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The Social Media in Academia and Education Research R-evolutions and a Paradox: Advanced Next Generation Social Learning Innovation

J.UCS Special Issue

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Abstract: This editorial presents an evolutionary model for the adoption of Social Media and Social Networks in Academia. It seems that the rapid development of technological infrastructures in the context of social networks had to face inflexible structures in Academic Institutions in the same moment where students in a massive way adopt social networks for different purposes than learning. The evolution of social media research in the last five years is significant. A number of issues related to the formation, development and adoption of social networks in different domains have been investigated promoting the scientific debate. In this special issue the emphasis is on the adoption of social networks in learning and knowledge management domains in academic settings. The bold contribution of our meta-analysis in this guest editorial is the specification of the open research issues that can initiate further research. To our understanding an evolutionary model is confirmed and defines a context of exploitation for the contribution of social networks research towards more effective next generation learning systems in academia. Beyond the fashion of use of social media for learning purposes, there is a multidisciplinary orientation towards flexible personalized learning contexts. Furthermore a number of enablers are presented. This editorial can serve as a position document for scientific debate fostering international collaboration and empirical research in the various aspects of the well-defined agenda. It can also serve as a reference edition for researchers interested in the adoption of Social Networks, in the Academia.

Keywords: Social Networks, Mobile Technologies, Education 2.0, Personal Learning Environments, HORIZON 2020, Technology Enhanced Learning, Social Media, Personalization
Categories: L.2.3, L.5.0, L.6.1

1 Introduction

For Institutes of Higher Learning, social media outlets allows for both increased ease and interaction between professors and students, maintaining relevance in an increasingly digital world where the idea of being connected is part of everyday routine. The traditional brick and mortar educational system is being challenged by these new modes of access to information and technology. By incorporating social media into educational curriculum, relationships between student and educator play a crucial role in institutional reach to larger audiences while maintaining and increasing communication with existing audiences [Johnson et al, 2014]. Understanding how social media can be used as an advantage for social learning is a crucial skill for teachers and teacher-training programs, which are being expected to incorporate the use of social media within their classrooms [Johnson et al, 2014].

Specifically, the advancement of social media in higher education has fostered opportunities for thousands of students to collaborate, both interdisciplinary and discipline specific subject matter as well as across institutions, with educators and peers on a level that was not possible in previous decades. By accessing available videos, images, and documents or responding to conversations via a text response, anyone can engage with content being presented through multiple forms and share their perspectives with others in like fashion. Social media outlets are not so much technologies, as they are ways of using devices and software to enrich teaching and learning, whether inside or outside of the classroom, which can be used in formal and informal learning settings because they transcend conventional ideas and learning activities [Johnson et al, 2014]. Evidence of this is can be seen in recordings of face-to-face sessions broadcast to a larger audience using BlackBoard®, Integrity®, and YouTube® to help reiterate material covered in class for students who are present as well as those who are not present (Johnson et al, 2014).

Not only has there been a change in face to face adaptation using social media, but there has been an increased interest in online classrooms. As online learning garners increasing interest among students, there has been a shift in the perceptions of online learning to the point where it is seen as a viable alternative to some forms of face-to-face learning. Universities are staying ahead of the curve in best teaching practices by experimenting with online learning environments and social media tools that promote peer-to-peer collaboration. The value that online learning offers is now well understood in the context of flexibility, ease of access, and the integration of sophisticated multimedia [Johnson et al, 2014].

In looking at how trends and technological advancements have increased ease of information access, there are challenges present that offset movement forward. Schools and universities generally allow individuals to connect ideas in prescribed ways, sometimes leading to new insights, but more likely leading to rote learning [Johnson et al, 2014]. There is movement in the US to smooth the path to accreditation which advocates proposing more opportunities to experiment with new

teaching models that lowers prices and bolsters student learning, and advanced technologies is a key factor in lowering these costs while increasing student understanding. The goal for educators is to have a diverse higher education paradigm in which providers are competing for students who are paying for discrete components of a degree rather than the degree itself. Online learning environments show promise for extending best teaching practices to educators everywhere [Johnson et al, 2014].

Exacerbating the challenge is the digital divide where access to opportunity increasingly calls for access to technology. The gap in ability to provide greater access to knowledge and technology based solutions is widening between the developed and developing worlds. MOOCs have little effectiveness, if the proper infrastructure or connectivity is not readily available [Johnson et al, 2014]. Online learning is seen as a key strategy for increasing access to higher education. Although most of the new online education providers are based in the US, courses offered are provided in multiple languages in recognition of more than two thirds of students that live abroad [Johnson et al, 2014].

Many worry that if higher education does not adapt to the times, other models of learning will replace higher education. While this concern has some merits it is unlikely that universities as we know them will go away [Johnson et al, 2014].

In the next section we are providing the main research findings from the special issue. This is our contribution to the understanding of the Phenomenon and we invite readers to interact with the contributions of excellent quality of the individuals in this collection of articles.

