E-MODERATION IN VIRTUAL ENVIRONMENTS - ENHANCING E-LEARNING CONTEXTS IN HIGHER EDUCATION

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Abstract

This paper will present and discuss, based in implemented case studies, how students can benefit from the close contact with social networks and virtual worlds in order to enhance their communication skills and therefore collaborations and interactions in order to achieve better knowledge in an e-learning context. Additionally the role of teachers in e-learning contexts is also approached. The target of this study were students and teachers from HE and the data was collected by direct observation and questionnaires.

Keywords: e-learning, higher education, e-tutoria, e-moderation, web 2.0, virtual environments, technology enhanced learning, Second Life.

1 INTRODUCTION

There is a growing trend in education and training towards the use of online and distance learning courses (e-learning format). This delivery format provides flexibility and accessibility; it is also viewed as a way to provide education in a more effective way to a broader community. E-learning format provides flexibility and accessibility; it is also viewed as a way to provide education in a more effective way to a broader community. Online courses are comfortable; they are built under the missive of "anyone, anywhere, anytime". Everyone can participate from home or workplace.

Online courses can be developed in a variety of ways, for example, using a LMS (Learning Management System), a LCM (Learning Content System), or a Web 2.0 tool (or some mixture).

As Gaines said, "the «e» in e-Learning stands for education – we too often forget that – it is not about bandwidth, servers, and cables. It is about education – first and foremost" (Ken Gaines, In Masie, 2004: 4) [1]. Therefore, in this paper, we will discuss the roles of students, teachers and communication in e-learning. Beyond technology the human factor stands up front. Even if we have access to the most ultimate technology without a good communication between agents (students and teachers) the learning process may not occur.

Teachers are becoming challenged to develop new strategies in order to fulfill the needs and enhance the skills of their digital age students. Combining technology and pedagogy, the e-learning keeps the main goal of learning held by the student, as well as the e-content, which should be interactive and multimedia format. With the development of technologies and the growth of Web, many e-learning solutions arose. Higher Education (HE) is a field that has been taking advantage from this technological development, giving students other ways to access education.

Although, for this to happen some changes have to be made. Teachers and students need to adapt to the e-learning format - which many times occurs at a distance, with a screen computer as an intermediate. In e-learning format we are putting technology in between people. To know what and how to provide best ways for them to communicate is a challenge. To better understand how to provide a better ambiance for an e-learning format some studies were implemented. Online courses can be set through a more close or open virtual environment. We will describe some of the differences between those two types of environments. We intended to understand how communication, and as

consequence interactions and collaborations, can be enhanced in online formats, how students and teachers can benefit from the close contact with social networks and virtual worlds. The target of this study were students and teachers/tutors from a particular class in a Portuguese Higher Education Institution (HEI) and the data was mainly collected by direct observation and questionnaires. We realized the importance of having a tutor along an online course to support and moderate students and help them to understand the contents and to interact with peers. In this paper we will present the results achieved. Therefore, the paper is structured in sections. In § 2 we will push forward the state of the art related with e-learning format. At § 3 we will introduce the concept of e-moderation in virtual environments and its role in online courses. The pilot studies are presented at § 4. The paper finishes with some conclusions and final considerations.

2 E-LEARNING IN HIGHER EDUCATION

With *Digital Agenda 2015* proposes a quality education by year 2015, where e-learning is crucial for achieving this goal, bridging the difficulties of access to HE and creating an enabling learning for all, continuing with the proposed fight against social exclusion.

Given that e-learning is a set of methods, techniques and resources available online so students can make a self-learning process, the collaborative spirit takes on special meaning with learning peer to peer teaching, since the exchange of sharing ideas and inevitably enrich the student experience.

Therefore e-learning promotes an active and interactive learning space between students, teachers and contents of a synchronous and/or asynchronous manner. It is essential, and for the success of the teaching-learning process, that learning agents can build a healthy environment of interaction, where trust and mutual cooperation are a constant. It is therefore necessary that the e-teacher must be judicious in the choice of tools to be used to promote this principle of mutual-help attitudes (Tarouco et al., 2003) [2].

Synchronous environments have as main feature the interactivity between agents (e-teacher and e-students) creating a social climate propitious to the creation of learning communities, using the tools made available by the Internet and educational platforms (Miranda & Dias, 2003 [3]; Pereira et al. 2004 [4]).

