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ARTICLE

Project-based learning in virtual environments: a case study of a university teaching experience

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Abstract

This article presents a case study about the implementation of a teaching innovation project aimed at applying the project-based learning technique through the use of new technologies, and specifically through the resources available in the virtual learning environment at the University of Seville (US), Spain. This project was carried out in the 2010/2011 academic year on two Sociology subjects forming part of the curricula of the Management & Public Administration and Nursing short degree courses. The objectives of this project were: 1) To apply and assess the use of a new teaching methodology for improving the teaching and learning process on socio-health subjects, and 2) To foster the students' active, participatory and collaborative learning by doing projects and using various virtual-learning didactic instruments. Besides the project rationale and objectives, the article will describe the resources used and the main results obtained. Finally, it will discuss the limitations and potential associated with the use of these new teaching techniques in university teaching.

Keywords

teaching innovation, project-based learning, new technologies

Original title: *El aprendizaje por proyectos en espacios virtuales: estudio de caso de una experiencia docente universitaria*

El aprendizaje por proyectos en espacios virtuales: estudio de caso de una experiencia docente universitaria

Resumen

En este artículo se presenta un estudio de caso sobre la puesta en práctica de un proyecto de innovación docente dirigido a la aplicación de la técnica del aprendizaje basado en proyectos (ABP) mediante la utilización de nuevas tecnologías. Concretamente, a través de los recursos disponibles dentro de la Plataforma de Enseñanza Virtual de la Universidad de Sevilla. Este proyecto se ha llevado a cabo durante el curso 2010-2011 en dos asignaturas del Área de Sociología recogidas dentro de los planes de estudio de la diplomatura de Gestión y Administración Pública y la diplomatura de Enfermería. Los objetivos de este proyecto han sido: 1) aplicar y evaluar el uso de una nueva metodología docente para la mejora de los procesos de enseñanza y aprendizaje en asignaturas socio-sanitarias, y 2) fomentar en el alumnado un aprendizaje activo, participativo y colaborativo a partir de la realización de proyectos y el uso de diferentes instrumentos didácticos de la enseñanza virtual. Junto al marco de justificación del proyecto y los objetivos se expondrán los recursos utilizados, sus principales resultados y, finalmente, se discutirán las limitaciones y las potencialidades asociadas a la utilización de estas nuevas técnicas docentes en la enseñanza universitaria.

Palabras clave

innovación docente, aprendizaje basado en proyectos, nuevas tecnologías

1. Introduction

The incorporation of Spanish universities into the European Higher Education Area (EHEA) is creating new teaching challenges that contemplate methodological and pedagogical elements unlike those used previously. This has led to a process of profound, rapid change affecting both the university teaching structure and its social meaning and position (Zabalza, 2007). In contrast to the traditional model where teaching staff acted as the only knowledge-bearing agent, the new teaching model is more open and student centred, fostering self-directed, participatory, active, group-oriented and engaged learning. This represents a radical change in the role of lecturers, who become designers of mediated learning scenarios and situations, and of students, who become actors in – and not spectators of – their learning (Cabero et al., 2006). In addition, there are increasing demands for university work to have a direct relationship with the students' future inclusion in the labour market (Michavila, 2000).

Together with the above, knowledge society transformations situate the Internet and new technologies as key means of communication, access and knowledge construction in university classrooms (Cebrián de la Serna, 2003). Some of the measures to promote this process of change and innovation involve fostering active, participatory learning methodologies, which are acquiring ever-greater protagonism in new curricular designs and educational practices (Huber, 2008; Kolmos, 2004). In this article, we describe a teaching innovation project[1] in which one of these methodologies

1. Project funded through the call for teaching innovation projects of the University of Seville's First Teaching Plan for the 2010/2011 Academic Year.

was implemented: information and communication technology-mediated (ICT-mediated) project-based learning (PBL). In this article, we set out the experience undertaken over one academic year on two Sociology subjects and describe the use and evaluation of the didactic and assessment tools used, as well as the results obtained.

