Learning in Digital and Social Media

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Learning in Digital and Social Media is an interdisciplinary minitrack to present research on how human learning takes place via interactive and social processes enabled or supported by digital and social media. We seek to bridge disciplines and research communities between system and learning sciences, and within this scope a broad range of research questions, learning settings, and theoretical and methodological traditions are welcome. The shared focus is on relationships between human activities and the technologies and analytics used to support and enable learning.

This year the Learning in Digital and Social Media minitrack consists of three highly valued papers. Each of these papers successfully address complex methodological challenges of researching online learning through social interaction in digital media and present innovative designs for social learning.

The first paper, presented by Evren Eryilmaz, Brian Thomas, Kuo-Hao Lee and Melissa de Castro with the title "*Development of a Reading Material Recommender System Based on Design Science Research Approach*", draws on Clark's communication theory and user-centered design to develop a recommender system to be embedded in asynchronous online discussion. This explorative study designs and evaluates a recommendation functionality incorporated in online threaded discussions that facilitates collaborative learning by preventing conversational overload on behalf of the user when engaging in large online discussions. The paper reports on two experiments to evaluate the usefulness of three collaborative filtering recommender systems. The findings indicate that the recommender system has the potential to help navigate learners through large online discussions, making recommendation based on using a similarity metric (Pearson Correlation Coefficient) and prompting them to read more posts.

The second paper, presented by Jason McDonald, Derek Hansen, Jonathan Balzotti, Johnson Tanner, Desiree Marie Winters, Justin Giboney and Elizabeth Bonsignore, is called "*Designing Authentic Cybersecurity Learning Experiences: Lessons from the Cybermatics Playable Case Study*". This paper focuses on how to help students to learn more than the knowledge and practical skills of a discipline, by paying attention to the metacognitive and soft skills that are necessary for professionals to be successful over the course of a career. In their study they propose educational simulation based on *'playable case studies'* to engage students in fictitious narratives based on real-world activities relevant to the professional domain, in this case the domain of cybersecurity. Based on a pilot test they describe a range of tensions and difficulties that can arise during the development of immersive, experiential learning experiences. They end their paper with a set of design recommendations and questions for consideration when attempting to create similar educational experiences.

Our final paper, presented by Priya Kumar and Anatoliy Gruzd, is called "*Social Media for Informal Learning: A Case of #Twitterstorians*". In this paper they focus on the use of social media for informal learning. Social media platforms like Twitter and Reddit allow users to ask questions, discuss and debate issues and learn from each other through this deliberative process. As such social media create open, spontaneous platforms used to access and create knowledge, but also to find other learners or participants who share similar interests. The current study develops a coding scheme to understand how participants leverage social media to facilitate self-directed informal learning practices, explore dialogue and communication. The coding scheme has been used in the context of Twitter to describe different kinds of discursive practices, exchange of resources and sharing of ideas and knowledge outside traditional classroom settings.