

Social Networking, Teaching and Learning

Jelena Jovanovic

**Faculty of Organizational
Sciences,
University of Belgrade, Serbia**

jeljov@gmail.com

Raymond Chiong

**Faculty of Higher Education,
Swinburne University of
Technology, Victoria, Australia**

rchiong@swin.edu.au

Thomas Weise

**Nature Inspired Computation and Applications Laboratory,
University of Science and Technology of China, Anhui, China**

tweise@ustc.edu.cn

Today's students and educators live in the world of Facebook, Twitter, Wikipedia and YouTube. These and many other social networking and social media applications are part of the so-called Social Web (i.e., Web 2.0), best characterised by the notions of social interaction, content sharing, and collective intelligence. In addition, today's students, often referred to as digital natives (Prensky, 2001), have spent most of their lives surrounded by and using computers, game consoles, digital music players, video cameras, cell phones, as well as the Web itself. Being used to constant engagement and multitasking in their day-to-day activities, students need high level of social and creative engagement in learning. Traditional teaching approaches favouring passive content consumption are no longer applicable and have to be substituted or at least complemented with highly interactive learning processes.

The importance of interactivity in learning is emphasised in modern learning theories (Muirhead & Juwah, 2004). For example, Connectivism recognises that the digital and networked nature of our daily life requires learning which occurs through interaction with various sources of knowledge and participation in communities of common interest, social networks, and group tasks (Siemens, 2005). This learning theory also emphasises the important role that the technology plays in the learning process, and the connection of individuals with technology as well as with other individuals through technology.

Numerous studies have demonstrated the benefits of online social interaction in the learning process. Positive aspects of online interaction with teachers and peers include (but are not restricted

to): access to peer and expert knowledge, ability to receive feedback from teachers and peers, and an opportunity to reflect on the exchanged messages (Ellis, 2001). By expressing their thoughts, discussing and challenging the ideas of others, and working together towards a group solution to a given problem, students develop critical thinking skills as well as skills of self-

Material published as part of this publication, either on-line or in print, is copyrighted by the Informing Science Institute. Permission to make digital or paper copy of part or all of these works for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial advantage AND that copies 1) bear this notice in full and 2) give the full citation on the first page. It is permissible to abstract these works so long as credit is given. To copy in all other cases or to republish or to post on a server or to redistribute to lists requires specific permission and payment of a fee. Contact Publisher@InformingScience.org to request redistribution permission.

reflection and co-construction of knowledge and meaning (Brindley et al., 2009). However, researchers and practitioners alike have found that interactions cannot be easily established in a learning environment. This often comes as a result of an inappropriate course design (Brindley et al., 2009) and/or the students' lack of collaboration skills, such as decision-making, consensus building, and dealing with conflict (Finegold & Cooke, 2006). Therefore, in order to yield the expected educational benefits, the technology in general and social networking tools in particular have to be accompanied with a sound pedagogical approach.

In current learning practices, the acceptance of social networking tools (and the broader category of social software tools) is still primarily led by education enthusiasts who, trying to make their classes more engaging for students, turn to these popular online tools and make them part of their teaching practices. However, evidence is still lacking as to whether and to what extent these tools are beneficial for education. A growing number of researchers (e.g., Ala-Mutka et al., 2009; Minocha, 2009) and research projects (e.g., iCamp¹ and Horizon Project²) in technology-enhanced learning have explored the potentials of these tools and reported benefits but also drawback and challenges for their application in educational settings. While some authors even consider that further development of social networking tools and Social Web in general would eventually lead to disruptive innovations in education (see Christensen et al., 2008), there are also authors who are sceptical about these tools and their educational potentials (e.g., Bugeja, 2006).

This special section on Social Networking, Teaching and Learning therefore aims to provide some additional insights into the educational potentials of social networking, which despite some observed disadvantages, is expected to be increasingly present in educational practices. The three papers included in this special section were among the invited submissions from the Informing Science and Information Technology Education 2012 Conference (InSITE 2012) jointly organised by Informing Science Institute and the John Molson School of Business, Concordia University in Montreal, Canada. Each of these papers was initially reviewed by four to five reviewers. Subsequently, the papers were revised and extended based on the reviewers' feedback, and checked by the editors over two rounds of rigorous review cycles. Together, the three papers show the benefits and drawbacks of social networks and media at different levels of integration into the overall teaching framework.

