Virtual Learning Environments In Faculties Of Education In Spain: Changes On Student Attitude [1]

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Abstract

This paper presents some results of a R+D project entitled "e-Learning system for Practical Training of University students in Education Faculties (ForELearn)", developed in Spain by the Universidad de Granada and the Universidad Politécnica de Madrid and funded by the Spanish Ministry of Education. In a first phase, through the use of AulaWeb Learning Management System, a set of adaptations and improvements of this software application have been done for the design and development of an experimental course of Practicum supervision. Next, the implementation of this course by means of a group of face to face and online seminars provides experimental data for the analysis and discussion about the point of view of users (preservice teachers) that have tracked their practice supervision with AulaWeb.

Key Words

Student Attitudes - LMS AulaWeb - Preservice Teachers - Practicum Supervision - Higher Education

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Introduction

The R+D project entitled "e-Learning system for Practical Training of University students in Education Faculties (For-eLearn)" attempts to improve the practical training in the Higher Education using an e-Learning system. This research is based on several works from different areas, including results of education and training researchers (i.e. didactic and methodology procedures) oriented to the virtual teaching (Gallego, 2003) and results of ICT researchers (García-Beltrán and Martínez, 2004). The foundation of this collaboration is providing answers to the potential users of the joint actions to be developed in this project.

One of the advantages of the e-Learning is the flexible and user-oriented training, and in this way there is, in general, a large demand of the users and specially, in Higher Education students. The quality in e-Learning is more a slogan or a target than a reality. But, Ehlers (2007) points out that the development of the quality oriented to the student is not a choice but a need, if it tries to have influence in the learning process.

In this paper the main objective is to determine the opinions, attitudes and points of view of the Education students, in order to introduce improvement actions in specific aspects (methodology, resources time-scheduling or LMS technical functionalities that enhances the teacher-student communication) in a following phase.

Background and Research Context

The research context is the experimentation of e-Learning in virtual environments in Higher education. Specifically, the use of AulaWeb LMS in a particular course that aims to link the theory of other courses in the degree program with the professional practice, that is, the reality of the labor that students are going to carry out in their tutoring future.

E-Learning. Experimentation in virtual learning environments

In order to define the basis of this research, the e-Learning concept may be associated to an open meaning, including social and human aspects, learning and teaching modes, tools and resources or institutions and politics. Many institutional initiatives from American and European governments (for instance, the European Comission's elearningeurope.info) and from the universities (through e-campus, virtual centers, etc) show the diversity of points of view and trends in e-Learning and indicate the significance of the research area for the Higher Education. At the present time this consequence is emphasized due to the European convergence.

From the area of expertise named Teaching and Didactic Processes, contents design, didactic methodology and assessment in e-Learning have a great tradition based on the classic distance learning developed by e-Learning platforms nowadays. Moreover, one of the advantages of on-line courses is the potential for communication, collaboration and the constant exchange of knowledge between students and educators. These activities, i.e. the student-teacher communication and interaction, are considered as an essential focus by the classic teaching-learning theories. From our point of view as university teachers, computer-based communication has no sense if there is not a regular tutoring or supervision. In our opinion students want that open and distance teaching to be a little closer.

In e-Learning design, not only contents are important but also the other components of any teaching-learning process (objectives, tasks, resources and assessment). All of them must observe a model that causes the unavoidable cyclic process of attention, experimentation, comprehension and valuation of the students. The fact that this process is developed by e-Learning, blended learning (b-Learning) or face-to-face learning must not be critical, if we take in account that, in any of the three modes (and their combinations), this cyclic process appears. Learning is developed in these three modes as the key aim we pretend to get.

