# EDULEARN15

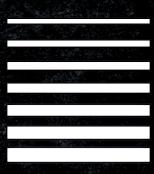
# 7TH INTERNATIONAL CONFERENCE ON EDUCATION AND NEW LEARNING TECHNOLOGIES

### BARCELONA (SPAIN) 6TH - 8TH OF JULY, 2015









# CONFERENCE PROCEEDINGS



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#### WELCOME INTRODUCTION

#### Dear EDULEARN15 participants,

We are delighted to welcome you all to the 7th annual International Conference on Education and New Learning Technologies.

After seven years, EDULEARN has become a reference event for lecturers and researchers from all over the world. It is the ideal place to be inspired by innovative ideas, different educational perspectives and to establish international partnerships.

Above all, we wish to thank all delegates who have participated, sharing their unique experiences and projects. More than 600 attendees from 80 different countries have contributed to the program, making EDULEARN15 a multidisciplinary and truly international conference.

We hope that your participation at this conference will provide you with an opportunity to open your minds to new educational innovations, to share your knowledge with other experts, and to be an active part of the *connection between technology and education*.

Thank you very much for your valuable contribution to EDULEARN15!

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#### **CONFERENCE SESSIONS**

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Flipped Learning (1) Blended Learning (1) Teaching Programming Skills Educating the Educators: ICT Skills Literacy Meet the Keynote Planning the Digital-Age School New Technologies in Primary Education (1) Technologies in Business & Management Education

Flipped Learning (2) Blended Learning (2) Problem Based Learning Experiences Pre-Service Teacher Experiences STEM Experiences in Higher Education Mobile & Tablet Technologies New Technologies in Primary Education (2) Experiences in Business Education

Advanced Classroom Technologies (1) e-Learning Projects & Experiences e-Assessment & Testing Training Educational Staff (1) New Technologies in STEM Education (1) Language Learning Technologies Experiences in Secondary Education Inclusive & Multicultural Education

Massive Open Online Courses (MOOCs) e-Learning in Distance Learning Evaluation & Assessment of Student Learning Training Educational Staff (2) Experiences in Primary & Secondary Education Language Learning Experiences (1) Experiences in Primary Education Inclusive Learning

#### POSTER SESSIONS, 6th July 2015

Pedagogical Innovations and Experiences

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#### ORAL SESSIONS, 7th July 2015

Computer Supported Collaborative Work Educational Cloud Based Technologies Technology Enhanced Learning in HE Employability Issues Special Education Language Learning Experiences (2) Adult Education and Lifelong Learning Experiences in Assessment of Student Learning

Mobile & Tablet Technologies: Student Response Systems Educational Software & Games (1) e-Learning Experiences Workplace Training and Employability Issues International Projects and Cooperation Pre-Service Teacher Experiences in Language Learning Learning Experiences in Higher and Further Education Experiences in Engineering Education

Social & Digital Media in Education Educational Software & Games (2) e-Portfolios Entrepreneurship Education Student Support in Education (1) Leadership in 21st Century Education Learning Experiences in Math Education New Technologies in Engineering Education

Collaborative Virtual Environments (CVE) Game Based Learning e-Tutoring & Mentoring Quality Management in Education Student Support in Education (2) Educational Management Experiences in Primary and Secondary STEM Education Experiences in Health Sciences Education

Virtual Learning Environments (VLE) Educational Software & Games (3) Advanced Classroom Technologies (2) Curriculum Design and Development Plagiarism & Student Identity Authentication Pedagogical Innovations in Education New Technologies in STEM Education (2) New Technologies in Health Sciences Education

