UNIVERSITY STUDENTS AND VIRTUAL LEARNING ENVIRONMENTS: MOTIVATION, EFFECTIVENESS AND SATISFACTION

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Abstract

Higher Education is based increasingly on use of Virtual Learning Environments (VLE), regardless of the degree or type of matter being taught. In this research we explain a comparative study that we conducted in three Spanish universities. First we critically analyze the different virtual learning environments, in terms of its potential effectiveness for university education. Secondly, we asked the students about the degree of satisfaction with the use of these learning platforms, from the idea that students motivation is essential for learning in any academic level. The findings, as we will explain, reveal interesting facts to consider for the future. Higher Education is based increasingly on use of Virtual Learning Environments (VLE), regardless of the degree or type of matter being taught. In this research we explain a comparative study that we conducted in three Spanish universities. First we critically analyze the different virtual learning environments, in terms of its potential effectiveness for university education. Secondly, we asked the students about the degree of satisfaction with the use of these learning platforms, from the idea that students motivation is essential for learning in any academic level. The findings, as we will explain, reveal interesting facts to consider for the future.

Key words

virtual learning environments, ICT, motivation, higher education

JEL Classification: I21, I23, Z00

1. Information and Communication Technologies in higher education

Universities in Spain, state or private, support their work in the use of the Information and Communication Technologies (ICT). Administrative management, communication among the different agents involved in the educational process and teaching are implemented, increasingly, through ICT. This way of working entails advantages as the ubiquity of communication, the continuous access to information and the provision of resources regardless of the place and the time. Likewise, the respect for the environment increases by reducing paper consumption considerably. However, all this creates a dependency, almost absolute, of computer technology. In addition, this means a significant financial investment.

On the other hand, there is no doubt that Internet and the world Wide Web, as means of communication and expression, favour the exchanges among people, companies and institutions thanks to various systems that manage the transmission of texts and files of all kinds, and allow communication through the voice and image in real time, regardless of the place in which people are physically. But it should be recalled, moreover, that communication underlies any process and mode of training. If there is no communication, there is no transmission, exchange or interaction (Casamayor, 2008:177). We believe that currently, language training of students has to contemplate the efficient handling of computer-mediated communication tools and take advantage of them, since they contribute to get a communicative training, meaningful, pragmatic, collaborative, constructive and motivating (Oltra, Pardo & Paulo, 2007). That is why believe that the use of these tools is absolutely suitable for teaching at the University level.

2. Virtual Learning Environments for teaching

As we have just exposed, University teaching conveys through some kind of computer platform known usually as Virtual Classrooms, Learning Platforms or Virtual Learning Environments, these last usually denominated with the acronym VLE. In any case, they are the framework in which the online formative actions are developed. They have many advantages in terms of ease of providing and managing learning materials. They can be used exclusively for teaching, or even a work and communication platform (Romero & Carrió, 2014).

The most noteworthy feature of the VLE are related to aspects such as presentation and organization of the elements on the screen, video conference and wiki editor (is some cases), the possibility of facilitating the teacher´s work, offering more possibilities of action (especially with a numerous group of students), being an effective

element of communication in real time, allowing more complex interactions (teacher-student, student-student, teamwork, etc.) allowing track work, diversifying the activities to perform, saving time and work for the teacher, offering the possibility to be used anywhere, contributing to the reduction of bureaucracy, respecting the privacy of teachers and students, introducing participants to the knowledge of technologies and good accessibility for people with functional diversity: "Virtual Classroom makes possible the use of new technologies in educational processes, it is a flexible, great accessibility and easy to use platform, which allows to create online activities and evaluations, and also offers several resources to support lessons" (Villar & González, 2005:7-9).

To carry out our research we have analysed the VLE in three universities. Firstly, the Polytechnic University of Valencia (UPV), one of the two universities financed with public funds from the city of Valencia. Here, students prepare degrees of engineering, architecture and fine arts, mainly. Its virtual learning environment is called Poliforma-T. The following is the University of Valencia (UV), another public university in the same city. In this University students can study nearly all existing disciplines, from philology, medicine, mathematics, psychology, engineering and teaching among others. In the case of the University of Valencia, the VLE is called Virtual Classroom. On the other hand, the third object of study in our research is a private entity, The Catholic University of Valencia (UCV). This university also offers very diverse qualifications as physical education, law or teaching. The VLE of this institution is based on the Moodle platform, resource for free and open use named Virtual Campus.