2. Project-based Learning

PBL is about getting the students collaboratively and actively to plan, develop and assess a project that has a practical application. According to Badía and García (2006), this means asking a group of students to solve problems or find answers to complex issues, and to do that they must design an action plan, make decisions as it is being applied and solve any problems that arise. According to Huber (2008) this method: 1) is based on an interest or a real initiative; 2) the students discuss their interests in and views on the topic (giving each other advice); 3) the students develop their own activity scope (planning and decision-making), and 4) the students reflect on their own learning processes. Thus, by involving the students in their learning and assessment processes, they become the protagonists of the organisation of their own curricula and educational itineraries (Boud, 1995; Boud & Falchikov, 2007; Falchikov, 2005; López Pastor, 2005).

The PBL format has been widely applied to disciplines such as Engineering, Information Technology (IT) and Architecture for many years (Calvo, López, & Zulueta, 2010; Casasola, Pérez, & García, 2012; Mesa, Álvarez, Villanueva, & De Cos, 2008), and has proven to be of practical utility outside academic contexts (Badía & García, 2006). In contrast, in the Social Sciences in general and in Sociology in particular, very few experiences of teaching innovation based on PBL have been published (La Parra, Muñoz-Baell, Ortiz, Davó, & Álvarez, 2011) despite the fact that a greater penetration of methodologies like PBL has been observed (Kolmos, 2004).

3. Case Study: ICT-Mediated Project-based Learning on Sociology Subjects

3.1. Objectives and method

The objectives of this teaching innovation project were as follows:

1. To foster the students' active, participatory and collaborative learning by doing projects and using virtual learning.
2. To apply, examine and evaluate the use of ICT-mediated PBL.

To that end, we conducted a case study on two Sociology subjects taught on different degree courses at the University of Seville (US), Spain. It was an instrumental case study (Stake, 1998), as priority was

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given to the topic being studied, whereas the selection of the case was secondary. The aim of the study was to examine an example in action in order to interpret the meaning and the evaluation that the students made of the experience. This case study comprised three stages: preparation, design and creation of the social research project, and assessment, the main elements of which are summarised in Figure 1 below.