Some works corroborate this idea. In this way, Bartolomé (2004) asserts that the innovation of the term blended learning does not correspond to the tradition of the related practices; Ginns and Ellis (2007) affirm that several key aspects of that context – the quality of on-line teaching, resources, workload, and student interaction – are associated with the quality of students' approaches to study and learning outcomes. Certainly, understanding the user point of view, that is the teacher student, is essential to the learning improvement, in this case, practical learning about performing, reflection, discipline, methodology, classroom and school relations, etc.   Technical improvement of the platform is also derived from it, and is a condition for the learning improvement. Anyway, understanding is often difficult. Demands and/or appreciations by users of ICT in Higher Educations are detected. Teachers and pedagogues complain about the technical expressions of the engineers and computer science experts and vice versa. In this work, the double role of the platform developers (they are also university teachers) make easy the understanding and the agreement. Ginns and Ellis (2007) believe that this condition is acute with Higher Education students. This study indicates that teachers in blended learning contexts need to focus not only on the technical capacities and functions of on-line materials and activities, but must also seek to understand their students' perceptions of this part of the learning environment, and how successfully that part is in supporting student learning across a whole course. The results from this study show that positive student perceptions of the quality of teaching on-line and the level of interaction were strongly related with a comparatively higher grade.

Experiences of methodological systems using learning virtual environments (in e-Learning, b-Learning or face-to-face) proliferates in Higher Education. The development and research of e-Learning systems are also focused in events (for instance, VirtualCampus) and projects. Some of these projects publish lists of e-Learning platforms, indexes and rankings (for instance, applications for the design and development of courses in virtual environments by the Cátedra UNESCO of Distance Learning, http://www.uned.es/catedraunesco-ead/plataformas.htm).

AulaWeb has been developed by the Computer Science Department of the Escuela Técnica Superior de Ingenieros Industriales of the Universidad Politécnica de Madrid and has been installed in seventeen faculties in this University, where it has been used by more than twenty thousand engineering students and teachers at the UPM since 1999. During the last term, the AulaWeb server at the ETSII-UPM attended to 3.000 registered users (students and tutors) and 700 courses and had more than 350.000 hits (García-Beltrán and Martínez, 2004).

A set of tests are carried out by the staff of the research team in the Universidad de Granada. The members of the group play different roles: students, teachers and system administrators.

The first stage is the installation of a server in the Universidad de Granada. The second stage is the adaptation phase. A virtual supervision is carried out by last-year Education students in an experimental way during the course 2005-06.

Design of a formative program of practicum supervision

Not only the tools but also the degree programs in Education are driven towards the searching of the standards for the EEES convergence. In this direction, there is a group of experimental projects with government support in different levels (regional, national and European) and under the cover of the actual Spanish laws about practicum of Education students (BOJA, 1998).

The Bologna Process is based in two main principles that call for a change in the methodologies of any university degree program:

a) the design and development of university teaching in order to get the professional competences and

b) the organization, management and control of the teaching oriented to the student learning

The practicum supervision course in the beginning of the professional career located at the end of the Education degree program try to watch over these two principles.

The most important activities in the practice planning are classified in three segments: the things to do before the school stay (information about the access procedure, knowledge of aspects to keep and helpful strategies to connect theory and practice), during the school stay (collaboration with the tutor at the school, writing the diary log, attending to presential seminars and carrying out some activities and communications through the AulaWeb tool) and after the school stay (completing the personal report with an specific scheme).

The basic elements of the adaptation for the students that prefer the virtual approach, i.e. using AulaWeb, are represented in Table 1.

Table 1. Options menu for students and teachers adapted to the AulaWeb LMS during the practicum

STUDENT-TEACHER	TEACHER-SUPERVISOR
1. PERSONAL	**1. PERSONAL**
1.1. Welcome	**1.1. Welcome**
1.2. Profile	**1.2. Profile**
1.3. Agenda	
2. INFORMATION	**2. MANAGEMENT**
2.1. Profile	**2.1. Information**
2.2. Group	**2.2. Modules**
2.3. Timetable	**2.3. Teachers**
2.4. Observations	**2.4. Groups**
2.5. Marks	**2.5. Students**
	2.6. Tutoring
	2.7. Reviews
3. CONTENTS	**3. CONTENTS**
3.1. Resources (Bibliography, Documents, Links, Scripts of Practices) #Library link	**3.1. Resources** (Bibliography, Documents, Links, Scripts of Practices) #Library link
3.2. Online guide	**3.2. Questions**
3.3. Searching tool	**3.3. Online guide**
4. ACTIVITIES	**4. ACTIVITIES**
4.1. Works	**4.1. Works**
4.2. Self-assessment	**4.2. Self-assessment**
4.3. Log (SA)	**4.5. Results (SA)**
5. COMMUNICATIONS	**5. COMMUNICATIONS**
5.1. FAQ	**5.1. Forum**
5.2. Forum	**5.2. Chat**
5.3. Chat	**5.3. News**
5.4. Questionnaire	**5.4. FAQ**
	5.5. Questionnaire
	5.6. Hits
6. LIBRARY	
6.1. Services	

