GUEST EDITORIAL PREFACE

Educational Innovation with a Multicultural Perspective

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ABSTRACT

TEEM (Technological Ecosystems for Enhancing Multiculturality) Conference has the aim to deal with current complex problems regarding the Knowledge Society from a technological-based multicultural approach. This event is organized in thematic tracks in which ones different approaches and solutions are discussed. Educational innovation has been presented in all TEEM editions as a very key topic related to the way teaching and learning is tackled at this moment. Specifically, this special issue gathers four selected and extended papers from TEEM 2014 that present success educational cases that fully involve the use of technology in the educational processes from a multicultural perspective.

Keywords: Educational Innovation, Multiculturality, Teaching Cases, Technology and Education

INTRODUCTION

This special issue is linked to 2014 Technological Ecosystems for Enhancing Multiculturality (TEEM 2014) Conference (García-Peñalvo, 2014d). This event was born in 2013 (García-Peñalvo, 2013b) with the aim of joining researchers from very different knowledge areas to discuss about the solutions for the complex problems that current Knowledge Society (García-Peñalvo, 2014c) is presenting; problems that need interdisciplinary and multicultural approaches to be solved (García-Peñalvo, 2013a, 2015). TEEM Conference is organized in thematic tracks that allow organizing the debates in a more suitable way. Innovation in education has been always present as a central topic at this Conference (Fidalgo & Sein-Echaluce Lacleta, 2014; García-Valcárcel, Iglesias Rodríguez, & Mena Marco, 2013) and has been the seed to organize different thematic special issues about it (Fidalgo Blanco, 2014; García-Peñalvo, 2014a, 2014b; Sein-Echaluce Lacleta, Fidalgo Blanco, & García-Peñalvo, 2014).

Current special issue presents four papers with success educational cases that fully involve the use of technology in the educational processes from a multicultural perspective. In the first paper (Parra-Santos & Castro, 2015) a learning-by-doing approach (Thompson, 2010) through a workshop in which different scaled down projects are accomplished by students. Students improve their understanding of the strong and weak points of the numerical models and gain an insight into the very complex topic of the fluid dynamics processes.

The second paper (Orozco Rodríguez, Morales Morgado, & Gonçalves da Silva Cordeiro Moita, 2015) is authored by a multidisciplinary and international research team that involves pedagogic and mathematics areas to develop learning objects (Berlanga & García-Peñalvo, 2005) to help students to understand geometry abstract concepts. This has been done under an open knowledge approach (García-Peñalvo, García de Figuerola, & Merlo, 2010a, 2010b; Ramírez Montoya, 2015).

The third paper (González et al., 2015) is supported by an interdisplinary team composed by computer science and physicians researchers. It presents the use of smartphone apps to teach Physics. The mobiles are used with a double sense, first as mLearning approach (Sánchez Prieto, Olmos Migubeláñez, & García-Peñalvo, 2014) to complement the traditional learning and help students learn anytime and anywhere, and second as measurement devices (Chen, Kao, & Sheu, 2003) in physics experiments.

The last paper (Pinto Llorente, Sánchez Gómez, & García-Peñalvo, 2015) combines pedagogical and technological knowledge to develop a blended learning solution (García-Peñalvo & Seoane Pardo, 2015) to learn English. The paper is focused on the learners' perspective and the fundamental qualities that they must have to study English via a hypermedia modular model and get their goals.

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REFERENCES

Berlanga, A., & García-Peñalvo, F. J. (2005). Learning Technology Specifications: Semantic Objects for Adaptive Learning Environments. *International Journal of Learning Technology*, *1*(4), 458–472. doi:10.1504/IJLT.2005.007155

Chen, Y. S., Kao, T. C., & Sheu, J. P. (2003). A mobile learning system for scaffolding bird watching learning. *Journal of Computer Assisted Learning*, *19*(3), 347–359. doi:10.1046/j.0266-4909.2003.00036.x

Fidalgo, Á., & Sein-Echaluce Lacleta, M. L. (2014). Educational Innovation. In García-Peñalvo F. J. (Ed.), *Proceedings of the Second International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'14)* (pp. 65-67). New York, NY, USA: ACM. doi:10.1145/2669711.2669880

Fidalgo Blanco, Á. (2014). Innovación educativa en la sociedad del conocimiento. *Education in the Knowledge Society*, *15*(3), 1–3.

