

# FORMATION FOR THE ONLINE TEACHING USING VIRTUAL LEARNING ENVIRONMENT (VLE) INTERACTIVELY

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## **ABSTRACT**

*This article aims to make teachers aware about the importance of the mediation in the Virtual Learning Environments (VLEs). The VLEs must be organized with activities that make it possible for the online teacher to be able to promote the interactivity and the collective construction of the knowledge. Activities such as the Wiki, the forum and the glossary make it possible, as long as they are well prepared and mediated by the teacher. However, it will be worthless for the online teaching to have a well-projected room, with many selected communicative activities, if the teacher is not active, one who calls together and incites the group to the participation. The role of the teacher is fundamental, once the best chances for the increase of the student's knowledge lie in the student-student and student-teacher interactions.*

**Keywords: interactivity, virtual learning environment, collective construction of knowledge, learning**

## 1. Introduction

The appearing of new information and communication technologies stimulated distance learning, bringing alternative forms of generation and dissemination of knowledge through the Internet. [1] points out some characteristics of the digital technology when they are absorbed in the educational context:

The use of the Information and Communication Technology (ICT) by the Distance Learning (DL) made this educational modality more complex due to the following digital technology characteristics: it promotes the interaction between the people, between the people and the available information and the current technologies; it increases the access to updated information; it uses search and selection instruments; it allows the record of processes and products, the recuperation, articulation and reformulation of information; it favors the pedagogic mediation in synchronized or non-synchronized processes; it creates spaces for the thought representation and the knowledge production ( p.1.).

Also [13] performs an analysis about the possibilities of the use of digital technologies in the educational process and identifies especially the internet as a potential tool in the mediation of the distance teaching and learning process.

The VLEs represent the online classroom. This virtual environment brings an array of interfaces, tools and structures that are fundamental for the construction of the interactivity and the learning.

The adequate use of virtual learning environments in a really innovative online education should stimulate curiosity, collaboration, problem solving, the search and contextualization of information [9]. The intensification of the participation, of the student's active role, of the collective intelligence, of the collaboration and the interaction is emphasized. [15] explains that in an online environment, the interaction and the interchange of information between the student and the teacher are highly valued, instead of the passive oral reproduction of contents.

This article aims to suggest strategies to make teachers aware of the importance of the mediation in VLE, which has as basic premises the interactivity and the collective construction of knowledge. This article tries to

respond to specific questions, such as: Can the interactivity contribute to the online teaching practice? How can one perform online teaching practice that promotes the collective construction of knowledge? Which teaching practices make the interactive use of the VLE interfaces possible and can serve for the collective construction of knowledge?

## 2. Interactive teaching action

In interactive teaching action, the teacher “proposes the knowledge; does not transmit it. He does not offer it in the distance for the audiovisual and ‘banking’ (sedentary, passive) reception, as it was criticized by Paulo Freire” [14].

Inspired by the “Parangolé”, the teacher proposes the knowledge to the students like the artist proposes his potential artwork to the public. (...) the student is no longer reduced to looking, listening, copying and presenting results. He creates, modifies, constructs, increases and thus becomes a co-author. Exactly like in the Parangolé, instead of having the finished artwork, one only has its elements available for the manipulation (p.3.).

Affectivity is very important in the interactions. “In order to make learning effective, it is crucial to construct links between everyone involved in the pedagogic relation and also to have a context that promotes problem-solving situations and discussions between students and teachers” [11].

Having communicative tools in the VLE does not guarantee that the course will be interactive, besides these tools, an active teacher is necessary [11].

When there is no participation, the virtual course is not interactive. So, it is of no use to have the virtual environment only making available interactive communication tools. It is necessary a good access between the student and the teacher, also systematic feedback, stimulus to the participation, teacher’s communication style, knowledge and use of the communication tools by the teacher (p.59.).

## **2.2 Collective construction of knowledge**

Interactivity begins to be understood as a possibility for the user to actively participate, interfering in the process with actions, reactions, intervening, becoming receptor and sender of messages that gain plasticity, allowing immediate transformation [6], creating new ways, new paths, new cartographies, based on the subject's desire. What can also be added is the capability of these new systems to receive the user's needs and satisfy them [8].