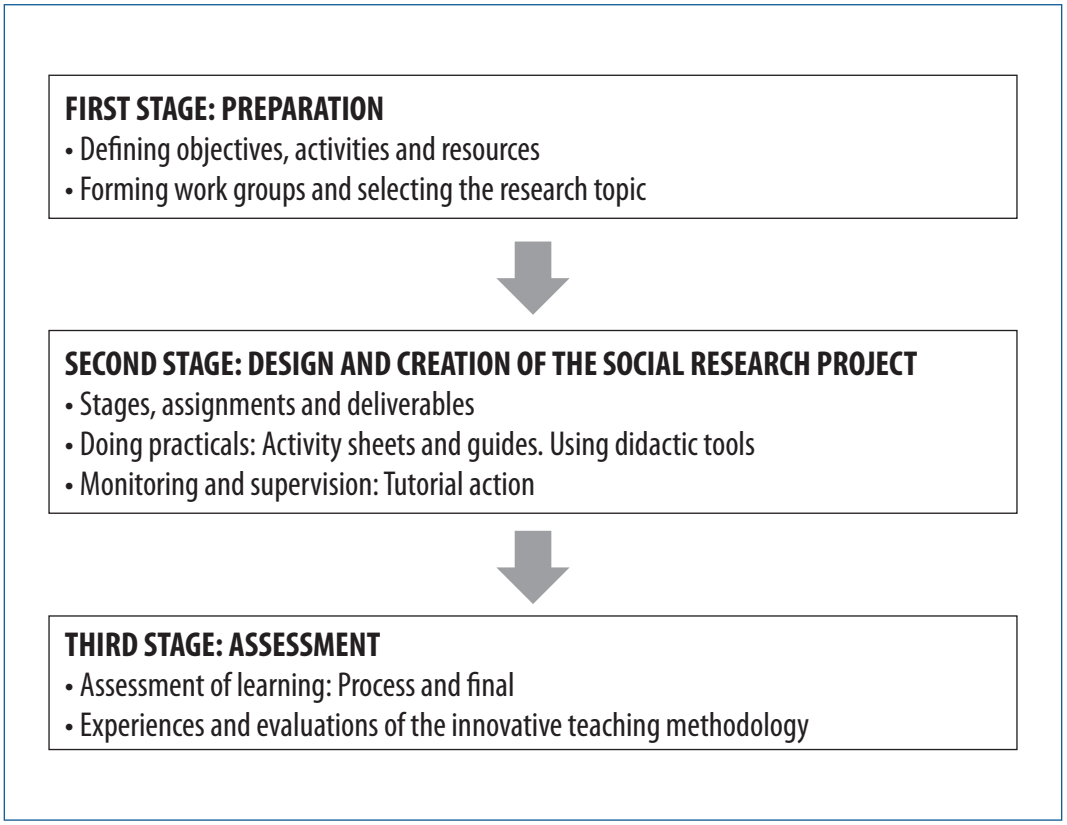

Figure 1. Case study development stages

3.2. Criteria for applying project-based learning in virtual environments

In order to attain the ICT-mediated PBL objectives, three criteria were considered:

1. The development of a greater communicative capacity towards and among the students by using new teaching strategies, especially in the virtual learning environment (VLE).
2. A continuous assessment system in which the students feel jointly responsible for both their individual and group achievements and efforts.
3. The creation of open-content activities with more than one solution and sharing them in the virtual environment and in the classroom so that the different groups could compare and discuss the work done, learn from it and contribute.

In order to try and meet these three criteria, virtual communication and interaction tools in the VLE at the US were used in conjunction with educational resources containing attractive, open content that promoted critical, complex, divergent and creative thinking. Attempts were made to foster a continuous learning process by intensifying the guidance and tutoring work, and by implementing an assessment system that was not exclusively linked to the content, but instead to the acquisition of general and specific competencies. Finally, every endeavour was made to develop a collaborative approach by setting group objectives that would surpass the individual dimension, and to foster intersubjectivity and joint responsibility through group-work structures (Badía & García, 2006).

3.3. Participating group characteristics

Two groups of students took part in the teaching innovation project, corresponding to two Sociology subjects taught at the US: the Sociology of Health and Healthcare Systems (semestral) on the Nursing short degree course (third year, Faculty of Nursing), with 46 students, and Social Theory (annual) on the Management & Public Administration short degree course (third year, Faculty of Law), with 98 students. Although the subjects are oriented towards different knowledge areas, they both share the sociological link that is characteristic of the area in which they are located. In both cases, work is done on learning competencies connected with the design and development of applied social research projects. However, the project's methodology and implementation were adapted to the curricular particularities and needs of each group.

Thus, we found that the sociodemographic profile was diverse. The profile on the Sociology of Health and Healthcare Systems subject was more uniform, relatively young and mostly female (80% of the students were female). The profile on the Social Theory subject was much more diverse, with a smaller difference between genders (70% were female) and a significant proportion of older students, many of whom had family and work responsibilities. While this profile may be considered *atypical*, it is becoming more and more commonplace in university classrooms. This supports the relevance of applying new, more flexible teaching methodologies to respond to the diversity of university classrooms and the goals of higher education (Jiménez-Rodrigo & Márquez Lepe, 2011).

3.4. Activities undertaken

Defining objectives, stages and resources

At the start of the academic year, the lecturers offered an introductory session about the project objectives and development stages, and the didactic and methodological strategies to carry it out. For that purpose, a work script was provided, containing specific instructions for participation in the subject practicals. Several examples of calls for research projects were given so that the practicals would be as much like real-life professional situations as possible. Then an expert in the design and management of projects in Public Administration was invited to give a talk about the professional utility of social research competencies and their potential application to socio-health and social-legal areas. After putting the project into context, the various stages relating to the creation of the project were explained, in line with the process logic for research project (Figure 2).

