Trends in Digital Education: Selected papers from EC-TEL 2015 Workshops CHANGEE, WAPLA, and HybridEd

Toledo, Spain, September 18, 2015

Editors:
Carlos Delgado Kloos
Pedro J. Muñoz-Merino
Raquel M. Crespo-García
Carlos Alario-Hoyos

Universidad Carlos III de Madrid
Spain

ISBN: 978-84-89315-96-9

In memory of Martin Wolpers and Erik Duval,
two brilliant researchers in Technology-enhanced Learning,
but above all, two great persons.
They will always be remembered.
RIP

Along the last years, we are witnessing disruptive changes in the learning and teaching field. Three workshops were organized in conjunction with the EC-TEL 2015 conference with the common objective of addressing the challenges of the emerging educational environments, but focusing on complementary aspects of the problem. They were all held on 18 September 2015 in Toledo, Spain. This book contains some selected papers from these three workshops:

- HybridEd Workshop: MOOC-based Models for Hybrid Pedagogies (http://educate.gast.it.uc3m.es/hybrided/)
- CHANGEE 2015 Workshop: Facing the Challenges of Assessing 21st Century Skills in the Newly Emerging Educational Ecosystems (http://educate.gast.it.uc3m.es/changee/)
- WAPLA@EC-TEL: Workshop on Applied and Practical Learning Analytics (http://educate.gast.it.uc3m.es/wapla2015/)

HybridEd focused on how to combine MOOC-technology with face-to-face settings in a hybrid (or mixed or blended) way. Educational technology cannot only be used to overcome distance. It provides very useful resources for teaching local students. The question arises on how to best combine contact time with interactive multimedia resources. Blended pedagogies have been used for a long time, but the affordances of the "MOOC package" opens up new avenues of possibilities. Further, this field needs some organization and a concept framework. Flipped classroom, SPOCs (Small Private Online Courses), blended learning, … are all existing concepts that need to be brought into a wider context in order to allow teaching and learning in the best possible way: using the strength of face-to-face teaching with the power of educational technologies.

CHANGEE focused on one topic in these new educational ecosystems that are emerging, namely on assessment. Classical assessment systems, usually restricted to controlled environments, need to evolve and scale up to support students' learning and provide reliable certification. And not only for the knowledge acquired by learners, but also for the wide range of skills and abilities (cognitive, metacognitive, procedural, emotional, etc.) that need to be developed in the rapidly changing and demanding labor market. Quick and personalized feedback is demanded for effective learning. Impersonation and cheating become major risks in hybrid models. Furthermore, the assessment process is opening up to additional stakeholders. In summary, learning assessment faces a turning point where new requirements converge with the emergence of supporting technological tools in order to successfully cope with these challenges.

Finally, WAPLA focused on another relevant topic in these new educational ecosystems, namely learning analytics. Learning analytics provides methods, techniques and tools that allow us to understand better our learning process (or

the one of our students) and improve it. The collection of low-level data to be displayed as high-level meaningful information presents many challenges, including processing algorithms, real-time visualizations, interoperability of data collected, and ethical issues, among others. Teachers and learners must also be able to interpret the information, and draw conclusions to achieve a more effective learning.

We would like to thank the workshop chairs of the three workshops as well as the respective committees (shown below), but also all the speakers for sharing their insights and the workshop participants for engaging in a rich conversation.

Leganés (Madrid), March 2016

Carlos Delgado Kloos
Pedro J. Muñoz-Merino
Raquel M. Crespo-García
Carlos Alario-Hoyos

HybridEd Workshop: MOOC-based Models for Hybrid Pedagogies

Workshop Chairs

- Carlos Delgado Kloos, Universidad Carlos III de Madrid, Spain
- Mar Pérez-Sanagustín, Pontificia Universidad Católica de Chile, Chile
- Carlos Alario-Hoyos, Universidad Carlos III de Madrid, Spain
- Saif Rayyan, Massachusetts Institute of Technology, USA