#### POSTER SESSIONS, 7th July 2015.

Emerging Technologies in Teaching and Learning

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#### VIRTUAL SESSIONS

Barriers to Learning **Blended** Learning Collaborative and Problem-based Learning Computer Supported Collaborative Work Curriculum Design and Development **Distance** Learning E-content Management and Development e-Learning Projects and Experiences Education and Globalization **Educational Management** Educational Software & Serious Games **Educational Trends and Best Practice Contributions Emerging Technologies in Education** Enhancing Learning and the Undergraduate Experience Entrepreneurship curriculum Evaluation and Assessment of Student Learning Experiences in Research Flipped Learning Impact of Education on Development **International Projects** Language Learning Innovations Learning and Teaching Methodologies Learning Experiences in Higher and Further Education Learning Experiences in Primary and Secondary Education Lifelong Learning Massive Open Online Courses (MOOCs) Mobile and Tablet Technologies Mobile Learning New Learning/Teaching Models Organizational, Legal, Policy and Financial Issues Pre-service and In-service Teacher Experiences Quality Assurance/Standards and Accreditation Special Education Student Support in Education Technology-Enhanced Learning The Bologna Declaration and ECTS Experiences Training educational staff Transferring Skills and Disciplines Tutoring and Coaching University-Industry Cooperation Vocational Training

#### **ABOUT EDULEARN15 Proceedings USB**

#### HTML Interface: Navigating with the Web browser

This USB includes all presented papers at EDULEARN15 conference. It has been formatted similarly to the conference Web site in order to keep a familiar environment and to provide access to the papers trough your default Web browser (open the file named "EDULEARN15.html").

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- 3. In the Index Selection dialog box, select an index, if the one you want to search is available, or click Add and then locate and select the index to be searched, and click Open. Repeat as needed until all the indexes you want to search are selected.
- 4. Click OK to close the Index Selection dialog box, and then choose Currently Selected Indexes on the Look In pop-up menu.
- 5. Proceed with your search as usual, selecting other options you want to apply, and click Search.

For Acrobat 7 and earlier:

- 1. In the "Edit" menu, choose "Full Text Search".
- 2. A new window will appear with search options. Enter your search terms and proceed with your search as usual.

#### IMPLEMENTATION OF "B-LEARNING" METHODOLOGIES AT THE HIGHER EDUCATION CONTEXT; A CASE STUDY

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#### Abstract

The Open University in Spain is one of the world's leading providers of flexible, high-quality online degrees and distance learning or sometimes referred to as "e learning". Its mission is to be closer to people and places, aiming to provide suitable distance learning for everybody. The university campus is physically centred in Madrid but the internal administrative structure is organised in different "associate centres" distributed all over the country in the different counties, acting as local offices.

New teaching resources have been successfully implemented in this student-centred system, based on the student ability required to achieve objectives, specified in terms of the learning outcomes and competences to be acquired. Nowadays this university is developing an extraordinary new educational architecture leading to improve the network that already offers to these associate centres. The educational method followed here fits in the new blended learning concept or "b-Learning", where, on the one hand "magister and practicum lectures" can be conjugated together with tutorship's attendance, and on the other hand "personal work" that fellows manage according to their availability by means of study materials, virtual platforms, radio and television broadcasting, etc. One of these elements adopted is based on virtual tools such as the so called Audio Visual technology over IP (AVIP). It allows a better interaction between lecturers and students through both pre-recorded material, ready to visualize, or by live web conferences.

Here, a full description of this learning and teaching tool will be addressed, followed by its application under a particular case study, reporting finally the outputs obtained with an online survey passed to the students, addressing both perceptions and auto-evaluation of their respective role inside this complex scenario of new blended learning processes in which the university is immersed.

Keywords: b-Learning, teaching methodologies, Higher education, ECTS experiences, Open University.

#### 1 INTRODUCTION

Blended learning or "b-Learning" can be considered as a flexible approach to a learning process taking advantage of some online training and assessments online, but also uses other procedures for the completion of a traditional training method, such as classroom sessions, web-based courses and general knowledge management practices [1]. Blended learning can be also used to describe a learning procedure combining various event-based activities; including tutorship's and other live teaching modalities [2].

