

DISTRIBUTED THOUGHT-LEADERSHIP AND PASSIVE LEARNING IN ONLINE EDUCATION

James Waters, Cabrini College, Radnor PA; email: james.waters@cabrini.edu

Susan Gasson, Drexel University, Philadelphia PA; email: sgasson@drexel.edu

ABSTRACT

Online education has the potential for student engagement with a diverse community of learners, leading to social engagement with learning, that in turn lead to the co-construction of knowledge in the course domain and deeper learning outcomes. But while online education may make it easier to cooperate at a distance, it also makes it easier to be more selfish than in face-to-face communications. Many students act as lurkers, who belong to communities but make no material contributions to them.

This research investigates complex learner role-behaviors, presenting a framework for the analysis of online social engagement by peer-learners. We explore the "vapor trails" of peer-learner interactions, accounting for the invisible social engagement underlying passive learning. Finally, we evaluate the role of student thought-leaders in supporting three levels of socially-situated student engagement with online courses.

CONCEPTUAL ORIENTATION

As online education increasingly spans geographical locations and cultures, there is a dearth of useful theory about the strategies employed by learners to manage their engagement with courses, or about the effect that learner strategies have on course outcomes. It is widely assumed that meta-cognitive learning strategies and social collaboration lead to improved learning outcomes. But there is very little evidence indicating how to achieve this (Bransford et al., 2000). Building a sense of community and fully utilizing the socio-technical capital imbued in it are obviously of key importance (Gabelnick et al., 1990; Lipman, 1991). Students will not enjoy the maximum benefit if they feel themselves to be outsiders in the learning community (Wegerif, 1998). But while computer-mediated communication may make it easier to cooperate at a distance, it also makes it easier to be more selfish than in face-to-face communications (Kollock and Smith, 1996). The limitation of assumptional frameworks that equate student engagement in community learning with collaboration is epitomized by the phenomenon of lurkers, who belong to communities but make no material contributions to them (Nonnecke and Preece, 2000). Although lurkers do not participate in overt collaboration, they may still be using the community effectively, as they engage in "vicarious learning" (Bandura, 1977; Cox et al., 1999). By modeling how the world works, from the experiences and examples of others, students engage in *passive learning* that requires less engagement and risk than active participation. But passive learning is difficult to assess and we do not understand what contributes to effective learning in online communities of inquiry, active or passive.

Empirical studies emphasize that students must take control of their own learning, for a successful outcome, especially in an online environment (Anderson and Elloumi, 2008). Online environments must permit students to construct and to test their knowledge, as they learn. Students must develop strategies to recognize what they understand and when they need more information (Bransford et al., 2000). Instructors must develop course scaffolding structures that support this endeavor (Salomon and Perkins, 1998; Sims et al., 2002).

Most educational research appears to adopt the distinctions between behaviorist, cognitive, and constructivist theories of learning, derived from the psychology literature (Ally, 2008; Mödritscher, 2006). But these are epistemological distinctions, based on experimental studies of

individual learning activities. Scardamalia and Bereiter (1994) argue that educators have failed to understand the social structures and dynamics required for progressive knowledge-building by focusing on individuals in isolation rather than the context of learning. This position is supported by the community-of-inquiry research, which has demonstrated the need for interactions between social, cognitive, and teaching presence (Akyol and Garrison, 2008). But we actually have very little information about *how* students develop strategies to assess sources of information and to direct their learning as part of a community of learners (Finger et al., 2010).

DATA COLLECTION AND ANALYSIS METHODS

We employed a grounded theory approach (Glaser and Strauss, 1967) to the qualitative analysis of online course behaviors by graduate students in four online graduate courses, in a variety of information systems areas, that ranged from reasonably technical to management domains. We developed a set of eight dynamic role-behaviors to categorize student interactions with other learners, by analyzing discussion board interactions. A complementary strategy for theoretical sampling added quantitative data from course access statistics that enabled us to explore inferences and propositions from our qualitative analysis, to reveal passive learning behavior and vicarious learning strategies. Finally, we modeled social networks for each course-week, relating these to the qualitative and quantitative analyses, to explore the rationale for different types of association.

DATA INTERPRETATION

We discovered that students adopt dynamic role-behaviors in online discussions that shape the direction of class debate. These are categorized in Table 1.

Table 1. Categories of Student Discussion Role-Behavior

Role	Analogy	Behavior
Initiator	Spider	Initiates discussion and interactions (often social)
Closer	Synthesizer	Summarizes and synthesizes debate
Complicator	Reframer	Draws attention to inconsistencies, presents new evidence, challenges assumptions
Peer knowledge-elicitor	Seeker	Requests insights or knowledge from others
Facilitator	Middleman	Enables debate by active restating of issues
Vicarious-knowledge acknowledged	Me-too	Draws attention to and acknowledges contributions of others
Contributor	Journeyman	Fulfills contractual obligation to participate, continues discussion without altering perceptions or explicit interaction with others
Passive-Learner	Silent Lurker	Makes few or no contributions.

The adoption of dynamic behaviors leads to multi-threaded debates where students reference the ideas of others frequently and appear to be inspired to conceive the current topic or problem differently because of these influences.

This appears to lead to shared construction of knowledge and thus collaborative learning that is facilitated by peer "thought-leaders," students who can mobilize, critique, refine, and reframe the debate. These are often the highest-performing students (in terms of course grade). Thought-leaders adopt Facilitator, Complicator, and Closer role-behaviors more than other students. They appear to be recognized as domain experts by other learners early in the course.

We can distinguish between three "levels" of student engagement with peer-learners, summarized in Table 2.