This way, a collective intelligence would be under construction, understood here in the perspective of Pierre Lévy as "a globally distributed intelligence, relentlessly valued, coordinated in real time, which leads to an effective mobilization of competences." [6] p. 38.

The intelligence is in constant process of construction, in which all kinds of knowledge are valued. The emphasis displaces from the quantitative to the qualitative. The cognitive identity of the human being is respected, but the search is for the collective construction [6].

The products would not "arrive" ready for the receiver. He would be able to remodel, resignificate and transform the product that was being used in the interaction, according to his own imagination, need or desire, bringing new opportunities for the speeches to become more open and fluid [8].

For [7], the collective intelligence only succeeds when it is really collective, when there is cooperation and competition at the same time, and adds that the Collective Intelligence is born from the balance between the cooperation and the competition.

## **3. VLE tools and their Pedagogic Usages**

Tools such as: chat rooms, tasks, diaries, questionnaires, choices and polls when analyzed alone do not promote the collective construction of knowledge, but when they are used together with the Wiki, the forums and the glossary, depending on the pedagogic strategy used by the teacher, they can contribute to the collective construction of the knowledge.

Next, we will show the following interfaces: Wiki, forum and glossary and their potentialities for interactivity and the collective construction of knowledge.

### **3.1 Wiki**

The potentiality of the Wiki lies exactly in its power of collaboration among the participants, the existence of not only one author, but collaborating co-authors. Collaboration allows non-egocentrism and decentralizes the power of information, it works on a horizontal axis, non-hierarchical [3].

Working with the Wiki is not easy for the teacher and the student, it requires a new attitude once it demands new forms of understanding teaching and learning and a new educational culture [3]. Alves describes well this difficulty [2]:

The students in general find great difficulties to produce collectively, considering that they were not educated for this. Such difficulty appears in the text production that many times configures itself like a patchwork, once the students tend to include paragraphs without building a link between them, they don't feel comfortable interfering in the other's text and when they do it, they can somehow offend the classmate who posted the initial message (p.199).

This way, working with this interface constitutes a great challenge. The teacher must be alert to mediate that production, guiding the students, stimulating the collective production [2].

In some circumstances, the students' difficulties may even hinder their participation in the collective text construction. In this case, a strategy to be taken is to create work groups with at most three students to do the exercise of collectively producing in a small group [2].

The "acceptance" of an educational activity wiki in Moodle depends strongly on the previously done planning, as well as on the demonstration of the degree in which a person can really benefit from this mediation for the work. For this, the orientation is that the activity wiki should not be proposed without bibliographic reference from the beginning, but that it should provide a good amount of cultural contents that could be discussed, edited or complemented [10].

[12] talks about how important it is for the student to learn to accomplish a collaborative text and the competences that he may acquire with this practice.

Collaborative production of a text is an important step for the dissemination of cooperation on the internet. Once the individual learns to create a text collectively, he will also know how to participate interacting with other users in the creation of any other on-site or distance activities [12].

Through this participation, the user contributes with the Collective Intelligence, a concept broadly discussed by Lévy, adding elements and varied points of views to a given subject of discussion.

The Physics College of the Federal University of Santa Maria (UFSM) developed an activity using wiki in Moodle in the subject Physics Didactics (I and II), with 25 and 27 students, respectively. The class was randomly divided in two, once this was the best way found to better monitor and optimize the collaborative production [10].

The work developed by the students started rather too textual. To solve this problem, the professor asked, using a task, the insertion of images and links in the text. After this redirecting, the results were very positive.

The researchers concluded that study activities like the ones realized with the wiki in Moodle improved the learning in terms of personal and professional formation. Besides this, they developed the collaborative sense, adding value and enriching the group, thus stimulating the group production and generating learning.

### **3.2 Forum**

The research carried out by Ariza apud [5], based on the statistics of the professors/tutors concluded that this was the environment interface where the learners learned the most. They realized that the interactions of the discussion forum promoted the collective construction of knowledge, boosting the individual learning.