2 The Social Media Research for learning Innovation

The scientific debate on the role of social networks in academia covers a number of integrative aspects of multidisciplinary concepts. Several variables both in theoretical constructs and technological developments have been analyzed. From a practical point of view several prototypes or commercial systems have incorporated learning capacities and functions supporting the learning process in various ways. The following is a limited list of grouped research variables that have been found on literature and research projects that delivered learning platforms. The key question is which is the effective mix for the fine tuning of a strategic plan for the use of social networks in academia?

We put the various variables in three big sets of complimentary perspectives:

A. Philosophical Routes and Foundations of Social Networks

In this dimension the main emphasis is on the definition and construction of the social network as an evolving organization. From a learning perspective and especially in the case of Learning Social Network the emphasis is mostly paid on the “learning peer” an entity that has many data and process based elements. The learner as a human entity with personality and diverse psychological status is more complex variable. The convergence of Social Media and Social Networks in Learning

Platforms challenges not only the way that learners can set learning contexts on a dynamic basis but mostly the way that learning takes place out of traditional stereotypes or boxes. The following is a list of variables that can be analyzed further in forthcoming research in the domain of the adoption of social networks in academia:

Constitutional Variables for Learning Social Networks: This is a diverse variable where many constructs for research can be integrated. Items like Learning needs, Learners Emotional Intelligence, Problem Solving Requirements, Current Knowledge Status, and Motivational Factors can be few of the constitutional variables for a Learning Social network. More over the formality of the constitution directly related to different types of training programs in Academia provides interesting insights for the analysis of the Social Networks Phenomena.

***Connectivity Variables for Learning Social Networks*:** The connectivity is one of the most important variables for the success of social networks. Especially in the times of technology enhanced social networks the understanding on how learners exploit modern technologies in order to build strong relationships and learning connectors with other learners is of critical importance. Issues related to the definition of Learning Objectives, Learning Contexts, Reward Mechanisms related to Learning Achievement, and Collaborative learning Scenarios are some factors that enhance the understanding of connectivity. More over the role of Academic Policies, the Strategies for the Use of Learning Technologies within academic institutions, the Innovation linked to Sustainability, poses new critical research objectives for researchers interested in contributing to the understanding of connectivity in Social Networks. Participatory Learning Models and Learning Scenarios beyond the traditional rigid teaching models of academic learning are also significant. Last but not least in this dimension for the last years the management of Learning Profiles and Portfolios will provide the required bridge for fostering the capacities of Learning Social Networks enabled by the readiness of trainers to lead learning strategies out of the box. A key paradox related to this dimension is that in many Social Networks installations for learning purposes in Academia suffer from the “inability” of face platforms like Twitter or Facebook to promote the learning than the network enhancement.

Management of Learning Social Networks: The participation of students in academic learning social networks needs a well-defined strategy for the management and the evolution of the network in the future as a key asset for the institution. Many missed opportunities currently can be covered with the support of technology. Towards this direction it is key for academic institutions to support infrastructures and systems aiming in supporting the evolving nature of a learning social network and to follow students in all the faces of their development cycle, before, during and after their studies. Items like Leadership, Development, Championship, as well as

Motivational Elements for the Life Long living of academic social networks are important. The Paradox of the current situation in Academia is the fact that even if the significance of Learning Social Networks is recognized really few institutions have strategies for the long term management of their social networks of learners. It is just like a critical performance gap is happening without bold efforts against it.

B. Technological Foundations of Social Networks Research for Learning Innovation

The technological enablers of modern social networks have increased over the last years allowing new opportunities for the mix of applied technologies. Currently mobile technologies, dynamic content management systems, personalization, Semantics and Ontologies, intelligent agents, learning Tools are the dominant technological aspects that are investigated. In the near future the role of Cloud Computing for the provision of Social Media and Social Networking Solutions for Learning will get increasing significance. More over new technologies related to Haptic Input and Virtual Reality services will boost further the provision of advanced learning services. Some

Adoption: For sure the provision of Social Learning Services does not guarantee their use from students in academia. For this reason the Adoption is a key interpretive variable helping the understanding of the use of social networking learning services by students. The development of adoption models directly linked to well-defined learning objectives is a key evolution towards the use of micro-content and other social media content formats in social learning networks.

Dynamic Personalization: One of the key challenges of current evolution of social networks for learning in academia is the personalization of the realized learning context. Unfortunately most of the initiatives fall behind in this consideration since limited work has been done in the dynamic linkage of learners profiles to customized diffusion of instruction. The strict academic policies is a key pitfall for this and the paradox is that most of academic institutions in their revised objectives set in the context of the Knowledge Society the multichannel and the integrative learning as a key priority.

Measurement of technological effectiveness: The overestimation for the role of technologies in the context of social networking for learning is another key obstacle in the provision of effective learning services. It would be a high priority on research in the next years to redefine the concept of effectiveness within Social Networks for Learning. Several considerations like the quality of Social Media Content, the incorporation of learning value components in knowledge delivery as well as the quality of learning services powered by technology would gain increasing significance.