The first paper by Gafni and Deri, entitled Costs and Benefits of Facebook for Undergraduate Students, assesses the advantages and disadvantages of Facebook, the leading social networking platform, for undergraduate students in technology-oriented subjects. The authors evaluated the answers given by more than 100 students to their questionnaire and analysed several academic Facebook pages. The survey shows that first year students use Facebook not only for socialising but also for academic purposes, whereas senior students use it almost exclusively for leisure or social activities. Only a small portion of students significantly and successfully used it to get assistance for their studies or to save time in finding learning resources. Department-run Facebook pages tend to be rather inactive, whereas the analysed student-run page was very active. According to the study, Facebook, as is, thus has little tangible positive impact on studying. The survey, however, suggests that the first year students in particular perceived that Facebook enlarges their social circle and valued it as a place to express feelings and opinions. The main cost of Facebook appears to lie in the waste of time – a valuable resource for students. Most of the students spend at least one to three hours per day in the social network plus needed additional time thereafter until being able to concentrate on studying again. In conclusion, we can learn from this paper that Facebook may have a positive effect on studying, but that its potential is not yet fully utilised.

¹ <http://www.icamp.eu/>

² <http://www.nmc.org/horizon>

In the second paper of this special section, Social Networking in Undergraduate Education, Buzzetto-More analyses the efficacy of social networking systems in the context when they are explicitly introduced as part of the organisational framework of courses. Her study focuses on undergraduate management students in a minority-serving university, in which courses were offered either fully online or in a hybrid format with both face-to-face meetings and online presentations. Here, the Blackboard Learning Management System was used as the primary tool for distributing the course material, supplemented by a Facebook group for each course. The questions of whether such an integrated use of social networking can help building learning communities or relationships therein and whether it can engage students were investigated via a questionnaire as well as content analysis on the Facebook posts. The results show that the students actively used course-specific Facebook walls to post questions about course-related topics, and that the fraction of original posts made by students (as opposed to posts initiated by the supervisor) increased over the duration of the courses. According to the questionnaire results, most students spent significant time on Facebook. More than half of them agreed that it enhances the sense of community within the learning environment, the learning process, class discussions, makes the classes more interesting, and – as a learning tool – engages students. However, they did not want to see traditional course management systems such as Blackboard replaced by Facebook. In summary, compared to the results of the stand-alone utility of Facebook presented in the first paper, Facebook has been found to be more beneficial as part of the course organisation and content distribution framework.

The last paper by Hordemann and Chao, Design and Implementation Challenges to an Interactive Social Media Based Learning Environment, goes one step further in terms of combining social networks and education by complementing teaching with online social interaction concepts. In their paper, Hordemann and Chao report on their experience with the new social media based learning environment *ui+bo*. This system allows students in the classroom to use, e.g., a touchpad or laptop to directly follow the lecture, to ask questions in an anonymous way, to chat, or to take notes on the slides. A reward mechanism, similar to those used in common (online) games, has been introduced in the system to motivate students' engagement in learning. During a lecture, the teacher can navigate through the slides, supervise the activities within the system, and start and evaluate quizzes. A user survey showed that the option to anonymously ask questions is especially appreciated by students. Other successful features include the live feedback in quizzes and the ability to take notes. On the negative side, the chat feature may sometimes be distracting and the reward mechanism did not really take off, as the awards are not perceived as desirable by the majority of the students. The authors conclude the paper by proposing solutions for the problems discovered and indicating enhancements planned for the next stage of their project.

To end, we would like to thank the authors for their contributions to this special section. We also wish to acknowledge the reviewers involved for their expertise and time, in particular those who have provided constructive comments and suggestions. Finally, we hope the readers will enjoy reading the papers in this special section as much as we have enjoyed putting them together.