We propose to categorise four types of functionalities offered by the VLE: (1) Tools for communication (synchronous and asynchronous) between faculty and students; (2) Tools for the storage, dissemination of materials and information (publication of documents, storage of students' works, etc.); (3) Resources for interactive learning, and (4) Tools for the teacher's management. It will be illustrated with concrete examples through the analysis of the VLE of the three most important universities in Valencia City, which we have referred to:

1. Tools for communication (synchronous and asynchronous). All the resources that enable the exchange of information between students and the teacher or the students themselves are framed within this functionality. The tools that can be found are the following: internal mail of the subject, that allows to send internal and direct emails to individual students or groups (asynchronous student-teacher communication); the agenda in which events and important dates for the subject will be published: the bulletin board; the application of tutoring with teachers; the possibility of developing discussions (in written format) on various topics in an interactive and dynamic way (asynchronous communication student-teacher, chat room, video conferencing (using Adobe Connect technology) and wiki (a text editor in which all members of a classroom can participate). We believe that this last resource is a very enriching tool from the didactic point of view because it can serve, for example, as a class diary where students can show the revised topics in a session and also can be completed by other members. It is a novelty to find this tool in the in the private space of a subject, since the collaborative text editors tend to be delinked from the teaching task. In this way, students have access to the necessary information of the subject in a timely way and on demand, with the resulting accountability of the apprentice learning process. Thus, we have a type of formal or institutional communication, but also a more open and interactive communication between teachers and students, and among students themselves.

In the case of the UV, among the tools for communication –both asynchronous and synchronous –we emphasize chat, email, forums and the Web logger (also known as Log Book or Blog); this application would have a similar function to the wiki in the case of the UPV, enabling you to create personal or group contents in a collaborative way.

In what refers to the UCV, the communication tools that can be found are: internal mail –group or individual- through which the teacher can communicate with students; the agenda to communicate events or special dates; the application of tutoring with the teaching (internal messaging and email) and videoconference (that offers the possibility to record lessons).

2. Tools for the storage, spreading of materials and information. This second category includes resources that put at the students' disposal, in a dynamic way, working documents as, for example, notes, diagrams, presentations, videos or media objects; in the same way, there are resources for the storage of students' works. In this section, students can, individually, placing their works, as well as documents that they want to share with the tutor, with the possibility of knowing what date and time the work is given to the teacher. Each student can edit the contents of their folders with complete freedom.

For UV, the tools for the storage, spreading of materials and information remain the same schemas as in the UPV; noteworthy is the option of establishing work schedules (with the possibility to export information to other personal schedules).

Finally, with regards to the UCV, the tools in this section are similar to those outlined previously by the state universities. Students have access to the materials of different subjects to work with them and may also publish works that have been required by teachers since, otherwise, students cannot add any document on their own.

3. Resources for interactive learning. This functionality of the VLE gathers all the tools that allow you to create different kinds of interactive activities. It is important to clarify that we are talking about interactivity according to Labour (2001:32) who defines it as a function of a system that responds in different ways to the students' actions. Thus, we find the option to create multiple response, or the task section: this tool enables a high degree of interaction tutor-student, since the tutor may plan open and available works during the selected time period, so that the students complete the tasks and publish the results of their works during this period. The date and time that the task is completed are recorded, and the tutor can also correct and evaluate the completed tasks though the application itself. The students access to the documents modified by the tutor, clearly showing what has been corrected. In this way, students become aware of the strengths and weaknesses of their works.

In the Virtual Classroom of the UV, the teacher has the ability to create activities, in this case with three types of questions (short answer, multiple choice or open question), and there are also different ways of interacting through the Tasks section.

As advanced application tool, Virtual Classroom offers the possibility to make presentations with the Photo Album option, or with Wimpy Point (the alternative to the Microsoft PowerPoint application for collaborative work on the web); also, it offers teachers the ability to create applications from the code of html document that have previously developed using one of the programs of creation web (Dreamweaver, Microsoft FrontPage, etc.). In the case of the UCV, benefits of the Virtual Campus in this section coincide, roughly, with those listed above.

4. Tools for the management of the teacher. There are several options in the Poliforma-T for qualifying students, access to lists, records,

teachers have the option to create sections and even customize the Virtual Learning Environment. Among the options for teaching management that presents the Virtual Classroom of the UV we can find students cards, assignments and assessments and, finally, self-assessments or questionnaires. In what refers to the UCV, also at this point, the Virtual Campus benefits are similar to the VLE ones at state universities mentioned previously.

As it can been seen from the above, the VLE of the three studied universities present a great variety of options and tools, with some different nuances depending on the case, that facilitate widely the development of teaching. Thus, we can follow didactic and diversified approaches depending on the group, and adaptable according to the student's profile. There are also a great advantage, we can bring together everything we need to track a subject, both for the teacher and the students. Besides, it is attractive and comfortable because of the facility for the use of resources and for being the "environment" where this generation unfolds without difficulty, since almost all are native, also called the e-generation or the Google generation, among other denominations. Meanwhile, teachers have the challenge of taking advantage of all the utilities provided by technology.