Asynchronous Learning is a form of communication that arises from the temporal and spatial difference, being one of the oldest forms of communication in e-learning. Through it, students have the opportunity to reflect upon their study, search for more information and compose their text in a more elaborated and substantiated way. (Miranda & Dias, 2003 [3]; Pereira et al. 2004 [4])

E-learning, presenting itself as a learning model without constraints of space and time between teacher and student, based on the use of technology is intended more to an adult audience, with greater maturity, motivation and self-discipline, so take a leadership role in the process of self-learning (Lima & Capitão, 2003) [5].

Combining technology and pedagogy, e-learning keeps the main purpose of learning held by student, as well as e-content to be interactive and multimedia format (Lima & Capitão, 2003 [5]; Barbas, 2007 [6] ; Bidarra, 2008 [7]). In this perspective, this form of teaching supports instant updates with fast access from a computer, smartphone, PDA, or others, as long as you have Internet access.

E-learning is a teaching format based in learning management systems (LMS), which according to Dias (2004)[8] are space-based web applications that integrate a set of features that allow you to create and manage a space for students access to content provided by the teacher, and where there is a diversity of interactions between the agents, synchronously and / or asynchronous.

The main features of a LMS, in particular the Moodle, are gathered in four dimensions (Dias, 2007) [9]:

- Protected access and management of user profiles - thus creating a web environment reserved for participants in a course and define the various permissions, at teachers and students level;
- Managing access to content, allowing teacher to put content online in various formats and set the times and ways how students can interact with them;
- Tools for synchronous and asynchronous communication, enabling communication between stakeholders;

- Means to control activities, allowing the registration of all activities / actions made by students and teachers.

Besides LMSs online learning can, nowadays, take advantage of other platforms available at the Web. Some of them became very popular lately among students (and teachers) - such as social networks and virtual worlds. These virtual environments are open and visually more attractive - since they are graphic based. 3D virtual worlds, like Second Life (SL) have been used as a tool for e-learning. There is a creative side of these immersive environments that can bring different approaches in education. Dynamic classes can be created by taking advantage of in-world communication tools, of the immersion, of the shared building possibilities and the easily how the 3D environments can be changed and adapted according with the specifications of a course of characteristics of a group of students. With e-learning format, in cyberspace, it is possible to recreate classes with the characteristics of an informal education, where students collaborate, cooperate, share and self-learn, because they are no longer in a closed environment. Social networks appear to be emerging environments providing channels of communication, sharing and distribution that enhance communication with e-learning students, replacing traditional communication with platforms such as Moodle (LMS) or acting as a supplement that ensures the participation of the whole community. Communication, collaboration and cooperation with peers are very important in e-learning education.

3 E-MODERATION IN VIRTUAL ENVIRONMENTS

In 3D worlds learning is more focused in the "self", different from learning in a LMS, with only forums to communicate. The virtual world, Second Life®, with Sloodle resource (Moodle application that connects to Second Life®) has distinguished itself in education, especially higher education, by their tools with great advantages when it comes to communication, collaboration and cooperation. Sloodle is a collaboration tool that allows a more effective learning system to be created. It provides a management framework. The student is not dependent on a closed environment, but in a space where one can collaborate, share, learn and search, leading him to develop an independent learning attitude. Furthermore, social networks appear to be emerging environments providing channels of communication, sharing and distribution that enrich communication with e-learning students.

In Virtual Worlds "Interaction with the world takes place in real time. When you do something in the world, you can expect feedback almost immediately. The world is shared. The world is (at least some degree) persistent" (Bartle, 2004: 4) [10]. So there is socialization in real time, an advantage, to meet the colleagues when the presence in the classroom is almost absent or does not occur at all. This knowledge construction by students is very important when one dropout rates of distance education is lack of motivation and personal relationships – "(…) motivation, feelings and sense of community belonging that are generated among SL users helps to create, develop and maintain connections, and facilitate the process of continuous and natural learning" (Loureiro & Bettencourt, 2010) [11]. Another important factor is Social Networks, who reinterpret the communication between students, teachers and the whole community. With semantic interoperability it is possible connect various platforms or social networks facilitating the spread of information — "Semantic interoperability assures that the information exchanged by different systems/ organizations is meaningful and all the communicating systems interpret it in the same way" (Chictuc, 2008: 77) [12]. An example is the difference between Second Life, a 3D virtual world, and Facebook, a Social Network in 2D. They are spaces which are created through narratives avatar or profile, but Facebook is much simpler and more affordable (Meadows, interview by Higley, 2010: 173, R, AVATAR JVWE Interview: Mark Stephen Meadows) [13]. Thus, the users have been growing. This way it is important to have an e-tutor of the virtual worlds to moderate and facilitate the learning. This tutor will have to communicate and motivate the students, "In a collaborative virtual environment, people are a very useful learning resource for one another" (Yam Chee, 2001: 3) [14], where "Students and tutors can meet in-world, share information and resources (...)" (Macedo & Morgado, 2009) [15].