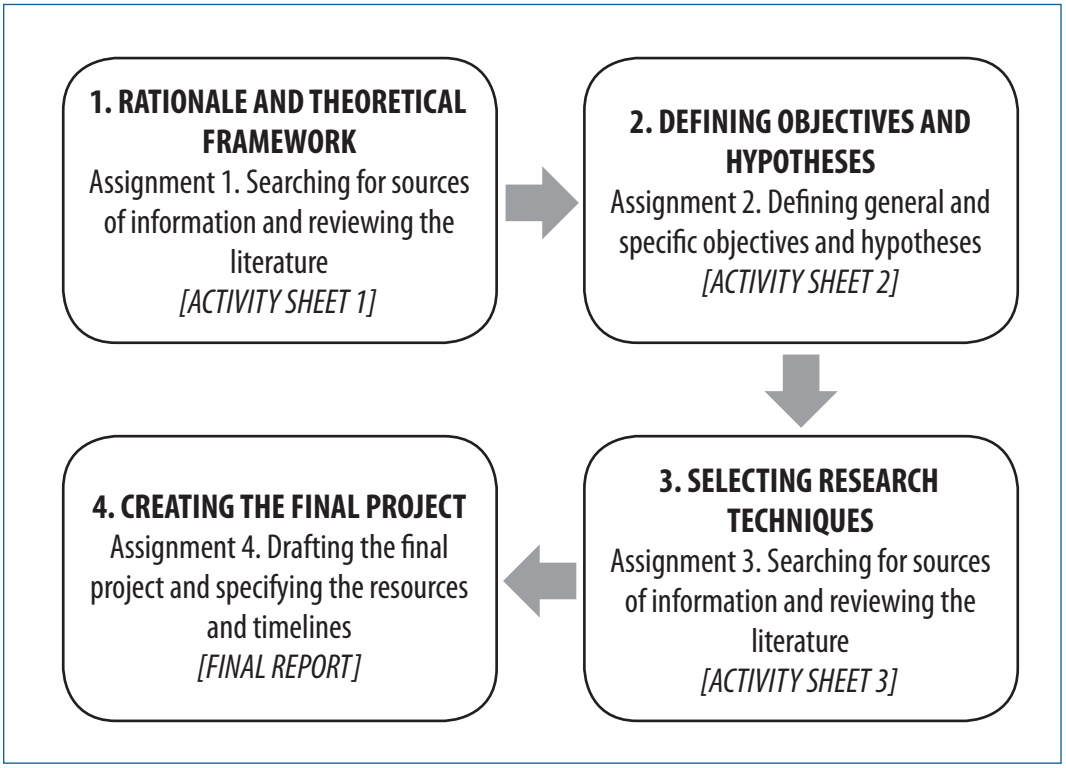

Figure 2. Stages, assignments to be undertaken and resultant deliverables

Then an explanation was given of the tools that were going to be used during the process, paying special attention to virtual tools, and finally, of the rules for drafting and presenting the research work, together with the criteria and resources for assessing it.

Distribution of work teams

The work teams were formed freely, in accordance with the students' affinities. On the Social Theory subject, 16 teams were formed, each with between 4 and 6 members, encompassing a total of 78 students (85% of the students enrolled). Given the considerably smaller number of students signed up to the Sociology of Health and Healthcare Systems subject, 8 teams were formed, each with 4 or 5 members, accounting for 76% of the total number of students enrolled. Each group chose a subject-related topic on which to develop its research project during the academic year.

Didactic tools and virtual environment use

In an attempt to improve the communicative capacity between teaching staff and students, educational strategies linked to the use of new technologies were applied: assignments, chats, forums and e-mail.

The assignments structured the work that had to be done at the different stages of the project. Four assignments were designed, with four activity sheets that had to be submitted via the VLE by the agreed deadline. After receiving an assignment, the lecturer corrected and returned it with suggestions for improvement, thus getting the students involved in both their own learning processes

and their subsequent assessments. Finally, each team had to submit a final report incorporating everything they had learned from the previous assignments (Figure 2).

The forums and chats were designed to be spaces for discussion and debate to enable cooperative learning, and they were of particular importance to tutorial action.

Tutorial action

Tutorial action, the fundamental pillar of this project, aimed to foster continuous learning, where the lecturer would serve as a support, supervisor and guide in the students' learning processes. To achieve that, face-to-face group tutorials were held before and after the students had submitted each assignment in order to answer any queries, to stimulate their capacity for critical analysis and personal reflection, and to encourage the group members to get involved in the project. The forums, chats and e-mail fostered interaction among the students, and communication and continuous advice between the students and the teaching staff.

