Connecting agents: Engagement and motivation in online collaboration

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ABSTRACT

This paper explores the relationship between social engagement and motivation to share knowledge in a hybrid college class using a web infused curriculum. Online social engagement, operationalized through concepts such as connectivity, social presence and social space has been an important topic of research in web based education for more than a decade. An important sub-text of this research is that online social engagement supports higher levels of collaboration. Students who feel comfortable with and connected to their online learning community are much more likely to be active participants in that community, working together to develop and build knowledge systems. Much of this research refers to the more social/participatory based educational theories of John Dewey and L.S. Vygotsky. There is though a second component of collaboration that helps drive community building in this theoretical frameworks; motivation to engage in a shared, relevant, goal oriented activity. While most theories on social engagement assume natural relationships between online social engagement and motivation to participate in a community, this relationship is not often discussed and examined very often. This paper specifically compares the relationship between classroom connectedness and motivation to share knowledge between students in a hybrid, web infused class and a more traditionally oriented class with a small web component. Analysis did find a highly significant relationship between connectedness and motivation to share knowledge in the hybrid class but not in the traditional class, suggesting an important relationship, but one based at least partially in targeted experience.

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1. Introduction

A critical component of different types of Internet based education initiatives such as hybrid courses that combine face-to-face education with the use of Internet-infused technologies and massive open online courses (MOOCs), and other types of Internet based distance learning courses is the development of teaching and learning ecologies that lead to cooperative or collaborative learning scenarios. Traditionally two integrated issues arise when attempting to develop these types of effective learning contexts: (a) within group democratically based social relationships and (b) interest based, goal directed problem solving and/or project development. In discussions around Internet based education, these two aspects are often translated into social engagement, where members of a community develop sustainable, relatively stable online relationships that allows them to easily make contributions to a shared community discourse (Anderson, 2008; Garrison, 2007), and user agency, where potential participants feel motivated not only to log on to the community, but also actively

seek out collaborative knowledge building and problem solving scenarios as integrated members of that community (Hakkarainen, 2009; Stahl, 2006).

Social engagement and user agency are sometimes treated as co-determinative (Salmon, 2013) and/or in a dialectical relationships (Glassman & Burbidge, 2014) in the practice of building successful online teaching/learning communities. For example Salmon and colleagues apply a five stage process in the development of e-communities starting with rudimentary forms of engagement (e.g., actually logging into the online community), moving to the development of an active online personality (e.g., development of an avatar in a Second Life learning environment), and then using the agency developed through that avatar to engage with other members of the community. For the most part however user agency and the social engagement of participants in online communities are treated as separate in the research literature.

Social engagement is often operationalized and measured through constructs such as social presence (Garrison, 2007), sociability, (Kreijns, Kirschner, & Vermeulen, 2013), and connectedness (Rovai, 2002a; 2002b). User agency is often operationalized as motivation within an individual-outcomes perspective such as task choice, effort, and persistence (Bekele, 2010), intrinsic versus

extrinsic motivations (Lee, Cheung, & Chen, 2005), or based on qualitative and quantitative analyses of behavior within a shared project context (Hakkarainen, 2009; Stahl, 2006). Few studies actually measure the relationship between user agency and social engagement. The correlation is often assumed (e.g., an advanced social space for engagement will naturally lead to participation; Kreijns et al., 2013). *This paper looks specifically at the relationship between motivation to participate in an online community and the level of online social engagement of participants in that community. By examining the relationship between user social engagement and motivation, rather than assuming it, we believe we can gain greater understanding of online collaborative activity. Recognition that there is a dynamic relationship between social engagement and agency may help lead to more complex educational innovations and curricula that look to integrate the two as part of the teaching and learning processes.*

2. The user agency – social engagement relationship

As an educational tool, the Internet brings the concepts of collaboration through community inter-relationships and motivation to participate in goal driven activity to the forefront for a number of reasons. First, the Internet offers the possibility for quick diffuse, distributed, non-hierarchical network structures that are key to many collaborative scenarios (Glassman & Kang, 2011). The transparent nature of network communications makes them relatively easy to study, and to manipulate. Second, successful Internet activity often demands high levels of agency and willingness to engage in complex tasks. While students in traditional classrooms are offered a defined context for even abstract educational assignments and can otherwise rely on previously developed strategies, Internet-infused education tends to promote—and in many ways depend on—student agency. Because Internet initiatives are often asynchronous, the student is able to choose the place and time to engage in critical activities by first logging on, and then engaging with the community. This choice is often promoted as one of the benefits of Internet education, but these self-generated actions also present a more complex landscape for issues related to motivation.

