Introduction to Learning Analytics & Networked Learning Minitrack

Caroline Haythornthwaite
University of British Columbia
c.haythorn@ubc.ca

Maarten de Laat
Open University of the Netherlands
maarten.delaat@ou.nl

Shane Dawson
University of British Columbia
shane.dawson@ubc.ca

Dan Suthers
University of Hawaii
suthers@hawaii.edu

This minitrack addresses the leading edge of technology use and system design to analyze, support, and/or create learning and learning environments. Papers that fit this minitrack fall under new and ongoing areas of learning research that may be referred to as learning analytics, networked learning, technology enhanced learning, computer-supported collaborative learning, and mobile learning.

The minitrack title reflects two research areas relating to technology in learning environments. *Networked learning* is the earlier term, picked up here from conferences of that name that have been ongoing in the UK and Europe since 1998. The focus at the research presented there has been on understanding the actual and potential transformations in learning and pedagogy emerging from the networked connectivity of the Internet. More in this area of research can be found in the recent publication of selected papers from the 2010 Networked Learning conference [1].

Learning analytics is the newer term, representing a rapidly emerging area of research and practice that aims to describe and evaluate the definition, collection, analysis, and use of data resulting from technology use. Such analytics encompasses system design to create better models and evaluations of learning on and through information technologies and new media, as well as evaluations of the learning process itself that can be accomplished based on data traces resulting from the use of technology, and of the social and ethical inputs and ramifications from such analytics. More on this area of research can be found in [2][3][4], initiatives of the Society for Learning Analytics Research (http://www.solaresearch.org/), and the Learning Analytics conferences (http://lakconference2013.wordpress.com/).

For this year's minitrack, the scope was wide to include papers that explore technology use to examine how social learning happens, use data from learning environments to support learning processes, and examine new practices of formal and informal learning on and through the Internet. The minitrack comprises these three papers selected following peer review of seven submissions.

Simple and Computational Heuristics for Forum Management on the NSTA Learning Center: A Role for Learning Analytics in Online Communities of Practice Supporting Teacher Learning by Kathleen Perez-Lopez, Darren Cambridge and Albert Byers. This paper describes techniques for managing forum activity and participation, among members of National Science Teachers Association (NSTA) and the U.S. Department of Education's 'Connected Educators' project, with a particular aim of synthesizing and making forum knowledge accessible.

Building Multimedia Artifacts Using a Cyber-enabled Video Repository: The VMCAnalytic by Cindy Hmelo-Silver, Carolyn Maher, Marjory Palius, Robert Sigley, Alice Alston, Grace Agnew, and Chad Mills. This paper describes how a cyber-enabled video repository has been used for teaching and learning through the ability to create networked multimedia artifacts.

The Dynamics of Open, Peer-to-Peer Learning: What Factors Influence Participation in the P2P University? By June Ahn, Cindy Weng and Brian Butler. This paper addresses the need for learning among teachers aiming to create their own open online courses. Analysis of log data explore factors relating to participation in open courses and what factors contribute to the creation of active online learning groups.

References

[1] Dirckinck-Holmfeld, L., Hodgson, V. & McConnell, D. (Eds.)(2012). *Exploring the Theory, Pedagogy and Practice of Networked Learning.* NY: Springer-Verlag.
[2] Siemens, G. (2010). "What are Learning Analytics?" Retrieved Sept. 19, 2012 from: http://www.elearnspace.org/blog/2010/08/25/what-are-learning-analytics/.
[3] Romero, C., Ventura, S. Pechenizkiy, M. & Baker, R.S.J.d. (Eds.) (2011). *Handbook of Educational Data Mining*. Boca Raton, FL: CRC Press, Taylor & Francis.
[4] Haythornthwaite, C., deLaat, M. & Dawson, S. (forthcoming 2013). "Learning analytics." *American Behavioral Scientist*, whole issue.

1530-1605/12 $26.00 © 2012 IEEE
DOI 10.1109/HICSS.2013.11