3.5. Assessment

Assessment of the innovation project was firstly oriented towards assessing the effectiveness of PBL with regard to the students' acquisition and development of the competencies specified in the subjects, and secondly towards the evaluation of the students' and teaching staff experiences of the project itself, and of the use of new technologies in the teaching-learning process..

Assessment of competencies developed

The system put in place to evaluate the level of competency attainment and development through PBL combined a process assessment and a final assessment in an attempt to make the students feel responsible for both their achievements and their efforts. To that end, different assessment techniques and instruments were used as shown in Table 1.

Table 1. PBL assessment techniques and instruments

Assessment Point	Assessment Techniques	Instruments
Process	Review of the activity sheets for the practicals	Rubric
	Participation in classroom activities Participation in virtual learning (assignments, forums and chats)	Registers/Logs
	Tutorial attendance	Evaluation
Final	Research project (written)	Rubric
	Oral presentation of the project	Rubric Peer evaluation matrices

The process assessment shows that there was a sustained majority participation in activities in both the classroom and the VLE. The tutorials also produced highly satisfactory results with regard

to understanding and doing the practicals. In order to assess the practical activities, the level of development of a series of competencies shown in Table 2 was taken into consideration. In both subjects, the scores obtained gradually got better as the students improved their work by reviewing the different assignments. The scores in both subjects reached a mean of 3 on a scale of 0 to 4.

Table 2. Evaluation matrix for the specific competencies worked on in the practicals

Competencies	Performance Level				
	0	1	2	3	4
Has searched for and selected relevant scientific references and information.					
Has satisfactorily defined the research objectives and hypotheses.					
Has planned and designed the research in accordance with the objectives and available resources.					
Has satisfactorily selected the data collection/production techniques.					
Has satisfactorily designed the data production instruments.					
Has organised and planned the resources, together with satisfactory management of the group work and conflict resolution.					
Has drafted and organised the contents according to academic standards.					

Performance levels: 0 = Did not do the assignment /Plagiarism; 1= Unsatisfactory; 2=Good; 3=Very good; 4=Excellent.

For the final assessment of the project submitted at the end of the academic year and presented in the classroom, an evaluation rubric for specific competencies (Table 3) was applied in conjunction with the peer evaluation of the presentation by their fellow students. The latter activity was an element of motivation and involvement in the processes of (self-)assessment and (self-)criticism. The final assessment also produced good results with regard to the acquisition of the initially anticipated competencies, with a final score in both subjects of 3.

Experiences and evaluations of the teaching innovation project

Considering the novel nature of this teaching technique for students and teaching staff alike, an assessment of its implementation was done by integrating their evaluations, experiences and perceptions of the following aspects:

- Project participation and monitoring, as well as any related difficulties or facilitating factors. Class diaries were used, where the lecturers noted down any observations and incidents that had occurred in either the classroom or the VLE, as well as an analysis of any other evidence of participation.
- The students' experiences and perceptions of the innovative experience, both in terms of the way it was carried out and of its effects on the teaching-learning process. The forums and the field diaries kept by the students were the main tools for strengthening reflectiveness in the learning process.

Table 3. Rubric for the evaluation of the final report and its presentation in the classroom

Assessment Criteria		Performance Level				
		0	1	2	3	4
Formal elements	It is drafted in a scientific style, and the spelling and grammar are correct.					
	Tables, figures and citations are satisfactorily presented.					
	Citations comply with academic standards.					
Contents	There is a clear, concise summary of the work.					
	There is a relevant rationale for the work, based on scientific data and literature.					
	Sources of academic data are used.					
	There is a literature review relevant to the research topic.					
	There is a description of the research objectives and a rationale for the most suitable methodology to attain them.					
	The research techniques are satisfactorily and thoroughly presented.					
	A description of the anticipated results is included.					
	There is a detailed work plan and budgetary rationale for the project, as well as a plan for the dissemination and exploitation of the results.					
Oral presentation and public defence of the project	The project is presented in a proper, clear and organised manner.					
	The time allocated to its presentation and public defence is observed.					
	It captures and retains the group's attention.					
	Audiovisual supports are satisfactorily used.					
	It is capable of sparking debate and answering the questions posed.					

Performance levels: 0 = Did not do the assignment /Plagiarism; 1= Unsatisfactory; 2=Good; 3=Very good; 4=Excellent.