4 ENHANCING E-LEARNING CONTEXTS IN HIGHER EDUCATION

The e-learning has been increasingly a search and educational development space, in this sense, there was a need to undertake a study on the role of the students, teacher and communication in this format of learning.

Online courses seem to be more adequate to a mature public. The case studies, as already mentioned, were conducted in a HEI. We wanted to know what changes an e-learning format leads into - whether with teachers, students or communication.

4.1 Students in Virtual Environments

Today's students have grown up surrounded by digital society, to them traditional teaching is poorly stimulating, for their are used to utilize simultaneously diverse types of media. Currently there is several gadgets that allow access to Internet and consequently access to wireless network, so more users are connected and be able to interact with others. This reality of being connect to the network called "always on", leads to the creation of communication strategies that suits both "digital natives" and "digital immigrants" (Prensky, 2001) [16]. It's a way of communicate where users spend more time browsing and posting than in e-mail - a clear shift for social websites / social networks. There is a clear change in users behaviours, and consequently in the way how students act. For nowadays' students learning does not necessary mean being sit in rows at school. Learning is at the distance of a click, for those digitally savvy. Although, to actually retain knowledge there´s the need of acquire digital skills and have digital literacy, to be able to do better research, select information, reflect, collaborate, produce, share and achieve knowledge.

4.1.1 e-student

Learning in a digital and connected age does not depend on "individual knowledge acquisition, storage, and retrieval; rather, it relies on the connected learning that occurs through interaction with various sources of knowledge (including the Internet and learning management systems) and participation in communities of common interest, social networks and group tasks." (Siemens, 2004) [17]. Students need to acquire certain skills and competences specific of a digital and connected society in order to "effectively benefit from e-government, e-learning and e-health services, and participate actively in the knowledge society as co-creators, and not simply consumers, as highlighted by the European e-skills strategy" (McCormack, 2010, pp 27) [18]. Besides e-skills and e-literacy competences, soft skills are also a demand. Many of the mentioned skills and competences can be practiced and enhanced in social, collaborative and virtual environments. Individuals have access to communities of practice (Wenger, 1998) [19], virtual worlds with role-play and simulations, social networks and a wide range of web 2.0 tools. The fact of having access to different online tools demands a shift in students' profile and competences.

E-literacy, more than one skill is a group of competences that allows an individual to acquire knowledge through digital processes. E-literacy is "referring to the awarenesses, skills, understandings, and reflective approaches necessary for an individual to operate comfortably in information-rich and IT-enabled environments." (Martin & Ashworth, 2004) [20]. With a networked society the demand for e-skills has been growing fast. These are "crucial to boost competitiveness, productivity and innovation as well as the professionalism and unplayability of the workforce" (McCormack, 2010, pp 11) [18].

Besides having the above mentioned skills and competences students also need to be guided in their learning activities. Being a digital literate does not necessary mean to be a good student. With online tools the access to information is easier and quicker, but information has to be transformed into knowledge. And knowledge requires learning. For learning to occurs students need teachers' guidance and moderation - communication assumes a vital role in the process.

4.2 Teacher in Virtual Environments

This particular case study consisted in the functions of e-teacher on a platform of e-learning. The monitoring has allowed observing the way of acting and interaction between both parties (teachers and students) and the platform.

The methodology of a case study was followed, in order to understand and draw conclusions about the role of teacher in an e-learning format. This approach is especially appropriate when we seek to understand, explore or describe events and complex contexts in which several factors are simultaneously involved (Ponte, 1994) [21].

For collecting data, direct observation of tasks performed by the e-teacher was undertaken and to corroborate what was observed an interview was also made. Additionally a questionnaire was made to students, to obtain the views of accessibility and usability of the resources used and the clarity of e-

content. These techniques, either by the diversity of data needed to obtain, either by crossing of such information, enabled more conclusive and reliable advice about the objectives of the study in question.

4.2.1 e-teacher

Resets itself substantially the role of the teacher, who now takes a different position from the one that had in traditional education, presents itself as a stimulating experience, requiring specific pedagogical skills of the teacher (Pereira et al., 2004) [4], once that he is the responsible for the course, for the contents, appraising and for the choice of modules to use on the platform (Rodrigues, 2004) [22].

It is the e-teacher who idealizes the online course, so students can learn in a correct way, using interactive modules and providing multimedia support, assuming the role of facilitator, advisor and facilitator of the teaching process (Rodrigues, 2004 [22]; Teles, 2008 [23]).