Table 2. Three Levels of Socially-Situated Engagement

<i>Level</i>	<i>Form of Activity</i>	<i>Observed Learning Interactions</i>
<i>Participation</i>	Observable behavior that denotes interaction with course materials through passive activity and externalization (reproduction) of knowledge acquired in this way.	Predominantly contractual reproduction of knowledge, as student grades depend on the frequency and quality of discussion posts. This results in <i>individual learning</i> .
<i>Involvement</i>	Behavior that indicates a psychological state of identification with course objects, indicating the internalization of knowledge from other learners and the reuse (objectivation) of such knowledge in discussion posts.	Engaged students, who appear to be enthusiastic about the topic and who debate points raised by others. This results in a joint learning outcome (<i>shared knowledge</i> across peer learners).
<i>Social Engagement</i>	Behavior indicating enthusiastic commitment to the facilitation and direction of sustained learning (cycles of knowledge externalization, objectivation, internalization, and reframing). Socially engaged students interacted with peers in the learning community as well as the topic.	Students who actively manage social interactions with peer learners, explicitly facilitating or directing discussions to reframe the subject of discussion. This results in the <i>active co-construction of knowledge</i> with peer learners.

Students appear to spend time reading and reflecting on the posts of others before they contribute. Even passive learners (students who do not contribute to discussions) appear to learn vicariously from the posts of peer-learners. Students appear to spend most time reading and reflecting on thought-leaders' posts, making the encouragement of thought-leaders a key success factor for social engagement by all students with course material. Students who visit the discussion board more frequently earn a higher grade, regardless of posting behavior.

SIGNIFICANCE TO EDUCATION

The findings indicate that certain learners play a key coordinating and "complicating" role in peer-learner interaction. Encouragement of these *thought-leaders* is critical to establishing the social engagement of other students. In turn, social engagement leads to the active co-construction of knowledge across diverse, geographically distributed networks of students.

We also discovered that passive learning is more complex and socially-oriented than previously thought. By analyzing the "vapor trails" of student interaction with peer-learner contributions to course discussions, we have uncovered evidence that passive learners co-construct concepts with recognized student thought-leaders. To fully utilize the socio-technical capital imbued in an online community of students, we need to provide scaffolding mechanisms that encourage diverse networks of social interaction.

REFERENCES

- Akyol, Z. and Garrison, D.R. "The Development Of A Community Of Inquiry Over Time In An Online Course: Understanding The Progression And Integration Of Social, Cognitive And Teaching Presence," *Journal of Asynchronous Learning Networks* (12:3-4) 2008, pp. 3-22.
- Ally, M. "Foundations of educational theory for online learning," in: *Theory and Practice of Online Learning (2nd Edition)*, T. Anderson and F. Elloumi (eds.), Athabasca University, Edmonton, Canada, 2008, pp. 15-44.
- Anderson, T. and Elloumi, F. "Theory and Practice of Online Learning (2nd Edition)," Athabasca University, Edmonton, Canada, 2008.
- Bandura, A. *Social Learning Theory* Prentice Hall, Englewood Cliffs, NJ, 1977.
- Bransford, J.D., Brown, A.L. and Cocking, R.R. (eds.) *How People Learn: Brain, Mind, Experience, and School*. National Academy Press, Washington, DC, 2000.

- Cox, R., McKendree, J., Tobin, R., Lee, J. and Mayes, J.T. "Vicarious learning from dialogue and discourse: A controlled comparison," *Instructional Science* (27) 1999, pp. 431-458.
- Finger, G., Sun, P.-C. and Proctor, R.J. "Emerging Frontiers of Learning Online," in: *Adult Learning in the Digital Age: Perspectives on Online Technologies and Outcomes*, T.T. Kidd and J. Keengwe (eds.), IGI Global, Hershey, PA, 2010, pp. 1-12.
- Gabelnick, F., MacGregor, J., Matthews, R.S. and Smith, B.L. *Learning communities: Creating connections among students, faculty, and disciplines* Jossey-Bass, San Francisco, 1990.
- Glaser, B.G. and Strauss, A.L. *The Discovery of Grounded Theory* Aldine Publishing Company, New York NY, 1967.
- Kollock, P. and Smith, M. "Managing the Virtual Commons: Cooperation and Conflict in Computer Communities," in: *Computer-Mediated Communication: Linguistic, Social, and Cross-Cultural Perspectives*, S. Herring (ed.), John Benjamins, Amsterdam, North Holland, 1996, pp. 109-128.
- Lipman, M. *Thinking in education* Cambridge University Press, Cambridge UK, 1991.
- Mödrtscher, F. "e-Learning Theories in Practice: A Comparison of three Methods," *J. of Universal Science and Technology of Learning* (0:0) 2006, pp. 3-18.
- Nonnecke, B. and Preece, J. "Persistence and Lurkers in Discussion Lists: A Pilot Study," *33rd Hawaii International Conference on System Sciences*, Hawaii, 2000.
- Salomon, G. and Perkins, D.N. "Individual and Social Aspects of Learning," *Review of Research in Education* (23) 1998, pp. 1-24.
- Scardamalia, M. and Bereiter, C. "Computer support for knowledge-building communities," *The Journal of the Learning Sciences* (3:3) 1994, pp. 265-283.
- Sims, R., Dobbs, G. and Hand, T. "Enhancing quality in online learning: Scaffolding planning and design through proactive evaluation," *Distance Education* (23:2) 2002, pp. 135-148.
- Wegerif, R. "The social dimension of asynchronous learning networks," *Journal of Asynchronous Learning Networks* (2:1) 1998.