References

- Ala-Mutka, K., Bacigalupo, M., Kluzer, S., Pascu, C., Punie, Y., & Redecker, C. (2009). *Learning - The Impact of Web 2.0 Innovation on Education and Training in Europe*, JRC Scientific and Technical Report, EUR Number 23786 EN. Retrieved from: <http://ftp.jrc.es/EURdoc/JRC55629.pdf>
- Brindley, J.E., Walti, C., and Blaschke, L.M. (2009). Creating effective collaborative learning groups in an online environment. *The International Review of Research in Open and Distance Learning*, 3/(3); Retrieved from: <http://www.irrodl.org/index.php/irrodl/article/view/675/1271>

Social Networking, Teaching and Learning

- Bugeja, M. (2006). Facing the Facebook,. *The Chronicle of Higher Education*, 5-(21), January 27th, p.C1; Retrieved January 6, 2011, Available on <http://chronicle.com/article/Facing-the-Facebook/46904>
- Christensen, C., Johnson, C.W., & Horn, M.B. (2008). *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*, McGraw-Hill, New York.
- Ellis, A. (2001). Student-centered collaborative learning via face-to-face and asynchronous online communication: What's the difference? *Proceedings of the 37th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education*, Melbourne, pp. 169–177.
- Finegold, A., & Cooke, L. (2006). Exploring the attitudes, experiences and dynamics of interaction in on-line groups. *Internet and Higher Education*, 9, 201-215.
- Minocha, S. (2009). Role of social software tools in education: a literature review, *Education : Training*, 53(5/6), 353-369.
- Muirhead, B., & Juwah, C. (2004). Interactivity in computer-mediated college and university education: A recent review of the literature. *Educational Technology ; Society*, <(1), 12-20.
- Prensky, M. (2001). Digital natives, digital immigrants. *21st Century Learning*, 9(5), 1-6.
- Siemens, G. (2005). Connectivism: Learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, -(1), Retrieved March 15, 2012, from http://www.itdl.org/Journal/Jan_05/article01.htm

Biographies

Jelena Jovanovic is with the Faculty of Organizational Sciences, University of Belgrade, Serbia. She has been lecturing in the areas of intelligent systems and software engineering at both undergraduate and postgraduate levels for a number of years now. She is also an active researcher and a practitioner in the fields of intelligent systems and educational technologies. Her primary research interests are in semantic technologies, Web technologies, technology enhanced learning and knowledge management. She is an Editor of the Interdisciplinary Journal of Information, Knowledge, and Management. To date, she has more than 70 refereed publications in books, journals and conference proceedings.

Raymond Chiong is with the Faculty of Higher Education Lilydale, Swinburne University of Technology, Australia. He has been lecturing in Computer Science/Information Systems at both undergraduate and postgraduate levels for many years. His teaching has focused on programming and databases. Besides teaching, he has been actively pursuing research in the areas of evolutionary game theory and optimisation. He is the Editor-in-Chief of the Interdisciplinary Journal of Information, Knowledge, and Management, and an Editor of the journal Engineering Applications of Artificial Intelligence. He is also the Vice Chair of the task force “Education” of IEEE Computational Intelligence Society’s Emergent Technology Technical Committee, and one of the Founding Chairs of the IEEE Symposium on Computational Intelligence in Production and Logistics Systems. To date, he has more than 70 refereed publications in books, journals and conference proceedings.

Thomas Weise is with is with the Nature Inspired Computation and Applications Laboratory (NICAL), School of Computer Science and Technology, University of Science and Technology of China in Hefei, Anhui, China. He has been teaching in Computer Science at both undergraduate and postgraduate levels, with topics spanning from operating systems, distributed systems and computing, to metaheuristic optimization algorithms. His major research interests include Evolutionary Computation, Genetic Programming, and real-world applications of optimization algorithms. His experience ranges from applying GP to distributed systems and multi-agent systems, efficient web service composition for Service Oriented Architectures, to solving large-scale real-world vehicle routing problems for multimodal logistics and transportation. Dr. Weise is the author/co-author of over 60 refereed publications, the Chair of the task force “Education” of IEEE Computational Intelligence Society’s Emergent Technology Technical Committee as well as an Editor of the Interdisciplinary Journal of Information, Knowledge, and Management (IJIKM), His work is supported in part by the National Natural Science Foundation of China under Grant 61150110488, by the Chinese Academy of Sciences Fellowship for Young International Scientists 2011Y1GB01, and by a Special Financial Grant from the China Postdoctoral Science Foundation (number 201104329).