motivation, interviewees mentioned that if the participants are more motivated "the exploration will be much more thorough and the person, when interested, will improve much more in their contributions" (E.2). Another participant said that "a disgruntled participant ... will not be able to give a worthy opinion ... because he will ... make a comment perhaps to get rid of that at the moment ... and even with a

lack of responsibility", so it is very important their motivation and commitment to carry out all the tasks (E.8).

Regarding the potential of peer learning assessment, interviewees mentioned that:

- Reflection on the development of processes and attention in the processes

themselves is important because "when evaluating the other I see myself and review what I have done" (E.2);

- "It is an ideal instrument for mass teaching" (E.2);
- With peer assessment "we are in a status of equality" (E.3, E.4);
- The great stimulus that it represents for the evaluator and for the evaluated one;
- The "opportunity to learn from a colleague" (E.7);
- Give "important feedback because it gives a north to the student's production" (E.8).

Considering the limitations of the peer assessment, the interviewees mentioned that:

- Lack of transparency;
- Excessive competitiveness;
- The lack of rigor in the application of the criteria;
- The lack of clarification of the evaluation process;
- The teacher should give some advice;
- The lack of experience of the group in this type of evaluation;
- Not knowing the person who evaluates because there was not enough interaction;
- The peer assessment itself;
- Failure to communicate evaluation criteria prior to completion of tasks; and
- Keep the group motivated.

Regarding the influence of the MOOC on professional practice, all interviewees mentioned that it had influence not only in the accomplishment of future work to be done in distance learning, but also in face-to-face teaching. The interviewees mentioned that the methodologies and the tools used, namely the evaluation of peer learning, can be applied in the context of the classroom. Two of the interviewees mentioned that they learned a lot from the peer

assessment, besides collecting data and publishing an article, which shows the influence of the MOOC on their academic career.

One of the interviewees was not a teacher, and mentioned that being a computer scientist helped him to understand the difficulties that teachers had in using the new technologies.

DISCUSSION AND CONCLUSION

According to the interviewees, the evaluation of learning through peer review is a strategy with potentialities since it allows the evaluation of a mass teaching, collaborative work among peers and reflection on learning processes and products, which corroborate the conclusions of Teixeira, Miranda, Oliveira and Pinto (2018).

The fact that trainees mentioned the limitations of the MOOC that they attended, allows us to reflect on some points that we consider to be central to the implementation of this evaluation strategy. It is essential that trainees become involved, as Topping (2010) points out, so that they are aware of the evaluation criteria as early as possible and that they appropriate them so that they can conscientiously apply them in a balanced way. It should be noted that prior to peer learning assessment strategies, certain activities should be developed to facilitate collaborative work so that there is a mutual knowledge of peers to be evaluated. This collaborative work also facilitates the transmission of personalized feedback, leading to an acceptance of suggestions for improvement. In this way, quality feedback is fundamental to learners' learning, as Sadler (1998), Atkin et al. (2001) state.

The trainees' experience in the apprenticeship evaluation strategy through peer review also seems to be an essential point to follow acceptable standards of quality. Thus, it seems appropriate to us that in a MOOC course, before the first peer review in which the results accrue for the final evaluation, there is a way for the trainees to appropriate this type of evaluation in order to make the results more fair and reliable.

Another point to note is that peers should be grouped by levels of knowledge or by disciplinary area because it can be difficult to judge fairly from different disciplinary groups.

Although this investigation is focused on peer assessment, most participants still consider the trainer as the mediator who provides the most important feedback. Participants also considered that the MOOC trainer played an active role in the peer assessment by moderating the process.

It should be noted that the number of participants is very high and therefore the facilitator should be accessible for contact, to receive complaints from those who consider the evaluation unfair and then, the work should be reviewed when this happens.

During the course of this MOOC, the trainer provided personalized feedback, which proved to be very important so that trainees could improve their performance. These data corroborate the data obtained in the studies of Teixeira, Miranda, Oliveira and Pinto (2018).

In the MOOC it is very important that trainees stay motivated, as Topping (2010) and Dochy & McDowell (1997) refer, because in this modality of education it is necessary for the trainee to be very organized and persistent in order to complete the course. Reinforcing the idea of Topping (2010), success by the student evaluator can positively influence the motivation and self-confidence of the student evaluated. In addition to motivation, another criterion of evaluation is sustainability. In this investigation, sustainability was referred by the interviewees as an added value in the evaluation process of learning through peer review. It was even suggested that before the first peer review, the trainees should have a first contact with the strategy to become familiar with the process.

As a synthesis, the mechanisms of interaction, communication and collaboration between the participants and the trainer, in articulation with the learning evaluation modality through peer review, seemed to be the key to improve the quality and sustainability of the evaluation.

We point out as a limitation of the study, the number of participants involved in the interviews, so the data cannot be generalized.

This investigation increased our interest and brought us increased concerns translated into the following question:

Which model of distance learning and eLearning is most suitable for developing skills?

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