A number of theoretical frameworks consider collaboration and cooperation as important components of online education. In this paper, we will focus on three frameworks that have and continue to play major roles in the early development of web-based education. The first framework emphasizes the development of a strong social community as key to collaboration—where people feel a sense of belonging and responsibility to community. This approach has been explored in projects involving community of inquiry (CoI; Garrison & Arbaugh, 2007), the role of social presence in online community building (Richardson, Jennifer, & Swan, 2003), the development of social space amenable to high-level social interactions (Kreijns et al., 2013), and the ability to develop a connected community (Rovai, 2002a, 2002b). The second framework involves using interest to promote the connecting quality of the Internet, and leveraging this connectivity to form short-term but effective weak-link (Granovetter, 1983) learning networks. The role of connectivity can be treated as an underlying framework allowing for natural human inclinations for collaboration to emerge such as in many scenarios exploring computer supported collaborative learning (Stahl, Koschmann, & Suthers, 2006) or the issue connectivity can be more overt such as with development of cooperative learning communities in connectivist (Siemens, 2006) massive open online courses. The ability to quickly and easily share knowledge in a non-linear, non-hierarchical manner sets the tone for development of loosely integrated social networks. This framework is being explored through research on smaller, interconnected collaborative working groups (e.g., classes; Hakkarainen, 2009; Stahl,

2006) as well as larger connectivist MOOCs (Liyanagunawardena, Adams, & Williams, 2013).

The difference between the social and connectivity based approaches is primarily one of emphasis. The social focuses on strategies that directly develop advanced user participation through online community design, while connectivity oriented approaches are more concerned with knowledge building centering on weak tie networks tied to specific topics of interest. The third approach, and the one that informs the web-based curriculum used in this study is Open Source (modeled on the Open Source communities of the late 20th and early 21st centuries) which focuses more on building a sense of ownership among participants within a directed problem solving community among the participants (Glassman, 2013). These three frameworks should not be considered mutually exclusive—they all share assumptions but have different emphases in their approaches. Important for all of these approaches is that: (a) collaborative and cooperative learning is central in the continued exploration of online education contexts and (b) social relationships and motivation to participate in collaborative and/or cooperative online communities can be separated in analysis but not in practice. In this paper we explore the relationship between connectedness and motivation to log into a community to engage in cooperative knowledge building.

3. Collaborative learning

All of the frameworks discussed in this paper share similar visions of collaboration and/or cooperation, one that we argue stems from educational theory development in the early part of the 20th century. The CoI (Garrison & Arbaugh, 2007), computer supported collaborative learning (Koschmann (2002) and Open Source (Glassman, 2013) frameworks overtly acknowledge their debt to a Deweyan view of education. The more overt connectivism initiatives do not mention Dewey but arguably have strong Deweyan roots. The sociability framework (Kreijns et al., 2013) and the classroom community framework (Rovai, 2001) both mention their debt to Vygotsky's ideas on collaborative learning—an interpretation of Vygotsky strongly in sync with Dewey's perspective (Glassman, 2004). It is therefore important to recognize what Dewey and some interpretations of Vygotsky mean by collaborative learning.

Dewey's vision of collaborative learning is holistic and multifunctional (Dewey, 1916). Dewey contends that individuals only truly learn when they want to learn, when they are interested in their topic and it is relevant in their everyday lives. There is no anticipated object of knowledge in life that could be defined as an outcome of learning; there are simply a series of relevant problems that individuals must solve during their lifetime. One of the roles of formal education is to learn how to work together to solve these problems. Dewey's work suggests that problems are best solved collaboratively by a committed group of actors because each new problem is different and often requires a new perspective or approach. The more individuals can share perspectives, the greater the chance of eventually solving problems. This perspective sharing requires advanced social engagement—the members of the problem-solving group have to feel enough of a sense of belonging to share their understanding of the situation with the group. More importantly, they have to trust each other enough to listen to and take seriously the perspectives of others. The success of the group is measured in only one way—whether or not they solved the problem. Thus true collaboration demands the development of a cohesive social group, common problem sets, and enough interest in the problem sets to share and create new knowledge to solve them. This process does not come naturally to people; it is something they must learn.