It should be differentiated from, on the one hand, the ubiquitous learning or "u-learning" where students become totally immersed in the learning process and on the other hand from the term mobile learning or "m-learning" referring to the use of handheld information-technology (IT) devices, such as PDAs (Personal Digital Assistants), mobile phones, laptops and tablets, in any of the teaching and learning activities [3].

This is a student-centred system [4], based on the student workload required to achieve the objectives of a particular programme, preferably specified in terms of the learning outcomes and competences to be acquired by fellows [5]. In other words, students became to play a key role in this scenario so they should be fully motivated to do so. For achieving this, a virtual tool has been implemented in the learning process eliminating barriers such as distance and availability due mainly to family matters and working conditions.

What are the key features of each approach?. In which situations could be used?. What blended techniques can be adopted to enhance learning? [6, 7]. Three specific attitudes can be distinguished:

- IT Information Technology.
- M<sub>t</sub> Measured value of a variable at instant t.
- $\overline{M}$  Measured mean value of a variable at instant t.
- PDA Personal Digital Assistant.
- R<sup>2</sup> Square of the Pearson product moment correlation coefficient.
- X<sub>t</sub> Predicted value of a variable at instant t.
- $\overline{X}$  Predicted mean value of a variable at instant t.

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#### REFERENCES

- [1] Garrison, D., Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. Internet and Higher Education 7(2), pp. 95-105.
- [2] Barab, S. Squire, K. (2004). Design-Based Research: Putting a Stake in the Ground. The Journal of the Learning Sciences 13(1), pp. 1-14.
- [3] Pereira, I. Figueiredo, A.D. (2010). Extending open space technology for blended learning. Proceedings of The 10th IEEE International Conference on Advanced Learning Technologies, Sousse, Tunisia, July 2010.
- [4] Bourne, J., Harris, D., Mayadas, F. (2005). Engineering education: Learning anywhere, anytime, Journal on Engineering Education 94(1), pp. 131-146.
- [5] Osguthorpe, R., Graham, C. (2003). Blended learning environments: Definitions and directions. The Quarterly Review of Distance Education 4(3), pp. 227-233.
- [6] Hofmann, J., (2003). Blended Learning case study. In A. Rossett (Ed.), The ASTD b-learning handbook: Best practice, strategies and cases studies for an emerging field, New York: McGraw-Hill, pp. 516-519.
- [7] Antunes, R. (2008). e/b-Learning Activities & High School Pedagogy, World Academy of Science, Engineering and Technology 44, pp. 748-751.
- [8] Moore, J.L, Dickson-Deane, C., Galyen, K., (2011), e-Learning, online learning, and distance learning environments: Are they the same?, Internet and Higher Education, 14, pp.129-135.
- [9] Derntl, R. (2005). The role of structure, patterns, and people in blended learning. Internet and Higher Education 8, pp. 111-130.
- [10] Conole, G., Dyke, M., Oliver, M., Seale, J. (2004). Mapping pedagogy and tools for effective learning design, Computers and Education 43, pp. 17-33.
- [11] Pereira, I., Figueiredo, A.D. (2010). Promoting Motivation and Participation in Higher Education: a B-learning Experience, Proceedings of the 40th ASEE/IEEE Frontiers in Education Conference, Washington, DC, October, 2010.
- [12] Koper, R., Olivier, B. (2004). Representing the Learning Design of Units of Learning, Educational Technology & Society 7(3), pp. 97-111.
- [13] Heinze, A. Procter, C. (2006). Online Communication and Information Technology Education Journal of Information Technology Education 5, pp. 236-249.
- [14] Bocconi, S., Kampylis, P. G., Punie, Y. (2012). Innovating learning: Key elements for developing creative classrooms in Europe. Joint Research Centre–Institute for Prospective Technological Studies. European Commission Office of the European Union: Luxembourg. DOI: 10, 90566.
- [15] Blanco, J.M., Peña, F. (2009). A particular survey on the student's perceptions about the implementation of the ECTS system for higher education according to the Bologna criteria, Proceedings of the INTED 2009, Valencia, Spain.