Learning Innovation: This is one of the most important variables in the proposed redefined agenda for the use of Social Networks in academia. None analysis can be done without a deep analysis of the contribution of initiates related to the Learning innovation. Education in the 21st century is extremely different than the education in the previous century. The evolution of mobile technologies, and social networks is a bold proof. In the context of learning innovation a number of aspects should be investigated further including the contribution of novel technologies to innovative learning strategies, the provision of learning services based on different needs, the promotion of a new Learning Paradigm where the instructors are facilitators of knowledge discovery and knowledge development. The paradigm of social networking successes is a good start for using s similar metaphor for learning innovations in Academia. The revision of Educational Curricula and Programs should be more flexible exploiting the merits of Technology and not the opposite.

C. Institutional Pedagogical aspects of Social Media and Social Networks Research Agenda

Higher Education Institutions face a challenge for their evolution in the era of modern ICTs. The tight linkage to old paradigms of mono-lithic learning, where the learning process had to be based on the authority of instructors is outdated. New insights in a learner-centric pedagogy is required and to this direction a number of research variables provide a good starting point. The paradox is that limited research is made for the pedagogical aspects at Institutional Level. The innovation has to occur at a top level including top management of Education. Institutional Pedagogical Strategies need to promote the learning through new technologies, have to find new novel ways to promote the learning effectiveness out of typical formalities and slow speed changes in traditional structures. The following list is only a limited summary of factors promoting this vision: Learning Strategies, Participation Models, Motivation to Learn, Flexible Managerial Structures for the Management of Learning Innovation, Reward Schemas for Instructor and Learners, Redesign of Evaluation Procedures, Promotion o Openness in the Use of Scientific Research Outcomes, Promotion of Open Source Platforms are only a few factors that in the next years will gain more significance.

3 An evolutionary framework for the adoption of Social Learning Innovation in Academia

The analysis of the new evolving context for the contribution of Social Media and Social Networks towards Learning Innovation in Academia revealed a number of interesting pairs of classifications combining a number for integrative factors that interpret the next steps.

In our understanding the Social Learning Innovation in Academia is defined as the use of Social Networks and New Media in all the aspects of Learning and

Knowledge Development and Diffusion for dynamic learning objectives. The following are few of the new interesting pairs of constitutional factor for the provision of learning innovation:

Social Connectivity: [Evolving Vs Predefined]
Management of Educational Process: [Open-Flexible Vs Slow-Static]
Learning Innovation: [Open-Embodied to Culture Vs None]
Learning Content: [Micro-Dynamic-Personalized Vs Static-Monolithic]
Learning Discovery: [Exploratory-Experimental Vs Sequential]
Learning Strategies: [Institutional-Personal Vs Curriculum based]
Technological and Social Adoption: [Wide Vs Static]
Evaluation: [linked to Personal Development Vs Strict]
Academic Evolution [Social Networks as an asset Vs as a paradox]

The combination of these variables by two or three defines several interesting research contexts for further considerations. In the next years we will present more interesting results related to these. For example the combination of Social Connectivity and Leaning Discovery and Evaluation could be an excellent PhD study. We are encouraging researchers in this domain to promote further this initial discussion for the role of Social Media and Social Networks for Learning Innovation.

4 Overview of the special issue

Nine full research articles are presented in this special issues. They all provide significant insights for the special theme and set an interesting context for further scientific debate. The main concepts that are investigated are related to: social networking services, social media in China, media content adoption, technological readiness, adaptive leanring, non-explicit learning communities, virtual innovation labs, services for the disabled.

- Web 2.0 and Social Networking Services in Municipal Emergency Management: A Study of U.S. Cities
- Mapping the Impact of Social Media and Mobile Internet on Chinese Academia's Performance: A Case on Telemedicine Research 2005-2013
- Media Content Adaptation Framework for Technology Enhanced Mobile e-Learning
- Technological Readiness for Teaching Practices in Immersive Learning Environments Open Sim
- Adapting Learning Contents to Mobile Devices and Context to Improve Students' Learning Performance: A Case Study
- Leveraging Non-explicit Social Communities for Learning Analytics in Mobile Remote Laboratories
- A "Mobile Virtual Lab" for Supporting Engineering Curricula
- Does Change in Weekend Days Have an Impact on Social Networking Activity?

- Enhancing Learning Experience of the Disabled: An Accessible Tourism Platform

5 Conclusions

The topic of this special issue is significant. The great majority of the literature the last three years for learning and knowledge management is focusing on Social Networks and Social Media. The contribution of this special issue is unique. It sets new direction for future research and provides a full discussion of critical thinking and comparative studies on the phenomena under analysis introducing the concept of LEARNING INNOVATION. We are at the disposal of the readears for further analysis and collaborations in the domain. Currently we are preparing two proposals for next generation social networks and learning innovation for learning under the HORIZON 2020 program and several initiatives in Mexico and the Kingdom of Saudi Arabia.

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