

Political Economy in a Dynamic Web Format

¹Martín-Cobos de la Puebla M., ²Ortega-Ortega M.

^{1,2}Applied Economics Department
School of Economics and Business
University of Granada (Spain)
mmartinc@ugr.es; mortega2@ugr.es

Abstract— Currently, the virtualization of the subjects in an easy and accessible work environment is becoming more and more important in the universities. In this context, an attractive visualization of the lectures is a goal that must be reached to raise the satisfaction's level of the users and achieve greater range of the e-learning among students. The aim of this paper is to explain a Teaching Innovation Project whose objective was to achieve the full virtualization of the subject "Political Economy" which includes microeconomics and macroeconomics lessons. By using a computer program, we created a virtual teaching material thought a web format. The web format gives the students the opportunity of reading, stopping and repeating the explanation as much as they want according to their needs and comprehension. Also they can return to the previous content quickly and easily unlimited times. We have created a dynamic teaching material which is a self-learning tool for the student. The dynamic teaching material is very useful for any subject where the use of dynamic graphs is important, as it happens in the economic area.

Keywords— E-learning, virtualization, flash format, on-line, economy.

I. INTRODUCTION

The framework of European Higher Education has supposed a change in the higher education, creating new ways of teaching with the objective of a convergence in Europe.

The students are becoming more and more important in their own learning process. The new role of the teacher is

changing to a new way of teaching with the objective of teaching the student how to learn. In this context, international literature exists according to new ideas and ways of teaching [1-3]. The European Union created a project in 2000 called "TUNING Educational Structures in Europe" to link the political objectives of the Bologna Process and at a later stage the Lisbon Strategy to the higher educational sector. It has developed into a process to (re-)designing, develop, implement, evaluate and enhance quality first, second and third cycle degree programmes in Europe [4].

In this framework of European Higher Education, Spanish universities are counting more and more on the virtualization of teaching over the last few years. Virtualization is a method which allows for and encourages self-learning processes amongst students. In this sense, Spanish universities have the great possibility of offering courses to 450 million Spanish speakers. This is of a special interest in a scenario in which knowledge is constantly changing, such as our current situation, in which education professionals must constantly renew the teaching and learning methodologies of their students. Therefore, encouraging self-learning at University ensures the preparation of professionals with skills and competences to autonomously update their own knowledge in the future.

The reliance on the virtualization of subjects has paralleled the development of Information and Communication Technologies (ICT). Improving virtual platforms has allowed not only the hosting of educational content, but also the possibility of having tools that facilitate access and create attractive work environments for the student, allowing for a greater scope of e-learning and raising the

degree of the student's satisfaction [5,6]. A recent published article identified that factor such as perceived usefulness, easy of use, website quality and computer self-efficacy are critical factors for student's attitude and behavioural intention to use learning through websites [7]. In that sense, aspects such as the ones cited are important for controlling the e-learning process.

The characteristic pedagogical model of virtual teaching is centered around the student and his ability to autonomously manage time and build his own learning path. Students mark their own learning space from anywhere in the world and without any temporal conditions. However, in this regard, Paetcher et al. pointed out that the instructor/tutor/teacher's expertise in e-learning process and his/her support are the best predictors for learning achievement and course satisfaction [8].

I. OBJECTIVE

This article is part of a Teaching Innovation Project whose objective is the complete virtualization of the subject of Political Economy (microeconomics and macroeconomics), which is included in a high number of degrees in the areas of social sciences. Our purpose was to advance didactic methodology in universities and to ensure quality educational training to our students.

II. METHODOLOGY

The Teaching Innovation Project has been carried out at the University of Granada during 2013 and 2014. The theoretical and practical contents of the subject of Political Economy (microeconomics and macroeconomics) have been created in this new web format and they are taught through the joint use of a web navigator (Internet Explorer, Google Chrome or Mozilla Firefox) and an application to support the teaching (Moodle).

A computer engineer was hired to create a website where the teacher of the subject worked for creating the subject's lectures. The students could access directly to that website or through their private accounts on the teaching Moodle support platform which the University of Granada supports.

Different videos were created in *flash* format. Each video corresponds to a theoretical and practical lecture related to the subject. The coding needed to view these videos is in flash format and is supported by html files (which are a website) together with the addition of Adobe Flash Player®. The classic slides in PowerPoint format were transformed into content for virtual environments in flash format. Therefore, the theoretical content was in slide format but the student could see that which pertains to him as a video. This technology allows the student to repeat, and pause, as often as desired, the explanations of the units as if the teacher was right there giving the class.

Concerning graphs (which are very common in this type of economic subjects), the explanatory texts corresponding to the graphic representation appeared in the margin. Students could thereby observe the changes in the curves of the graphs while they read the explanation of why each moves in the way that it does.

The virtualization of the innovation project in its entirety was available to the student at the start of the course in both, Moodle platform and the website created for this purpose. This allowed the student to consult as many times as desired the explanation of each unit or topic.

III. CONCLUSION

A technology that allows the playback of embedded videos in a web navigator has been applied to the subject of Political Economy as a means of explaining the subject itself.

The concrete result obtained is a computer application which is a self-learning tool for the student. In this sense, the students can study the program of Political Economy as if they were attending the teacher's classes, from any computer. Graphs are developed step by step, accompanied by explanations, as if they were being drawn on the blackboard in that very moment. This system is very useful for teachers and students teaching in any subject related to Economy that incorporates microeconomic themes such as: Concept and Method of Economic Science, Market Economy, Demand, Offer, Market Price Determination, Elasticity concept, Production Function and Costs, the Offer in a

perfectly Competitive Market, Monopoly and Monopolistic Competition and Oligopoly; as well as macroeconomic themes: a global vision, aggregate demand and fiscal policy, money and monetary policy, external sector and the foreign exchange market, the model of offer and aggregate demand.

