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Introduction

E-Innovation in Higher Education

E-innovación en la educación superior

Guest-edited special issue:
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The paradigm of rapid change in which 21st century societies have settled into is clearly evident in the field of knowledge and its connection to information and communication technology (ICT). In just a couple of decades we have witnessed profound changes in the use (and also abuse) of new technologies, to the point of having the feeling that we are entering a new era, a kind of unprecedented "technological revolution" with unforeseen consequences for lifestyles and human behaviour. Be that as it may, the truth is we live in an ever-growing, unstoppable process of widespread virtuality. Digital has reached the world of education, and it is here to stay.

Under the conviction that universities of the future will be unable to remain behind the scenes of the digital society and emerging technologies, we can distinguish at least two lines of action to respond to this challenge if we want to consolidate the presence of e-innovation in the university context. First, from a strictly academic standpoint, we need to work towards the proper integration of e-innovation in teaching and learning processes and its contribution to improving teaching quality, one of the core missions of universities. Second, adopting a perspective of institutional strategy, higher education institutions need to be integrated in the advanced digital society, which may represent a major challenge.

With regard to the first line of action, it is worth noting that updating teaching methodologies inexorably calls for certain changes in teaching and learning styles, all the more if we take into account the momentum set by the recent establishment of the European Higher Education Area (EHEA) and the key role of students in the skills training process. It is not just a matter of updating the traditional teaching model based on a one-way transmission of knowledge under the prism of often compulsory attendance. It is not replacing books with computer screens or trading blackboards for electronic devices, nor is it simply transferring content from a physical classroom to a virtual one. On the contrary, we find ourselves faced with the need to make a firm commitment to making reforms in university curricular policies (Gimeno, 2012). In the broadest sense, this would enable an orderly structure of all elements –including modern technology– which intervene in the ecosystem of networked education. This educational scenario has overcome, as perceived nowadays, the Kantian categories of space and time in favour of ongoing training and lifelong learning.

In this most-needed curricular change, educational innovation is the true core, the most suitable recipe to ensure strong growth and development of teaching quality and innovation. People-focused innovation (not procedures) making technology more human instead of humans more technological is targeted at authentic learning and it recuperates the dignity of the "education profession". Innovation is ultimately understood as "all actions planned to produce a change in educational institutions leading to the improvement of educational policies and teaching

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practices in terms of concepts, organisation and planning, in addition to professional and institutional development with commitment and understanding from the entire education community" (Cebrián, 2003: 23). Learning better in order to teach better is undoubtedly the guiding premise.

Apprehensions from the past have been overcome; there is no longer the hype which captivated most people at the time or the illusion that all emerging technologies imply, per se, innovative good practices in education (Gros, 2016) or the use of innovation (Salinas, 2015: 31-33) under the criteria that there cannot be a change in pedagogy that is not mediated by an advanced technological tool, as reflected in a purely "technocentric" vision (De-Pablos, Área, Correa, & Valverde, 2010). This has led to the need to propose precise reflections in order to find the right balance when confronted with current challenges, specifying good practices that value the pedagogical performance of technologies. This monograph, at least from the editors' firm proposal, undoubtedly aims to contribute towards updating educational thinking in the digital society.

It is not odd to notice the massive presence of sophisticated technology in classrooms, compared to the nearly inexistent curriculum designs that provide the pedagogical quality required to turn these tools into authentic educational resources. Likewise, there is an abundance of reports and studies claiming low and irrelevant integration of technology in education nowadays, with no type of positive efficacy and with uncritical acceptance; yet at the same time, there is no support for already obsolete pedagogical models (Área-Moreira, Hernández-Rivero, & Sosa-Alonso, 2016: 80). We coincide with professor Escudero (2015: 13-19) on the need to distinguish between "technical innovation" and "reflexive and critical innovation"; the former provokes minor changes to "ways of doing", whereas the latter "carries with it some logical reconstruction of ideas, concepts and beliefs, as well as values and principles of action". If we would like to get away from innovative frenzy loaded with ingenuity, we should go with the second modality, seeking comprehensive changes. According to Cobo (2016: 57), "Technology is hardly translated into direct improvements in traditional learning (reading, sciences or mathematics) when it is not accompanied and enriched by a set of cross-cutting changes in the educational ecosystem".

Regarding the second line of action to integrate universities in the digital society and contribute to it, we must seriously consider if we are able to institutionalise timely educational innovation in higher education, or how we can work in favour of this digital culture demanded by 21st century societies. We need to outline a strategy aimed at boosting the capacity of institutions to motivate their professionals towards innovative thinking and work. There is

no shortage of studies initiating this contribution (King & Boyatt, 2015; Kaya & Sagsan, 2016). Social practices generating knowledge occur mostly in open spaces connected to the Internet. This connectivity, which cannot be denied, is present at all university levels, both in communicative and purely organisational aspects: we are connected via the Internet, we navigate virtual classrooms, handle paperwork via virtual administration, take online training courses, we combine traditional attendance with the possibilities of ubiquitous learning in virtual settings, etc.