Programme Committee

- Lorena Barba, George Washington University, USA
- Simon Bates, University of British Columbia, Canada
- David Cormier, University Prince Edward Island, Canada
- Iria Estévez-Ayres, Universidad Carlos III de Madrid, Spain
- Armando Fox, University of California, Berkeley, USA
- Colin Fredericks, University of Harvard, USA
- Bennet Goldberg, University of Boston, USA
- Ella Hamonic, Université catholique de Louvain, Belgium
- Davinia Hernández-Leo, Universitat Pompeu Fabra, Spain
- Patrick Jermann, École polytechnique fédérale de Lausanne, Switzerland
- Irwin King, The Chinese University of Hong Kong, China
- Edward Maloney, University of Georgetown, USA
- Max de Mendizábal, Universidad Nacional Autónoma de México, México
- Pedro J. Muñoz-Merino, Universidad Carlos III de Madrid, Spain
- Andreina Parisi Amon, Coursera, USA
- TC Pong, Hong Kong University of Science and Technology, Hong Kong
- Mike Sharples, Open University, UK
- Chris Terman, edX, USA
- Mary Ellen Wiltrout, Massachusetts Institute of Technology, USA
- Judith Zubieta García, Universidad Nacional Autónoma de México, México

CHANGEE 2015: Facing the Challenges of Assessing 21st Century Skills in the Newly Emerging Educational Ecosystems

Workshop Chairs

- Raquel M. Crespo-García, Universidad Carlos III de Madrid, Spain
- Carlos Alario-Hoyos, Universidad Carlos III de Madrid, Spain
- Carlos Delgado Kloos, Universidad Carlos III de Madrid, Spain
- Armando Fox, UC Berkeley, USA
- Maren Scheffel, Open Universiteit Nederland, The Netherlands

Programme Committee

- Linda Castañeda, Universidad de Murcia, Spain
- Manuel Castro, UNED, Spain
- Michael Derntl, RWTH Aachen University, Germany
- Yannis Dimitriadis, Universidad de Valladolid, Spain
- Ed Gehringer, North Carolina State University, USA
- Davinia Hernández-Leo, Universitat Pompeu Fabra, Spain
- Alejandra Martínez, Universidad de Valladolid, Spain
- Mar Pérez-Sanagustín, Pontificia Universidad Católica de Chile
- Henri Pirkkalainen, University of Jyväskylä, Finland
- María Jesús Rodríguez Triana, École polytechnique fédérale de Lausanne, Switzerland
- Bernd Simon, Knowledge Markets Consulting, Austria

WAPLA@EC-TEL: Workshop on Applied and Practical Learning Analytics

Workshop Chairs

- Carlos Delgado Kloos, Universidad Carlos III de Madrid, Spain
- Alfred Essa, McGraw-Hill Education, USA
- Pedro J. Muñoz-Merino, Universidad Carlos III de Madrid, Spain

Programme Committee

- Ryan Baker, University of Columbia, USA
- Simon Buckingham-Shum, University of Technology Sydney, Australia
- Daniel Burgos, Universidad Internacional de la Rioja, Spain
- Miguel Ángel Conde, Universidad de León, Spain
- Carlos Delgado Kloos, Universidad Carlos III de Madrid, Spain
- Erik Duval, Katholieke Universiteit Leuven, Belgium
- Alfred Essa, McGraw-Hill Education, USA
- Rebecca Fergusson, Open University, UK
- Baltasar Fernández-Manjón, Universidad Complutense de Madrid, Spain
- Dragan Gasevic, University of Edinburgh, UK
- Ángel Hernández-García, Universidad Politécnica de Madrid, Spain
- Sharon Hsiao, University of Columbia, USA
- Seiji Isotain, University of Sao Paulo, Brazil
- Marco Kalz, Open Universiteit, The Netherlands
- Tobias Ley, Tallinn University of Technology, Estonia
- Martin Llamas, Universidad de Vigo, Spain

- Pedro J. Muñoz-Merino, Universidad Carlos III de Madrid, Spain
- Mariluz Guenaga, Universidad de Deusto, Spain
- Salvador Ros, UNED, Spain
- Abelardo Pardo, University of Sidney, Australia
- Peter van Rossmalen, Open Universiteit, The Netherlands
- Teresa Sancho, Universitat Oberta de Catalunya, Spain
- Kairit Tammets, Tallinn University of Technology, Estonia
- Anne Tervakari, University of Tampere, Finland
- Fridolin Wild, Open University, UK
- Martin Wolpers, Fraunhofer Institut, Germany