As stated in Pereira et al.(2004: 202) [4] he has "the responsibility to facilitate the creation of a community of learners, assuming an active role in stimulating the discussions, in the maintenance of an area of informal interaction, becoming visible without mastering the interactions, encouraging the participation of students continuously and providing assistance in cases of difficulty or confusion". It is also his responsibility the conception of teaching materials, as well as its achievement or making available the process of teaching and learning by the students.

In his duties to promote, stimulate, guide and support the interactions performed in learning platform, he should lead the student to interact with this throughout their teaching/learning process, being this the space where learning contents are made available, as well as all the tasks proposed by the e-teacher in the course of several modules.

The choice of the tools/resources has an extreme importance so that students can be successful in their self-learning, and the e-teacher must be holder of the functionality of each tool that is being used and exploited by students.

The e-teacher must have qualities as positive, proactive, patient and persistent (Rodrigues, 2004) [22] in order to allow it to play in the best way their pedagogical functions, where the pedagogical skills and scientific knowledge are essential elements for a more forward-looking learning and a dynamic, flexible, innovative teaching (Dias et al., 2004)[8] and excellence; the social functions-for success in online learning, is a crucial social and friendly environment; the organizational function, not only the administrative role, but also with the active participation in the platform (Teles, 2008) [23]; and finally, the technical function in which the e-teacher should feel comfortable, to be able to make the technology transparent and motivate to the students, so they're competent users and feel comfortable in the space of e-learning (Rodrigues, 2004 [22]; Teles, 2008 [23]).

4.2.2 e-content (from a paper format to an online format)

In this perspective, and according to Bidarra (2008: 31) [7], "the relationship between technology and pedagogy has changed substantially and should be considered in the light of the latest developments in educational technologies, which allow you to break with the tradition of a teaching manual recommended ' based '", in this context the e-teacher must change the resources to be used to adapt the educational technologies pedagogy available nowadays. An e-teacher must make their e-content with quality and taking into account the rules of usability (Lima & Capitão, 2003 citing Nielsen, 2000) [5].

As Carvalho (2008) [24] refers, the e-teacher, as creator of his own resources, must have knowledge and mastery of several different tools and technologies for creating e-content, since they will be the basis for learning activities support.

The innovations arising from the advancement of technology allow it to create e-content more dynamic and appealing to students, using the resources and tools increasingly easy to use and exploit (Lima & Capitão, 2003) [5].

In data analysis, it is important to detach the best practices in e-learning by the e-teacher, defining its role and enumerating its functions on the basis of practical reality. It is also worth pointing out the advantages of this format as a benefit for students-workers, master's and doctoral students, for having a greater maturity and it gives possibility of gaining access to knowledge during the daily 24 hours and anywhere. Students identified with this teaching format, highlighting the personal management of time, the autonomy of learning and the accessibility of content as the strongest points of this teaching format.

About the e-teacher functions, students have highlighted three powers: to be communicative, build the e-content online and willingness to help students. Being mentioned too about the role of a e-teacher: the Organization of the themes and content (35%); the orientation of learning (22%), and finally, the promotion of collaborative learning (19%) as the most important elements for the performance of a e-teacher role.

In relation to the strategies used for the dissemination of e-content, the students pointed the clarity and organization, promoting interaction between the learning group; to quickly update and in disclosure and, finally, the documents made available.

Resources have importance in the acquisition of knowledge and the most referred are the asynchronous, since they promote more reflection, stressing in this Forum, study the logbook and the glossaries.

The objective of this study was to do an analysis and reflection on the role of an e-teacher, realizing the changes that occur in a format of teaching in e-learning, a cross-checks, which led us to conclude that the role of e-teacher changes once that decentralized learning, passing the student to be at the Centre of learning, the teacher shall occupy a role of mediator, manager and facilitator of the teaching/learning process.

The e-teacher when mediates, organizes and constructs the e-content, interactively and stimulating, interacts with students giving them feedback, leading them in knowledge acquisition and evaluating the skills acquired, taking into account the evolution of student in the learning context.

4.3 Communication in Virtual Environments

This case study demonstrates whether SL® is a space conducive to communication and collaboration in e-learning context, where the use of an e-tutor in virtual worlds and Social networking Facebook facilitate learning and communication. To achieve those goals, we decided to work with thirty-four students from the first and the second year of a Master Degree in e-learning format. First we created a page and a group in Facebook to communicate with students in particular and give information to the community. This Facebook group was used to understand if in e-learning format this is a faster method to inform and share knowledge as opposed to Moodle, and what platform students prefer for communication. Then communications were made just using the social network, Moodle was the official place to give assignments. In this way, Sloodle and Second Life® were essential for classes, especially when there is no face to face and the e-tutor have an important role. All activities were made using Sloodle, with the preference of sloodle chat, making possible to record the chat for future reference. On the other hand we also captured video images using machinima technique, uploading the videos in social networks for students to share with their colleagues and friends, opening the opportunities to learn.