Like in any teaching-learning process, there are three basic elements in the supervision: design, development and assessing (evaluation). In this case, the design has been planned mainly since the contents implementation (3.3. Online guide and 3.1. Resources). Once practices begin, both Activities and Communications have been essential, carrying out weekly and final works (4.1.

Works) in a diary form, that is, description and reflection about the happening in the school or classroom, or in conceptual map form, that helps to the deliberation of the future teacher, and finally, a practicum report that details the experience. Related to the Communications, forum is the preferred option, considering that the participations are taken in account for the final mark. If the students perform a greater number of good quality participations then their marks are higher. This consideration is not in agreement with Edens (2000): he estimates this participation as a non-evaluative setting.

Stages of the mixed program

Williams et al. (2007) use a customized virtual learning environment as part of a blended learning approach on a part-time postgraduate initial teacher training program for prospective primary school teachers. The adapted training program for our future teachers is:

Williams et al. (2007) use a customized virtual learning environment as part of a blended learning approach on a part-time postgraduate initial teacher training program for prospective primary school teachers. The adapted training program for our future teachers is:
  1- Face to face (3 h.)
      a. Information about practicum organization.
      b. Options and suggestions about using AulaWeb (2/3 hours)
  2- Virtual
      a. Narration + reflection, ½ or 1 hour per day
      b. Eventually: forum, documents, maps, on-line resources (9-10 hours)
      c. Chat (1 hour, with previous agreement)
  3- Face to face (3 h.)
      a. Tutorial tracking
      b. Reports
  4- Virtual
      a. Report (6-8 hours)
      b. Evaluation: self-assessment, tutor assessment, supervisor assessment (1/2 hour)
      c. Questionnaire (1/2 hour)

William et al. (2007) illustrate that the success of these particular virtual communities can be attributed to the balance, on the program, between face-to-face and e-learning together with the nature and structuring of the e-learning tasks; the focus on professional learning with the immediacy of its application in the work-place; its focus on independent and student-led interaction; and the motivation and personal circumstances of the students involved.

METHODOLOGY

In this work, results obtained from the case analysis are shown: the experimental course of practicum supervision of future teachers that, before the end of their degree program, have to stay for six weeks in a Primary or Secondary School.

Participants

Three kinds of users play in the first stage of using the AulaWeb platform in this practicum supervision course: the university teachers that take care of non-technical aspects (supervisors: pedagogues from the Universidad de Granada), university teachers and technical staff that take care of the technical aspects of the platform (from the Universidad de Granada and from the Universidad Politécnica de Madrid) and the Education students.

In this work our focus is the opinion of the student-user that consist in a natural group with the same number of men and women and age between 20 and 22 year old. 40% of them attend to

several schools in the same city (Granada, Spain) and the rest goes to other schools far away from Granada.

Tools

The methodology tools have been a questionnaire to get quantitative data and the analysis of the messages content of the forum to get the qualitative understanding of the students, using their own narrative.

The questionnaire is set up by a group of items (N=43) classified in four sections: (A) self-efficiency: a kind of self-assessment of his own practice and opinion about himself from the experience; (B) practicum perception: incidences solving, function achievement and coordination are examined; (C) estimation about the supervision mode: approach to the resources, information, interactions… and in general the point of view about the virtual support through AulaWeb and (D): questionnaire about the platform. The questions of this last item are related to:

- AulaWeb is easy to use
- Work collecting system
- Forum functionality
- Using AulaWeb in this practicum course
- Using AulaWeb in other courses
- Utility of the course resources (Guide, documents, links…)
- Adaptation to teachers and students of Education Sciences.
- In general AulaWeb is…

The questions have answers on a five-position scale (Likert type) graded from 1 (very bad) to 5 (very good). There is also the opportunity for the students to include open comments in three fields: "The best", "The worst" and "Improvement suggestions".