Regarding project participation and monitoring, a growing interest in the creation of the research work was observed. According to the teaching staff diary, at the beginning the students had considered it something strange, as yet another imposition by the teaching staff, but later on they began to interiorise it as a useful resource within their learning processes. Likewise, through the tutorial action, different levels of the team members' involvement in and reasoning for the project were noted. The forums were frequently used, and this increased throughout the academic year. The opportunity afforded by the forums to share information strengthened cooperative work both intra-group and inter-group. In contrast, the chats were not very popular for a variety of reasons: Internet access limitations, difficulties (mainly work and family-related) in connecting to the Internet at the times scheduled for the activity and the voluntary nature of it, which ended up discouraging participation. In contrast, and together with the forums, the field diaries were very useful for gathering the experiences and perceptions of strengths and weaknesses as the project was being implemented (Table 4).

Table 4. Students' perceived strengths and weaknesses of PBL and of VLE use

Strengths	*Weaknesses*
Ease of communicating with other members of the group via the VLE. Possibility to work independently in a team. Flexibility of working times and group meetings via the VLE. Ease of combining work and family life. Ability to look up resources required to do the project at anytime via the VLE. Tutorial action as an indispensable resource in the orientation and guidance of the students' work. Ability to consult with other groups on similar queries via the VLE (forums and chats).	Need for face-to-face meetings to reflect jointly on the project. Diversity of levels of involvement and work within the team. Need to coordinate the group through the criterion of one person who unifies drafting styles and practices. Lack of similar educational experiences. Demand for a high level of commitment to the project and to the communication channels. Difficulties in accessing the Internet and lack of technology skills.

Regarding the potential of PBL, the students pointed out that this methodology gave them greater protagonism within their teaching-learning processes. However, the novelty of the proposal and the students' limited prior practice of using new teaching techniques and inexperience of working in small groups gave rise to a number of difficulties connected with the distribution and assumption of responsibilities within the group, and the translation of this work into an assessment that was not done individually. According to the student diaries, one student commented that the new approach was very participatory and interactive – something rather unusual in their curriculum – and that was why they had initially felt a little disconcerted about the real dimensions of the work. Another student noted that because there was less direct, face-to-face interaction, a high level of commitment to the project was required, as were smooth communications among group members to prevent a lack of coordination as regards contents. Despite these drawbacks, the final evaluation of the project was very positive, with the strengths far outweighing the weaknesses. Like Ovejero (1988), we believe that, in this type of collaborative methodology, the students have the opportunity to develop higher levels of tolerance, respect and cooperation because they have to reach consensus on different viewpoints and create a climate of progress and cohesion to undertake actions and attain common goals.

Likewise, our students underscored that PBL promoted a better professional orientation of the practicals, as they had made use of problems and instruments that could be transferred directly to their future working environment. This observation fits in with a reorientation of teaching activity, where learning to learn is given priority and every effort is made to ensure that both the resources and the methodology help to lay the basic foundations and develop the competencies and aptitudes required for professional practice (Martín & Roldán, 2011). The use of the VLE led to more flexible ways of working and communicating, which were evaluated especially positively. According to the student diaries, one student said that the VLE had enabled him/her to get in touch with fellow students to try and answer any joint queries that arose. Another student stated that anyone could contribute whenever they wanted, and yet another mentioned the ability to work from home. An added strength was the ease of combining work, family and personal life, as the VLE offered greater adaptability and better time-planning opportunities.

Among the weaknesses, the students pointed out the necessary change in mentality, as these new methodologies required more effort and dedication. Likewise, they underscored the (enduring) difficulties in accessing new technologies and in developing skills to use them properly.

4. Conclusions

Although specialised and technical literature on PBL exists, we consider that both the systematisation of the particular experience detailed in this article and the specification of the main instruments used to monitor and assess it could be useful to other similar initiatives. As lecturers immersed in a process whereby the role of university teaching is changing, we consider it crucial to continue working on strengthening the use of these new methodologies and technologies, and on taking advantage of the strengths they offer for teaching and learning. The diversification of teaching strategies, and above all moving away from those that see teaching as a series of unidirectional expository sessions originating from the teaching staff and directed at the class/group, can help to give greater protagonism to students and reinforce a change in mentality and attitudes towards learning that is more active, independent and creative, as several other studies have also noted (Calvo et al., 2010; Casasola et al., 2012; La Parra et al., 2011).

