

Studying Engaged Learning in Online Communities

Brief Description

In this interactive session, participants will think together about “live” issues in the study of online communities as environments in which engaged learning can take place. Specifically, (a) What can we learn from contrasting cases of engaged learning in online communities? (b) Given differing methods, questions, timescales, grain sizes, philosophical orientations, and site contexts, how might generalizability of findings be ensured? (c) What do researchers need in order to develop a coherent theory of learning?

Proposal (theoretical perspective, rationale, goals- 600 words)

The richness of interactions fostered by the Web and efforts to leverage that potential have resulted in the building and study of network-based services with the aim of fostering online communities that promote learning (Renninger & Shumar, 2002a; Barab, Kling, & Gray, 2004). These attempts to define innovative spaces for learning in small and large collaborative groups have yielded new potential for furthering understanding of learning and thinking in both formal and informal contexts, especially in the domains of science and mathematics (Stahl, 2006; Suthers, 2005a, 2005b). For example, since 2002, students’ evaluative ratings of the activities and tools provided by the Socio-Technical Environments for Learning and Learning Activity Research (STELLAR) Lab have been stable and positive, underscoring students’ preferences to work collaboratively rather than individually on activities (Derry, et. al., 2005, in press). Similarly, in-depth semi-structured interviews with 43 teachers using Math Forum (mathforum.org) resources over a three-year period reveal sustained engagement, as well as changed activity and sense of possibility—e.g., teachers who do not like or think that they can teach mathematics, finding out that they do and can (Renninger & Shumar, 2002b). These teachers both liked working with others on the site and deepened and developed their understanding of mathematics and mathematics pedagogy through various types of collaborations (dyads, small groups, and the community of the site, or community of the site, as a whole).

It appears that the online context may support learners to ask questions and seek resources to learn mathematics and science content (Marlino, Sumner, Fulker, Manduca, & Mogk, 2001). The online context may support learners to overcome barriers based on geographic location, time constraints, gender, initial interest, self-confidence, minority status, age, disability, or skill level (Shumar & Renninger, 2002). However, there are a wide-range of online contexts (e.g., collaborative chat environments, interactive virtual communities, digital libraries). The methods that have been used to study these vary, as do the research questions that have informed them, the timescale, the grain sizes, and

philosophical orientations. How can the researchers who study online communities develop a coherent (generalizable) theory of learning such as NSF assumes is possible?

The goals for this interactive workshop include a thoughtful and inclusive discussion of three “live” issues for those studying the online community as an environment in which engaged learning can take place: (a) What can we learn from comparing and contrasting cases representing different methodological approaches, addressing questions such as whether different methods (e.g., discourse analysis, cognitive ethnography, ethnomethodology, interaction analysis, controlled experimentation) are more or less suitable for addressing classes of question and working at different grain sizes (ranging from small conversational segments to development of communities over long periods of time)? (b) Given the range of methods, questions, timescales, grain sizes, philosophical orientations, and site contexts, how might generalizability of findings (e.g., is engagement the same phenomena in a collaborative chat environment, an interactive virtual community, and a digital library?) be ensured? (c) What do researchers need in order to develop a coherent theory of learning? How can we seed community among researchers who study engaged learning in online communities? What are the barriers (and what affordances might be designed) to help researchers become a professional online learning community themselves?

Audience

Participants who want to think with others about the proposed questions of the session are encouraged to enroll in the workshop. All participants should prepare a short (2-page) statement introducing themselves, their experience working with/studying online communities, and their goals for workshop participation given the session questions. These statements should be emailed to Ann Renninger (krennin1@swarthmore.edu) by June 15. They will be put on a wiki and made available to all session participants. These statements will also be used to guide facilitation of the workshop.

Syllabus (structure of the session)

The goals of the proposed interactive workshop include a thoughtful and inclusive discussion of three “live” issues: (a) What can we learn from comparing and contrasting cases of engaged learning in online communities? (b) Given the range of methods, questions, timescales, grain sizes, philosophical orientations, and site contexts, how might generalizability of findings be ensured? (c) What do researchers need in order to develop a coherent theory of learning? The workshop will consist of a mix of activities: introductions, jig-sawed groups, and whole group discussion. The goals and experience of all participants will be used to make final decisions about the timing, particular focus, and groupings for the break out groups.

A wiki consisting of 2-page statements submitted prior to the workshop will be used to provide participants with information about each other, and will be used to further refine the structure of the workshop.

Steve Weimar, an experienced workshop facilitator, will serve as moderator for the session. He will provide an overview of workshop goals and format. He will also point to data driven examples of the questions of the session and their importance to both theory and practice. The workshop will begin with brief self-introductions of all workshop participants that will allow people to link faces with the texts on the wiki. Steve will lead off, followed by each of the workshop “presenters” who will model the brief self-introduction format. (9-9:30 am)

A modified jigsaw format will be used to involve all workshop participants more directly in thinking about the given question. Concurrent discussions of each of the three questions will be the focus of the first grouping (9:30-10:30 am). At the close of the first grouping, discussion will turn to how to effectively share this discussion with others.