Results

The results shown in this paper present illustrate quantitative and qualitative aspects of the teacher-students opinion. It is remarkable to assert that it is undoubtedly necessary to analyse the contents of the participations in the forum in order to get a qualitative view of the use of the AulaWeb system in the virtual environment.

Students answers to the questionnaire

In this work, we are focusing the analysis in Section D (Questionnaire about the platform).

Although only 40% of students answered the questionnaire, the majority of them answer "very good" (75%) or "Good" (25%) to the question "In general this system is…". They have identical opinion about the system tracking and the activities delivery.

Other items, "AulaWeb is easy to use"; "Forum functionality" and "Utility of the course resources (Guide, documents, links…)" have a very good estimation (average = 4.5).

Forum has been more appreciated than Chat as a communication tool. Students suggest to transform the chats into free tutoring (no scheduling).

The lowest valuable item is "Using AulaWeb in other courses" (average = 3). The time flexibility is the best valuable item (average = 5). Some open answers precise these data: "in spite of the goodness of the platform, nothing can substitute the physical interaction with the other people" (Alum #7). That is, they say that comfort, spatial and time flexibility are positive items but they miss the communicative richness of a face to face situation. They also regret that they have no more time to spent in this experience because staying in the school with the children takes away time to connect and use the platform and to deliberate.

Analysis of content of participations in the forum

Two kinds of subjects are discriminated in the forum: the ones proposed by the supervisor at the beginning (56%) and the other ones framed by the future teachers during the practice period (29%). Complimentary messages (welcome, acknowledgement…) are not considered. The subjects proposed by the supervisor were the following: (1) Context conditions, (2) Institutional conditions, (3) Discipline, (4) Communication, (5) Means and materials, (6) Diversity and multiculturism, (7) Classroom management, (8) Learning problems, (9) Working groups and (10) Family/school. Methodologically, the use of this tool is emphasized for the reflection about these subjects and other key concepts - taking no notice of questions or doubts about management or organization - (Thorpe and Godwin, 2006). At the end the period of school stage, the supervisor launched a last subject, directed to the analysis and the assessment of this supervision mode and the AulaWeb system. The results shown in Figure 1 are measured by means of the length of the enchained participations in the forum. The lengths are ordered in the figure and the two first ones correspond to those proposed by the students.

Figure 1. Chain of teacher students messages in AulaWeb forum during the Practicum Supervision
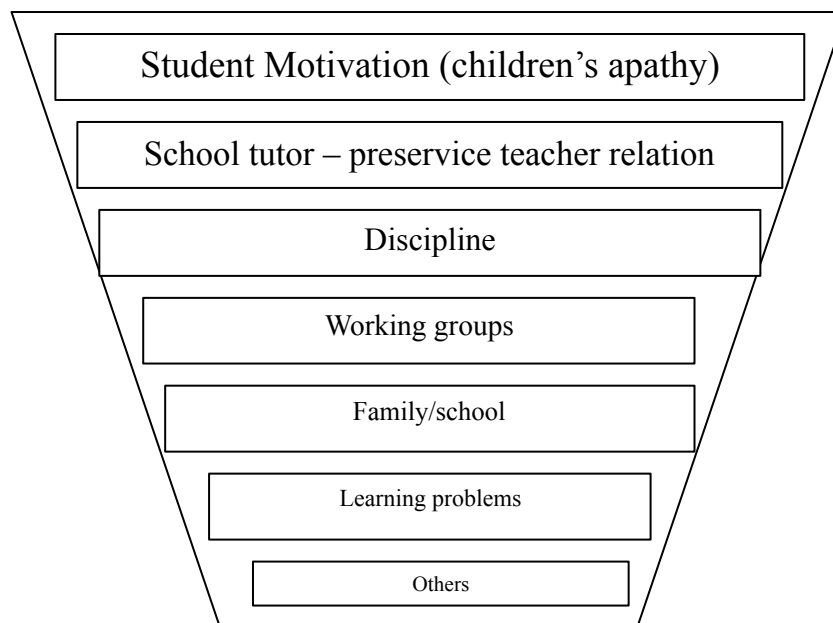
There are no messages in the forum about "Institutional conditions" and "Classroom management". These results indicate that these subjects are not interesting to the students.