Thus, ICTs are not only a fundamental instrument for communication between teaching staff and students, but also a means of strengthening collaborative work, as one of the keys to working in virtual environments is the development of interaction as a central component of the educational process (Flores & Arco, 2012). Promoting communication tools is therefore a necessary undertaking in order to turn these environments – now used more and more often – into networking spaces instead of just information repositories and, by so doing, to contribute to the development of new ways of approaching reality, where knowledge is understood as a social construct, which students arrive at on their own and through their own means (González & Díaz, 2005).

The challenges posed by designing and doing a project with a real application facilitated the development of skills and competencies that are better oriented towards the students' future working lives. In addition, it enabled progress to be made on competencies relating to collaborative work, conflict resolution and independent decision-making. The aim of this project was to provide a flexible teaching scheme, placing considerable emphasis on tutoring and monitoring throughout the process, and designing a space for interaction capable of combining individual and collaborative learning processes. Likewise, the virtual environment enabled a greater adaptation of the teaching-learning process as it gave the students the opportunity to undertake self-directed learning according to their circumstances. In this respect, a future line of research and teaching innovation is the use of new methodologies adapted to student characteristics, such as gender, life-cycle stage and socioeconomic circumstances, as these are issues that remain relatively unexplored

References

Badía, A., & García, C. (2006). Incorporación de las TIC en la enseñanza y el aprendizaje basados en la elaboración colaborativa de proyectos [The incorporation of information and communication technologies into teaching and learning based on collaborative project work]. *RUSC. Universities and Knowledge Society Journal*, *3*(2), 42-54. Retrieved from http://www.uoc.edu/rusc/3/2/dt/esp/badia_garcia.pdf

Boud, D. (Ed.) (1995). *Enhancing Learning through Self-Assessment*. London, England: Kogan Page.

Boud, D., & Falchikov, N. (Eds.) (2007). *Rethinking Assessment in Higher Education. Learning for the long term.* Oxon, England: Routledge.

Cabero, J., Morales Lozano, J. A., Martínez Sánchez, F., Ballesteros Regaña, C., Romero Tena, R., Barroso Osuna, J. ... Salinas Ibáñez, J. (2006). Formación del profesorado universitario en estrategias metodológicas para la incorporación del aprendizaje en red en el Espacio de Educación Superior [Formation of the university faculty in methodological strategies to incorporation of e-learning in European Space of Higher Education]. *Revista Pixel-Bit*, *27*, 11-29. Retrieved from http://www.sav.us.es/pixelbit/pixelbit/articulos/n27/n27art/art2702.htm

Calvo, I., López Guede, J. M., & Zulueta, E. (2010). Aplicando la metodología Project Based Learning en la docencia de Ingeniería Técnica Informática de Gestión [Applying the PBL methodology in Computer Engineering]. *Revista de Formación e Innovación Educativa Universitaria*, *3*(4), 166-181. Retrieved from http://webs.uvigo.es/refiedu/Refiedu/Vol3_4/REFIEDU_3_4_1.pdf

Casasola, M. A., Pérez Chamorro, V. A., & García Álvarez de Perea, J. (2012). Aprendizaje basado en proyectos y trabajo en equipo: innovando en la docencia de la asignatura Sistemas Contables Informatizados [Project-based learning and teamwork: innovating in the teaching of the Computerised Accounting Systems subject]. *UPO INNOVA. Revista de Innovación Docente*, *1*, 107-122. Retrieved from http://www.upo.es/revistas/index.php/upoinnova/article/view/89

Cebrián de la Serna, M. (2003). *Enseñanza virtual para la innovación universitaria* [Virtual teaching for university innovation]. Madrid, Spain: Narcea.

Falchikov, N. (2005). *Improving Assessment through Student Involvement. Practical Solutions for Aiding Learning in Higher and Further Education*. Oxon, England: Routledge.