It is possible to achieve this by means of a web navigator, or to directly access the contents hosted on the subject website (created for this purpose), or by using a platform to support the teaching such as the Moodle Platform, which leads us directly to the contents of the subject. This makes the absolute totality of the necessary content available to the student concerning both their training in the corresponding area and beyond, demonstrating the abilities and skills necessary for and typical of the subject in question.

The added advantage of using a website in which the agenda is hosted is that it does not depend on the use of external applications such as the aforementioned Moodle, eliminating the risk that after a change of platform the content may either become obsolete or, at worst, useless. This self-hosting will grant to the project an independent teaching support platform needing only an internet connection and a navigator to access the agenda, thus also being lighter and easier to access, as by using a simple tablet it would be possible to access the basic content of the subject.

Through this project, all the "economic models" that form the subject of Political Economy have been virtualized, by generating educational content for virtual environments. We have attempted to establish suitable teaching material for the virtual teaching platform of the aforementioned subject. In this sense, we are referring to a set of factors to be used, so that the contents maintain a certain didactic and organizational coherence. The overall intention is to transform what would be a simple electronic text and/or graph, into a properly organized and well-timed hyper-textual resource, where there is a balance between learning resources, study aids, activities and continuous evaluation systems through practical tasks adapted to the agenda of the course. From the point of view of the content, on-line training requires a structuring of the material according to the characteristics of the internet environment [7].

IV. DISCUSSION

Through the project, besides the transference of knowledge and competences typical of the subject content, we also achieve:

- The development of innovative teaching techniques and strategies designed to favour teaching based on the active participation of the university student.
- The improvement of teaching methodology in the scope of virtual teaching.
- The encouragement of autonomous learning -learning to learn- by improving the quality of e-learning.
- The raising of the degree of satisfaction of students of any subject which contains elements from Introduction to Economy due to the easy way of understanding the graphs concepts.
- The facilitation of access to teaching for students with special needs.

Also the use of a platform like Moodle or, ultimately, the website of the virtualized version of subject itself, allows access to the previously prepared material in different formats, without timeouts. In the proposed version for the virtualization, through the platform the student will have available:

- The main texts for the contents of the subject in HTML.
- Complementary readings in HTML and pdf.
- Animations in HTML .
- Videos that collect economic news related to the contents of the subject, externally linked from websites like YouTube.
- Forums to exchange ideas related to current economic news.
- Glossary of terms in HTML.
- Different types of self-assessment exercises in the *hot potatoes* application (multiple choice), within Moodle or any other teaching support platform available for use.
- Suggestions for activities which, when undertaken, would be used for evaluation purposes.

In short this is a new step towards the virtualization of economic subjects and the creation of intuitive, easily accessible, visually appealing and versatile virtual work environments, with the aim of raising the degree of the user's

satisfaction and achieving a greater scope of e-learning amongst students in the university.

AKNOWLEDGE

The authors are grateful to the University of Granada and the School of Law (University of Granada) for their economic support for this project.

REFERENCES

- [1] V. D'Andrea and D. Gosling, *Improving teaching and learning in higher education. A whole institution approach*, Maidenhead: The Society for Research into Higher Education & Open University Press, 2005.
- [2] Altbach, Philip G., Liz Reisberg, and Laura Rumbley, *Trends in Global higher Education: Tracking an Academic Revolution*. Paris, France: UNESCO, 2009. [Online]
<http://unesdoc.unesco.org/images/0018/001832/183219e.pdf>
- [3] M. Ortega-Ortega and V. Molina-Moreno, "Estrategia metodológica para el aprendizaje cooperativo dentro del nuevo EEES: Juego de Retroalimentación" in *Actas de las II Jornadas de Innovación Docente y Adaptación al EEES en las Titulaciones Técnicas*, Granada 2011, pp. 313-316. Ed. Godel Impresores Digitales S.L., 2011. ISBN: 978-84-15418-00-9. [On-line] <http://www.ugr.es/~indotec/documentos/actas11.pdf>
- [4] J. González and R. Wagenaar, *Tuning Educational Structures in Europe. Final Report. Phase one*. Ed. Universidad de Deusto, Bilbao, 2003. [Online] Available: <http://www.unideusto.org/tuningeu/>
- [5] R. Sharpe, G. Benfield and R. Francis, "Implementing a university e-learning strategy: levers for change within academic schools," *Research in Learning Technology*, vol. 14, N°2, pp. 135–151, June 2006.
- [6] J.L. Arquero-Montaña and E. Romero-Frías, "Using Social Network Sites in Higher Education: an Experience in Business Studies," *Innovations in Education & Teaching International*, vol. 50, N° 3, pp. 238–249, Feb. 2013.
- [7] S.K. Sharma and J.K. Chandel, "Technology acceptance model for the use of learning through websites among students in Oman" *International Arab Journal of e-technology*, vol 3, N° 1, pp.44-49, Jan 2013.
- [8] M. Paechter, B. Maier and D. Macher, "Student's expectations of, and experiences in e-learning: their relation to learning achievements and course satisfaction." *Computers & Education*, vol. 54, N°1, pp. 222-229, Jan 2010.