In the participations chain related to the analysis and assessment of this supervision mode and the AulaWeb system, the messages in the forum shows some opinions (most of them were positive) written by the 50% of the students of the experimental course. In the main, positive reasons are

temporal (schedule) and spatial (movements) arguments. One of the students expresses he prefers the face to face seminar because "I consider essential and cathartic the discussion among the students" (Alum #2). Paradoxically, another student declares "the funny thing about it is that people who have carried out the face to face seminar say that they had preferred using the platform, while I would like to be able to assist to the seminars each week and not to live the continuous stress due to the activities delivering and the chat participation" (Alum #3).

All of them thank the attention of the supervisor and the system administrator ("Vanesa has been there, die in harness"), the availability and speediness for answering, the good advices and even the chance to use AulaWeb, appraising contents and organization.

They indicate that the platform works pretty good, but in spite of the convenience and the time saving provided by the system, there are also some drawbacks due to working with computers and Internet: "I waste a lot of time with the computer" (…) "I get excited because the network accessibility" (…) "Sometimes things you do by hand result better" (Alum#2) . Other drawbacks are more related to the platform: "I will never forget the bad times I had in the beginning, when I could not send the two first weekly reports because technical problems and the system crossed out them. It is very hard. I think it would be good that when it happens, the system does not have to forbid sending it and force you to get in contact, but the system should let the delivery or some explanation about what happens, the reason of the late delivery" (Alum#4). Many students have called attention to the use of templates to do the activities (profile, diary, conceptual maps…) as a negative aspect instead of the use of free formats. Another negative aspect is the need of chat synchronization and the lack of time flexibility of this communication procedure.

Related to future improvements: students mainly highlight two items: providing some kind of link to be able to communicate with the supervisors using the platform and to make available more flexible templates for the activities.

Discussion And Conclusion

Some results indicated by the students in this paper are similar to other works. White and Le Cornu (2002) investigated the use of email between student teachers and university lecturers during the final practicum experience in a four year Bachelor of Education pre-service primary teaching course. They explores how the nature of electronic communication, together with the students' perceptions of "university supervision" and their place in the school setting, affected the level of stress experienced by the student teachers in their placements. Assistance is more important during the use of the platform, because they manage through different menu options (agenda, news, frequently asked questions and forum) more quantity and quality in the interaction with the teachers and other students.

In accordance with Loiselle, St-Louis and Dupuy-Walker (1998), results indicated that the most problematic situations involved student misbehavior or student-teacher relations. Preservice teachers seldom expressed concerns for themselves or for students with learning disabilities.

According to these data, the chain "motivation/children's apathy" has the greatest number of participations (11). The second position corresponds to the chain "a little reflection" (8) that reflects the relation problem between a practicum student and her tutor in the school.

Students from the work of Katz (2005) express similar ideas. Katz's results indicate that the interactive and asynchronous Internet Distance Learning approach contributes to a significantly higher level of satisfaction and higher level of control of the learning process than the interactive synchronous system.

The main constraint is found in the participation of one of the players of the virtual assessment in the AulaWeb platform: the tutor from the school. In a later stage we pretend that the teachers from the school that appears as tutors may access to the virtual environment in order to get more university-school interaction.

In accordance with White and Le Cornu (2002) we argue that ICT has the potential to maximize student teachers' learning outcomes in the practicum by giving them more control over the learning

process, reducing their stress, and enabling them to manage their practicum experience more effectively.

Aknowledgment

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