The learners themselves considered the forums as one of the tools that promoted the greatest interaction between them and the professors/tutors, for being a non-synchronized tool and the dialogicity, that has made it possible the collective construction of knowledge and has increased the social and affective

relations. At the same time that the individual shares his knowledge, he receives interferences and interferes in other knowledge, and a real social-interactionist possibility is perceivable, promoting a learning space, allowing to explore the level of potential development, a space for interactions where new possibilities for learning are created [5].

[5] show other advantages of the forum when compared to other VLE tools:

It has provided longer time for the learners participation; it has demanded a bigger need for readings and researches; it has demonstrated better performance in written production; it has offered greater freedom in the quantity of participations, as well as in the extension of that participation; it has provided possibilities of both individual and group formative evaluation, self-evaluation; interaction; collaborative learning: besides representing a qualified record of the personal manifestations [5].

The forums must be organized in a way that the student feels comfortable to participate, understanding that it is a space for the construction of knowledge where he can ask, give reasons and even make mistakes. We should see it as the dialogs when the teacher shoots questions and stimulates the students to express their opinions, corroborating or contradicting their classmates [2].

The pedagogic use of the forum is the construction of works carried out from the collaboration of the elements of the group and the forum, defined one for each group, being the space for discussion, inclusion of versions and perception of the students' improvement. The teacher can ask slides about a given topic and the students can construct the work interacting with their classmates through the group's forum: "Interaction Forum of Group X" or "Discussion Forum of group Y".

This activity allows the teacher to stimulate the collaboration. Society wants subjects who know how to contribute for the learning of the group that they belong to, whether it is teaching, answering or asking. "It is the group collective intelligence that needs to be put into practice, the combination of competences distributed among its members, more than the brilliance of one member alone"[11].

Work, nowadays, is more and more performed in a collaborative way, demanding professionals and citizens able to work in teams.

### **3.3 Glossary**

The activity with the glossary can be started in the first module and, throughout the discipline, the students can build and add their conceptual and terminology insertions [2].

Another possibility pointed out by [4] is to organize a Commented Links Library, where the student adds a site related to any topic, socializes the address found and writes a brief comment about the content that is available in it. Besides having the link, the space can be open for the other students' comments, who also visit the same site to interchange experiences and meanings.

Agreeing with [4], [2] sees a possibility to transform the glossary in hypermedia:

Media library, depending on how it was conceived, is an example of hypermedia, because multiple links to Internet pages already made available by the teacher can be found there and also the user/learner can make other links available. From these links, the user/learner can update contents. He can also add audio, texts, images, etc. In this space, the user/learner stops being a mere receptor to take the role of co-author of the work.

## **4. Final Considerations**

Just having a classroom in VLE does not mean that this is a learning space. The interactions are fundamental for the learning processes and it is through them that the knowledge process is collaboratively created

The interactions provided by the activities forum, Wiki and glossary, as long as they are well prepared and mediated by the teacher, promote the interactivity and the collective construction of knowledge.

A good strategy for the teacher to make the students produce collectively in the forum is to define separate forums by groups and propose a task, for example, slide designing.

In this task, the students post the evolution of the production in their group's space and collaboratively construct the final work.

The teacher has an important role in the Wiki tool to mediate production, guiding students and stimulating them in order to achieve the



collective production. If the teacher provides some texts to be debated, edited or complemented, that can facilitate the collective text production. Besides, he can suggest the collective production after the subject has been debated in a forum, making the editing easier, once the students will already know the subject.

The activity glossary can be started in the first module, and the students can gradually construct it and add their contributions during all the discipline time. At the end of it, they will have collectively constructed a dictionary in which the involvement, the interchanges and the resulting researches may have produced an increase in the student's knowledge.

In an interactive environment, well-chosen tools, well-projected environments and well-elaborated materials are worthless if there is not an active teacher. The teacher's role is fundamental to promote the participation between student-student and teacher-student. He is the responsible for devising and suggesting the ways leading to the knowledge construction, for creating the possibilities, the dialogic and collaboration context and, mainly, the interactivity context.

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