Flores, Ò., & De Arco, I. (2012). La influencia de las TIC en la interacción docente y discente en los procesos formativos universitarios [The Impact of ICTs on Lecturer and Student Interaction in University Education Processes]. *RUSC. Universities and Knowledge Society Journal*, *9*(2), 31-47. doi: 10.7238/rusc.v9i2.1243

González, G., & Díaz, L. (2005). Aprendizaje colaborativo: una experiencia desde las aulas universitarias [Collaborative learning: a university classroom experience]. *Educación y Educadores*, *8*, 21-44. Retrieved from http://educacionyeducadores.unisabana.edu.co/index.php/eye/article/view/564

Huber, G. L. (2008). Aprendizaje activo y metodologías educativas [Active learning and educational methodologies]. *Revista de Educación*, Special Issue, 59-81. Retrieved from http://www.duoc.cl/cfd/docs/aprendizaje-activo-metodologias-ducativas.pdf

Jiménez-Rodrigo, M. L., & Márquez Lepe, E. (2011). Estudiar después de los 30: Interacción entre desigualdades de género y edad en los estudios universitarios [Studying after 30: Interaction between gender inequalities and age in university studies]. In I. Vázquez (Coord.), *Investigación y género: logros y retos* [Research and gender: achievements and challenges] (pp. 961-974). Seville, Spain: Universidad de Sevilla.

Kolmos, A. (2004). Estrategias para desarrollar currículos basados en la formulación de problemas y organizados en base a proyectos [Strategies for developing problem-based learning curricula]. *Educar*, *33*, 77-96. Retrieved from http://www.raco.cat/index.php/Educar/article/download/20789/20629

La Parra, D., Muñoz-Baell, I. M., Ortiz, R., Davó, M. C., & Álvarez García, J. S. (2011). Aprendizaje basado en proyectos y resolución de problemas en Socioestadística II, asignatura de Grado en Sociología [Problem-based learning and problem-solving in Social Statistics II, a Sociology degree subject]. In M. T. Tortosa, J. D. Álvarez Teruel, & N. Pellín (Coords.), *Jornadas de Redes de Investigación en Docencia Universitaria: Diseño de buenas prácticas docentes en el contexto actual* [University Teaching Research Networks Conference: Design of best teaching practices in the current context] (pp. 40-50) Alicante, Spain: Universidad de Alicante. Retrieved from http://web.ua.es/es/ice/jornadas-redes-2011/documentos/posters/183834.pdf

López Pastor, V. (2005). Evaluación, aprendizaje y docencia universitaria. Su relación con el espacio europeo de educación superior [Assessment, Learning and Teaching in Higher Education And Their Relation With Higher Education European Area]. *Revista Electrónica Interuniversitaria de Formación de Profesorado*, *8*(4), 1-4. Retrieved from http://www.aufop.com/aufop/uploaded_files/articulos/1229705605.pdf

Martín López, M., Roldán Márquez, A. (Coords.) (2011). *EES y cambios en las metodologías docentes* [EHEA and changes in teaching methodologies]. Seville, Spain: Tirant Lo Blanch.

Mesa, J. A., Álvarez, J. V., Villanueva, J. M. y De Cos, F. (2008). Actualización de métodos de enseñanza-aprendizaje en asignaturas de dirección de proyectos de ingeniería [An Update of Teaching/Learning Methods in Project Management Courses]. *Formación Universitaria*, *1*(4), 23-28. Retrieved from http://www.scielo.cl/scielo.php?pid=S0718-50062008000400004&script=sci_arttext. doi http://dx.doi.org/10.4067/S0718-50062008000400004

Michavila, F. (2000). ¿Soplan vientos de cambios universitarios? [Are winds of change blowing in universities?] *Boletín de la Red Estatal de Docencia Universitaria*, *1*(1), 4-7. Retrieved from http://revistas.um.es/redu/article/view/11441

Ovejero, A. (1988). *Psicología Social de la Educación* [Social psychology of education]. Barcelona, Spain: Herder.

Stake, R. E. (1998). *Investigación con estudios de caso* [The art of case study research]. Madrid, Spain: Morata.

Zabalza, M. A. (2007). *La enseñanza universitaria. El escenario y sus protagonistas* [University teaching. The stage and its protagonists]. Madrid, Spain: Narcea.

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