University institutionalisation of e-innovation is capable of building an "innovation culture" (Zhu, 2015) where the entire community feels committed to introducing changes and improvements in day-to-day academic and organisational practices. It is no longer enough to have a few keen professionals whose production is used within a group of enthusiasts; on the contrary, it will be necessary for teaching institutions to be a reference for innovation, rather than relying on isolated teachers. The aim is to create a suitable climate, an attractive scenario so that the entire university community is committed to innovation. Transferring the impact of innovation, undoubtedly, has become a key aspect in this process of institutionalising educational innovation policies in higher education.

As pointed out by Rogers (2003) in his already classic theory on the diffusion of innovation, we can highlight five different categories distinguishing how people adopt innovations: innovators, early adopters, early majority, late majority and finally, laggards. Of little value is the existence of innovators (10% and 15%), firm believers in innovation, if the laggards and late majority categories (over 50%) are nearly or completely removed from any process of change. Universities must come up with a set of measures to convert themselves into attractive magnets for all groups in a firm commitment to a culture of innovation or, better said, cultures of innovation, involving the entire community. The extension of good practices –a sign of an institution's identity– reaching beyond deeply-committed minority groups, must be led by university institutions (Ricoy & Fernández-Rodríguez, 2013).

Encouraging established innovation groups and networks (Kunnari, 2016) to spread their enthusiasm to others and boost laggards is an indispensable measure. "In the context of higher education (Sloep & Berlanga, 2011: 59), learning networks can be an excellent means of ensuring that faculties and students can act freely to innovate within the university setting and with external links". In short, it is a matter of making the most of different types of collaborative learning that allow for online learning modalities (Hernández, González, & Muñoz, 2014).

Perhaps ongoing teacher training is another requirement for universities promoting educational innovation. It is not about training teaching staff to be users and consumers of technology, as has been the case. Far from this instrumentalist concept, what is required is an approach linked to creativity: teachers who create virtual learning environments and materials as well as encourage student participation in this "learn by creating" model. Only from this perspective can e-innovation policies acquire their true value. We cannot conform to training university teaching staff in the use of basic digital skills (Imbernón, Silva, & Guzmán, 2011). As suggested by Pérez-Gómez (2010: 53), a "radical change" is a must and does not entail only cosmetic changes in teacher training policies.

This monograph wishes to take a close look at educational e-innovation from a strategic standpoint. It aims to collect and diffuse research results which affect collaborative networked learning communities, the behaviour of individuals, their communication and the organisations they participate in; in brief, find out which organisational strategies and methodologies are more appropriate for universities to meet the need for adaptation and change that society expects from university contexts in the double direction of the posed challenge. The remarkable reception that our call for collaboration has had, with roughly three hundred papers submitted for this monograph, demonstrates the multitude of levels coming together on this topic, the diversity of possible dimensions that can converge and the importance of the topics to be dealt with.

Velandia-Mesa (El Bosque University, Colombia) and professors Serrano-Pastor and Martínez-Segura (University of Murcia) offer a paper assessing the possibilities of educational research involving two groups of students that have engaged in e-learning and u-learning environments, with results that are clearly favourable to the latter, ensuring greater innovation opportunities in the academic curriculum. Tur, Marín and Carpenter raise awareness of the importance of social networks in a paper examining different uses and perceptions of students and teachers regarding Twitter in the American or European context, with research comparing blended methodologies. The use of social networks as a higher education resource is, without a doubt, one of the challenges in this context of institutionalising e-innovation in universities.

Furthermore, social laboratories used to experiment and create knowledge have currently become one of the main institutions of innovation. Professors Romero (University of Granada) and Robinson (Polytechnic University of Valencia), present a study using the Medialab at the University of Granada as a digital culture laboratory targeted at co-creations and social collaboration. Next, as a confirmation of the multitude of levels within this multidisciplinary

approach to e-innovation, we offer a study by Portuguese professors Moreira and Reis-Monteiro on the possibilities of distance education and virtual learning in university education carried out in a Portuguese prison. Finally, professors from the Department of Cognition, Development and Educational Psychology at the University of Barcelona present the results of an innovation project to foster autonomous learning for undergraduate students of early childhood education and primary education via online questionnaires with automatic feedback.

Before ending this presentation and inviting everyone to read this monograph, we would like to thank the authors who responded to our call to participate in this adventure. A tremendously complex selection process was required to manage the diversity and quality of the papers submitted. This process was excessively dependent on quantitative ranges (mere hundredths separating submissions) and certainly not easy for the editors and management team. Thank you so much.

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