The modules were organized by weeks. In the first week was orientation in SL® and in the following weeks we invited teachers and professionals of virtual worlds to talk about the advantages in SL® for education, building, to watch a, exhibition, the principles of learning in video games, session of Yoga and the use of ICT and SL® in the development of educational activities. Then, these sessions helped students to understand better how virtual world works and what they can do in it. Each student involved learned new methods to work, meeting people, searching and talking with teachers from other countries. So in SL® it is possible to stimulate learning beyond simulation in e-learning, adapting disciplines, like methodology projects and use this virtual world as a bridge to communication that will open students' mind.

When asked students the better way of learning in Virtual Worlds, twenty answered through groups or Conferences/Communications, because they can share and receive knowledge and collaborate with colleagues. Thus 71% of the students considered virtual worlds as an important resource in e-learning, but it is necessary an e-tutor. Without a person who can guide in virtual environments, students will ending giving up because they feel unmotivated. Although the e-tutor ensures the dynamic of the activities and moderates the sessions, representing the group as a leader and tutoring in Moodle and Facebook, it is necessary to give freedom for students to search and self-learn. On the other hand, they elected voice as preferred communication tool, but it is important to enhance that if it is a session teacher can stimulates the audience using voice, becoming more close to the public, making the theme interesting and being more fast in the speech than with textual chat. It makes similar to a real class where there is a space to questions. The textual chat has to be prepared but

being the method used to comment and talk with the colleagues in-world it will may interfere with the chat class and making it messed and confused.

Sloodle showed to be very important in students training. It is a helpful resource allowing the review of the text interaction and to adapt the class in the virtual environment. Chat Webintercom and Presenter are considered by students the tools with the most advantages in virtual space. Although QuizChair and Vending Machine are important to test and share. With Sloodle is more easy to control the attendance of the students, develop activities without being necessary to exit SL® and as well making presentations in-world.

The sessions showed us how important they are with invited teachers when 62% and 23% of the students rated to be pleased and very pleased with communications. These allowed 33% of the students learn and acquisition of knowledge and 24% share, self-learn and communicate with other avatar/people and to 9% collaboration peer to peer. However to have a useful session it was considered important the theme, goals of the communications, the tool chat webintercom and being only 45 minutes (time long of the conference session). Among very important and important, students considered the voice, textual chat to enhance communication with everyone in the space, presentation devices and the days chosen.

Facebook is considered the fasted way for contact, 97% of the students said it is important to have a group in this social networking in the e-learning format. For them, Facebook is like their e-mail, it is consulted twice or more per day and is perfect to balance both personal and professional lfe. It's fast and friendly user, making it a complement for Moodle and it is more easy to share and see what it was been shared by colleagues at the "wall".

In summary the results showed that virtual worlds are important in teaching in e-learning format, with the SL communications tools, especially the use of voice that stimulates awareness and self-learning and collaborative learning with the use of resources such as Sloodle or Group at Facebook to communicate and inform. No doubt that e-tutor of virtual worlds is essential to moderate sessions, monitoring students in virtual space, but also as a moderator between the student and the teacher.

5 CONCLUSIONS AND FINAL CONSIDERATIONS

The implementation of online courses - with spaces for communication and synchronous and asynchronous interaction - can be a solution to consider in various circumstances, associated or not with the traditional classroom teaching. The use of virtual environments allows to expand the capacity of institutions of formal education, while creating the opportunity to serve students outside of their range. The combination and adaptation of different methodologies contribute to the renewal of teaching methods and practices, making them more suited to technological developments of our time.

Web 2.0 and 3.0 are already making changes in the way students learn. It's particularly attractive to younger students who have grown up surrounded by these technologies. To digital society learners traditional teaching is poorly stimulating, for their are used to utilize simultaneously diverse types of media. Education is therefore in need of a change, to be more personalized, reflexive, social connected, involving and permitting instant gratification to embrace both native and digital immigrants (Prensky, 2001) [16].

E-learning is a reality for a foreseeable future, with a view to achieving, in higher education, an education of excellence accessible to every citizen, as previewed in the Digital Agenda 2015 [25], but to achieve this goal with success, it is essential that educational staff (teachers, students and institutions) are aware of the need of change and adaptation and are equipped with necessary skills to this passage of formats – from paper to screen (Barbas, 2007) [6].

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