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3RD - 5TH OF JULY, 2017

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IMPACT ANALYSIS OF THE EDUCATIONAL MATERIAL IN HIGHER EDUCATION

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Abstract

In the last decade, the universities have evolved for suiting the demands raised by the new generation of students and the current changing society. Learning Management Systems (LMS) have been implemented in higher education but much of the effort has been focused on training the teaching staff on the use of such applications. Unfortunately, there is not a substantial improvement in the academic results since these tools basically, deliver the necessary documentation for lectures in digital form rather than printed. However, teachers are not aware of the predilection of the students for printed documentation, who finally proceed to print such digital content.

Many studies try to assess the satisfaction of the students, which is certainly positive with regard to the online platform, but do not delve into the issue in detail. Some universities consider sufficient the implementation of a LMS that allow teachers to interact with the students in an online basis. However, the use that teachers make of those platforms is overlooked.

An extensive survey was conducted among some students and teachers of the Engineering Faculty of Bilbao. This study reveals the tendency to share mainly lectures in text and presentation formats. At the same time, the skills of the teachers to develop more engaging educational material such as, 3D models, interactive documents, etc., are analysed. Finally, the opinion of both population samples is gathered in qualitative terms.

Keywords: educational technology, higher education, m-learning, 3D, learning management system.

1 INTRODUCTION

Universities are involved in a constant evolution to promote competent professionals according to the requirements of the present demanding society. At the same time, administrators are concerned with the success rates of their institutions. Implementing Learning Management Systems (LMS) to provide a Blended Learning experience is, currently, a common practice. It is supposed that face-to-face lectures will be enriched with the educational content delivered through these platforms.

However, teachers are reluctant to use them, due to the increased workload that it entails [1] [2]. As a result, the LMS has often substituted the reprographic service, delivering the same material through a digital format, which should not necessarily improve the learning-teaching process [3] [4]. Although students are inclined to multimedia-rich content such as video and audio but, specially, interactive content and applets [5] [6], the development of such material is not feasible for every teacher. Therefore, regarding the type of contents provided, the discretion of the teacher prevails [7].

Unfortunately, several studies that attempt to assess the satisfaction of the students do not focus on the quality and variety of the educational material. Students are only questioned about the style and attitude of the teachers, leaving aside issues regarding the skills of the teachers to create engaging contents [8] [9]. Moreover, web browsing and productivity software (text processors and slide presentations) are considered remarkable skill in some previous studies [10]. In order to excite the cognitive system of the students, the provided material should be impressive, since their initial impression will guide the use that they will give to the tool [11] [12].

The present research presents the analysis of parallel surveys conducted on students and teachers. The aim of the study is to assess qualitatively the type of educational material delivered and the opinion of the students regarding the improvement on the teaching-learning process.

ACKNOWLEDGEMENTS

The authors acknowledge the students and teachers of the Mechanical Engineering department without whose participation this study could not have been carried out. This work was supported by the Basque Regional Government under Grant IT781-13.

REFERENCES

[1] S. White, “Critical success factors for e-learning and institutional change - Some organisational perspectives on campus-wide e-learning”, British Journal of Educational Technology, vol. 38, no. 5, 840–850, 2007.

[2] D. Roldán-Álvarez, E. Martín, M. García-Herranz, P.A. Haya, “Mind the gap: Impact on learnability of user interface design of authoring tools for teachers”, International Journal of Human-Computer Studies, vol. 94, 18–34, 2016.

[3] I.E. Dror, “Technology enhanced learning: The good, the bad, and the ugly”, Pragmatics & Cognition, vol. 16, no. 2, 215–223, 2008.

[4] D. Harris, “Presentation software: Pedagogical constraints and potentials”, Journal of Hospitality, Leisure, Sport and Tourism Education, vol. 10, no. 1, 72–84, 2011.

[5] T. Martín-Blas, A. Serrano-Fernández, “The role of new technologies in the learning process: Moodle as a teaching tool in Physics”, Computers & Education, vol. 52, no. 1, 35–44, 2009.

[6] J. Martin-Gutiérrez, M. Garcıía-Domínguez, C. R. González, M. C. M. Corredeguas, “Using different methodologies and technologies to training spatial skill in Engineering Graphic subjects”, 2013 IEEE Frontiers in Education Conference (FIE), Oct, 362–368, 2013.

[7] F. Alonso, D.M. Genoveva López, José M. Viñes. “An instructional model for web-based e-learning education with a blended learning process approach” British Journal of Educational Technology vol. 36, no. 2, 217–235, 2005.

[8] M. Paechter, B. Maier. “Online or face-to-face?: Students’ experiences and preferences in e-learning” The Internet and Higher Education, vol. 13, no. 4, 292–297, 2010.

[9] Park, Sung Youl. “An Analysis of the Technology Acceptance Model in Understanding University Students’ Behavioral Intention to Use e-Learning” Educational Technology and Society, vol. 12, no. 3, 150–162, 2009.

[10] Liaw, Shu-Sheng, Hsiu-Mei Huang, Gwo-Dong Chen. “Surveying instructor and learner attitudes toward e-learning” Computers & Education, vol. 49, no. 4, 1066–1080, 2007.

[11] Sun, Pei-Chen, Ray J. Tsai, Glenn Finger, Yueh-Yang Chen, Dowming Yeh. “What drives a successful e-Learning?: An empirical investigation of the critical factors influencing learner satisfaction” Computers & Education, vol. 50, no. 4, 1183–1202, 2008.

[12] F. Concannon, A. Flynn, M. Campbell. “What campus-based students think about the quality and benefits of e-learning” British Journal of Educational Technology, vol. 36, no. 3, 501–512, 2005.

[13] W. H. Geoghegan, “Instructional technology and the mainstream: the risks of success.” in *The future compatible campus: planning designing and implementing information technology in the academy* (eds. Oblinger Diana G. and Rush Sean C.), 131–150. Bolton, MA: Anker Publishing Company, Inc. 1998.

[14] F. D. Davis, “Perceived usefulness, perceived ease of use, and user acceptance of information technology”, MIS Quarterly, vol. 13 , 319–340, 1989.

[15] D. Zhang, L. Zhou, R. O. Briggs, and J. F. Nunamaker Jr. “Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness.” Information & Management vol. 43, no. 1: 15–27, 2006.