García-Peñalvo, F. J. (2013a). *Multiculturalism in Technology-Based Education: Case Studies on ICT-Supported Approaches*. Hershey, PA, USA: Information Science Reference. doi:10.4018/978-1-4666-2101-5

García-Peñalvo, F. J. (2013b). *Proceedings of the First International Conference on Technological Ecosystems for Enhancing Multiculturality, TEEM 2013*. New York, USA: ACM.

García-Peñalvo, F. J. (2014a). Educational Innovation Successful Cases – Part 2. *Journal of Cases on Information Technology*, *16*(4), iv–vii.

García-Peñalvo, F. J. (2014b). Educational Innovation Successful Cases – Part I. *Journal of Cases on Information Technology*, *16*(3), 1–3. doi:10.4018/jcit.2014070101

García-Peñalvo, F. J. (2014c). Managing the Knowledge Society Construction. *International Journal of Knowledge Management*, *10*(4), iv–vii.

García-Peñalvo, F. J. (2014d). *Proceedings of the Second International Conference on Technological Ecosystems for Enhancing Multiculturality, TEEM 2014*. New York, USA: ACM.

García-Peñalvo, F. J. (2015). Engineering contributions into a Knowledge Society multicultural perspective. [IEEE RITA]. *IEEE Revista Iberoamericana de Tecnologías del Aprendizaje*, *10*(1), 17–18. doi:10.1109/RITA.2015.2391371

García-Peñalvo, F. J., García de Figuerola, C., & Merlo, J. A. (2010a). Open knowledge management in higher education. *Online Information Review*, *34*(4), 517–519.

García-Peñalvo, F. J., García de Figuerola, C., & Merlo, J. A. (2010b). Open knowledge: Challenges and facts. *Online Information Review*, *34*(4), 520–539. doi:10.1108/14684521011072963

García-Peñalvo, F. J., & Seoane Pardo, A. M. (2015). Una revisión actualizada del concepto de eLearning. Décimo Aniversario. *Education in the Knowledge Society*, *16*(1), 119–144. doi:10.14201/eks2015161119144

García-Valcárcel, A., Iglesias Rodríguez, A., & Mena Marco, J. J. (2013). Educational Innovation. In García-PeñalvoF. J. (Ed.), *Proceedings of the First International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'13)* (Salamanca, Spain, November 14-15, 2013) (pp. 401-404). New York, NY, USA: ACM. doi:10.1145/2536536.2536597

González, M. Á., González, M. Á., Martín, M. E., Llamas, C., Martínez, Ó., Vegas, J., & Hernández, C. et al. (2015). Teaching and Learning Physics with Smartphones. *Journal of Cases on Information Technology*, *17*(1).

Orozco Rodríguez, C., Morales Morgado, E. M., & Gonçalves da Silva Cordeiro Moita, F. (2015). Learning Objects and Geometric Representation for teaching "Definition and applications of geometric vector". *Journal of Cases on Information Technology*, *17*(1).

Parra-Santos, M. T., & Castro, F. (2015). Benchmarking for practical training in Computational Fluid Dynamics. *Journal of Cases on Information Technology*, *17*(1).

Pinto Llorente, A. M., Sánchez Gómez, M. C., & García-Peñalvo, F. J. (2015). To be or not to be successful? That does not only depend on technology, but also on human factors. *Journal of Cases on Information Technology*, *17*(1).

Ramírez Montoya, M. S. (2015). Acceso abierto y su repercusión en la Sociedad del Conocimiento: Reflexiones de casos prácticos en Latinoamérica. [EKS]. *Education in the Knowledge Society*, *16*(1), 103–118. doi:10.14201/eks2015161103118

Sánchez Prieto, J. C., Olmos Migueláñez, S., & García-Peñalvo, F. J. (2014). Understanding mobile learning: Devices, pedagogical implications and research lines. *Education in the Knowledge Society*, *15*(1), 20–42.

Sein-Echaluce Lacleta, M. L., Fidalgo Blanco, Á., & García-Peñalvo, F. J. (2014). Buenas prácticas de Innovación Educativa: Artículos seleccionados del II Congreso Internacional sobre Aprendizaje, Innovación y Competitividad, CINAIC 2013. *RED. Revista de Educación a Distancia*(44).

Thompson, P. (2010). Learning by Doing. In B. H. Hall & N. Rosenberg (Eds.), *Handbook of the Economics of Innovation* (Vol. 1, pp. 429–476). Oxford, UK: North-Holland. doi:10.1016/S0169-7218(10)01010-5

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