Following the break (10:30 –11 am), group participation will be jigsawed. In the second grouping (11-12 am), participants will report on the discussion of the question taken up in the first and hear about the discussions of each of the other questions.

Following the jigsawed grouping, the workshop participants will re-group as a whole group. In the remaining half hour, they will identify what they know and what they would like to know/or think still needs to be figured out about each of the session questions (12-12:30 pm).

Presenter Contact Information

K. Ann Renninger, Organizer and Presenter

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Ann is trained as a developmental and educational psychologist. She has been conducting research on learning and motivation on the Math Forum@Drexel site since its beginnings in 1992.

Renninger, K. A., & Shumar, W. (2002b). Community building with and for teachers: The Math Forum as a resource for teacher professional development. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Learning and change in cyberspace* (pp. 60-95). New York, NY: Cambridge University Press.

Renninger, K. A., & Shumar, W. (2004). The centrality of culture and community to participant learning at and with The Math Forum. In S. A. Barab, R. Kling, & J. H. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 181-209). New York: Cambridge University Press.

Stephen A. Weimar, Moderator
The Math Forum@Drexel University
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Steve is the Director of the Math [Forum@Drexel](http://www.mathforum.org) site, a large interactive virtual resource center. Prior to his work with the Math Forum, Steve facilitated workshops for teacher educators and was a mathematics teacher.

Giersch, S., Klotz, E. A., McMartin, F., Muramatsu, B., Renninger, K. A., Shumar, W., Weimar, S. A., (2004, July/August). If you build it, will they come? Participant involvement in digital libraries. *D-Lib Magazine*, 10(7/8). Retrieve from <http://www.dlib.org/dlib/july04/giersch/07giersch.html>

Renninger, K. A., Weimar, S. A., & Klotz, E. A. (1998). Teachers and students investigating and communicating about geometry: The Math Forum. In R. Lehrer & D. Chazan (Eds.), *Designing learning environments for developing understanding of geometry and space* (pp. 465-487). Mahwah, NJ: Lawrence Erlbaum Associates.

Sharon J. Derry, Presenter
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Sharon is trained in cognitive science and educational psychology. She manages several curriculum and instructional technology projects that focus on individual and collaborative problem solving, critical thinking, literacy, and basic mathematics.

Derry, S. J., Hmelo-Silver, C. E., Feltovich, J., Nagarajan, A., Chernobilsky, E., & Halfpap, B. (2005). Making a mesh of it: A STELLAR approach to teacher professional development. In *Proceedings of Computer Support for Collaborative Learning (CSCL) 2005*, Taipei, Taiwan. Mahwah, NJ: Erlbaum.

Derry, S. J., Schunn, C., & Gernsbacher, M. A. (Eds) (in press). *Interdisciplinary collaboration: An emerging cognitive science*. Mahwah, NJ, Erlbaum.

Mary Marlino, Presenter
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Mary is the Director of DLESE, a large digital library of earth science resources.

Sumner, T., Marlino, M., Custard, M. (2005). Developing a computational model of “quality” for educational digital libraries. *ECDL*. 541-542.

Marlino, M., Sumner, T. R., Fulker, D., Manduca, C., & Mogk, D. (2001). The Digital Library for Earth System Education: Building Community, Building the Library. *Communications of the ACM*, 44 (5), 80-81

Gerry Stahl, Presenter

Drexel University, Virtual Math Teams Project at the Math Forum @ Drexel

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Gerry is trained as a computer scientist and philosopher. The editor of IJCSCL, he studies group cognition and collaboration in the Virtual Math Teams Project.

Stahl, G. (2006). *Group cognition: Computer support for building collaborative knowledge*. Cambridge, MA: MIT Press. Retrieved from <http://www.cis.drexel.edu/faculty/gerry/mit/>.

Stahl, G. (2005). Group cognition in computer assisted learning. *Journal of Computer Assisted Learning*. Retrieved from <http://www.cis.drexel.edu/faculty/gerry/publications/journals/JCAL.pdf>

Wesley Shumar, Presenter

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Wes is a cultural anthropologist who conducts research and evaluation for the Math Forum. His research focuses on community building and group learning online and higher education.

Renninger, K. A., & Shumar, W. (Eds.) (2002a). *Building virtual communities: Learning and change in cyberspace*. New York, NY: Cambridge University Press.

Shumar, W., & Renninger, K. A. (2002). Introduction: On conceptualizing community. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Change and Learning in Cyberspace* (pp. 1-19). Cambridge, UK: Cambridge University Press.

Daniel D. Suthers, Presenter

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Dan is trained in computer science and cognitive psychology. He directs the Hawaii-i Networked Learning Communities site and conducts research on the affordances of technology and collaborative learning online.

Suthers, D. (2005). Technology affordances for intersubjective learning: A thematic agenda for CSCL. In T. Koschmann, D. Suthers, & T.W. Chan (Eds.), *Computer Supported Collaborative Learning 2005: The Next 10 Years!* (pp. 662-671). Mahwah, NJ: Lawrence Erlbaum Associates.

Suthers, D., and Hundhausen, C. (2003). An Empirical Study of the Effects of Representational Guidance on Collaborative Learning. *Journal of the Learning Sciences*, 12(2), 183-219.