3. Investigation

To complete our analysis, we have done an empirical and quantitative study to find out the degree of satisfaction that our students feel, the implementation of language teaching exclusively through virtual environments, in the field of higher education. We are interested to know if the current generation feel comfortable and motivated by a teaching methodology of this tone, as expected.

The research has been carried out, on the one hand, in a course of Catalan Language in the degrees of Aerospace, Electronic, Electrical, Mechanical and Industrial Engineering of the Polytechnic University of Valencia, and on the other hand, in the degrees of Teaching of the University of Valencia and the Catholic University of Valencia.

We designed a questionnaire answered correctly by 489 students, of whom 62.7% were women and 37.3% men. The average age was 20.

The survey contained 5 items and the response was articulated in a scale of Likert-Type, where (1) meant totally in disagreement, (2) rather in disagreement, (3) medium, (4) rather in agreement, (5) fully in agreement.

Here we can see the detailed results, and then we will extract what emerges from them.

Table 1: Survey on satisfaction with the use of the VLE for learning a language

1. The VLE of the University allows me to work the subject in full					
	1	2	3	4	5
UCV	5,7%	10,5%	5,1%	8,3%	70,4%
UPV	--	1,8%	3.2%	11,9%	83,1%
UV	5,1%	8,8%	7,2%	23,7%	55,2%
2. I prefer working the subject by combining materials in paper and the use of the VLE					
	1	2	3	4	5
UCV	20,1%	1,2%	9,7%	10,2%	58,8%
UPV	3%	0,7%	8,4%	27,2%	60,7%
UV	24,9%	10,1%	8,1%	19,8%	37,1%
3. I prefer working the subject in paper exclusively					
	1	2	3	4	5
UCV	63%	8,6%	5,9%	3,3%	19,2%
UPV	78,3%	16,6%	0,3%	3,1%	1,4%
UV	40,4%	20,1%	4,5%	9,9%	25,1%
4. The VLE of the University is convenient and practical					
	1	2	3	4	5
UCV	1,5%	4,4%	20%	24,2%	49,9%
UPV	0,9%	1,9%	13,1%	28,5%	55,6%
UV	5,5%	10,1%	21,2%	33,2%	30%
5. Grade 1 to 5 your degree of satisfaction with regard to the use of VLE					
	1	2	3	4	5
UCV	7,6%	2,5%	8,1%	13,5%	61,3%
UPV	--	0,3%	3,4%	8,1%	88,2
UV	3,9%	6,2%	7,4%	32,7%	49,8%

According to the data obtained in the survey, we consider that there is some surprising information, along with other more predictable data. For example, it was hoped that students of UPV express greater satisfaction towards the use of virtual environments, since these students have a technological profile, This University has numerous classrooms with office equipment and tries to prepare students for the acquisition of professional skills and the constant use of sophisticated computer programs. These students are very accustomed to the use of the computer in their daily work. It is shown by the high scores they give to the questions related to the degree of satisfaction in the work with the VLE. Likewise, they corroborate it when they ignore the work of the subject by the use of a book of text.

Furthermore, students of Teaching do not show much enthusiasm to the use of computer for learning. We believe that it may be due to their professional profile. Competences acquired by future teachers are not so linked to the use of computer in their daily tasks, the classrooms of primary school, in the Spanish State do not have appropriate office equipment in the majority of cases. Also, the students express a performance for the use of traditional manuals for the study of the language. It was not foreseeable that this data obtained such a high score in the survey.

Conclusion

The present research has served to establish a classification of the different applications and tools that can be found in a Virtual Learning Environment. There are numerous resources available to the educational community but we have no established classifications accepted by the scientific community. We believe that having categorizations facilitates the choice and use of VLE. Likewise, we have seen how educational institutions at University level devote efforts and resources to incorporate technological advances in search of effective procedures for its management and teaching. However, universities have the challenge of adapting the VLE, with all its capabilities, to mobile technology, since students have, almost entirely, very powerful mobile devices. So, students could access and advance in everything

related to the follow-up of the subjects. The objective is to be where they are, using the same platforms and resources. Similarly, teachers have the challenge of getting students to see Information Technologies as learning tools, not only for leisure and social relationships. We believe that to implement the teaching and learning of languages through Virtual

Learning Environments, it is necessary to know, on the one hand, the mean of learning, with its possibilities and its real use, with its strengths and weaknesses and, on the other hand, carry out a thorough analytical work and evaluation, taking into account criteria based on the pedagogy and didactics (Seiz & Romero, 2014).

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