
COMMUNICATION AND INTERACTION IN A BLOG-BASED LEARNING SPACE

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Abstract

This study is an exploratory case that follows one course offering in an attempt to trace the way the space either constrains or enhances communication and participation in an open, online course offered using a variety of social networking tools. As social technologies are designed with an *architecture of participation* how the learners use the spaces afforded to them, to both communicate with each other and engage with the learning content were examined. Content and structural analysis were conducted of blog posts and comments using a modified coding scheme based on the Community of Inquiry (CoI) model to look for patterns of participation and cultural production.

Introduction

Formal online learning often takes place in highly structured learning management systems (LMS) or virtual learning environments (VLEs) that are designed to manage, in one space, all of the materials and resources learners need to participate in a course. The use and integration of social or Web 2.0 technologies such as wikis, blogs, and social media, into educational practice has been increasing as instructors try to design more open, participatory environments. What defines these tools is their ability to make the digital practices accessible and participatory, and their focus on creating social connections between users, in what O'Reilly (2004, as cited in Hemmi, Bayne, & Land, 2009) terms an "architecture of participation". The ability for learners to create, remix, interact and participate in digital cultures is attractive to educators who follow contemporary socio-cultural pedagogies (Bayne, 2010). As these social technologies are co-opted into educational practice, they redefine the spaces where learning takes place, and new cultural, pedagogical and social practices will emerge or need to be developed to inhabit them.

Goodfellow (2008) adopts Gunawardena et al.'s (2003) definition of culture to be, "A system of knowledge, beliefs, behaviours and customs shared by members of an interacting group, to which members can refer, and that serve as the basis for further interaction" (p.556). Using this interpretation Goodfellow and Hewling (2005) argue that virtual learning environments can be seen as places where social and cultural production processes occur in their own right, encompassing not only the visible interactions and negotiations of communication, but also a range of activities that also include invisible factors mediated by background technologies, institutional policies and practices and wider discourses on online learning. Hewling (2009) also emphasizes that technology, due to its unpredictability and interactive relationship with the

different elements of the learning environment, is an important cultural player and should be a factor that is considered in examining these systems.

If the learning spaces created using social technologies are impacting on the learning culture, through ways that can redefine pedagogical practices, social interactions and institutional norms, how do we start to explore them? Particularly as we co-opt social technologies into our online teaching practice to open up boundaries, do they support an architecture of participation and how do learners use these spaces, to both communicate with each other and engage with the learning content?

This project used methods to look at both historical traces of activity (visible messages) and the “physical” course structure (technology/content) to consider the following research questions:

- What effect does the learning space have on the learning interactions in an online course?
- In what ways does technology act as a barrier or enabler for learner’s interaction/communication?
- How does learning in an open space shape the communication practices and participation in the course activities?

Examining Learning Spaces

When we examine our processes and practices in networked learning, the conception of the learning space itself is often overlooked. As Chism (2006) points out, as educators “we often fail to notice the ways in which space constrains or enhances what we intend to accomplish” (p. 2.3). Most research that implicates space has focused on traditional F2F classrooms, and little attention has yet been paid to the structure of the learning spaces in virtual or online environments. Bayne (2008) points out that current studies have generally been focused on instrumental functionality and affordances, rather than an exploration of how the VLE can define the information and pedagogic practice. In these virtual spaces how do we begin to explore both the text-based, visible practices and the more invisible patterns of social interactions that occur?

The traditional LMS or VLE adopted by higher-education institutions, either corporate (Blackboard, Desire2Learn) or open-source (Moodle), are often characterized as being inflexible, “walled-in”, and closed (Godwin-Jones, 2012). They are usually password protected, boundaried to other web applications and people, rigid in their structure and navigation. As Godwin-Jones (2012) points out they offer uniformity and stability, preferred by IT support structures and institutions, but offer little in the way of technological literacy for students in an increasingly digital world. In her visual analysis of one LMS, Bayne (2008) concludes that the characteristics of stability, hierarchy, continuity and conservatism, leaves little room for teachers or learners to construct creative pedagogies that interact with current digital technologies. On the other hand, social technologies are characterized as being open, distributed, collaborative, networked and user-defined (Hemmi et al., 2009) and as Potter and

Banaji (2012) point out there is a “raft of enthusiasts” exploring their uses in new participatory cultures and literacies.

One type of social technology that has been widely adopted in educational practice is the blog. As Jones and Alony (2008) point out, they are often a type of personal online journal that links to other blogs and topics, often other bloggers, and these interconnections create what is known as the *blogosphere*. Blogs have a capacity to allow for both self-expression and social connectivity, and past research has shown that introducing blogs can support self-directed learning (Roberston, 2011), facilitate discussion (Ellison & Wu, 2008), reflection and emotional expression (Deng & Yuen, 2011) and support feelings of community and belonging (Top, 2012). Other studies though, such as O’Donnell (2006), highlights gaps identified by educators between expected versus actual outcomes of blogs and identify drawbacks such as poor facilitation of discussion, technological barriers, assigned blog writing being “forced” and too high a focus on the personal (p.10). Deng and Yuen (2011) found that blogs are mainly a tool for personal broadcasting, and though they were valued for their social facility, they only supported a limited degree of social interactivity and potential for extensive and dynamic dialogue.

Hemmi et al. (2009) reported that social technologies when co-opted and repurposed for formal teaching provided means for collaborative modes of inquiry, group self-regulation, and self-explanation but that they perhaps sit uncomfortably, are “strange and troublesome”, within traditional higher education practices. Saadatmand and Kumpulainen (2012) found similar results as learners in Open Networked Learning Environments reported that though the introduction of many tools and choices in activities was motivating and engaging, it was also disruptive and time consuming and required a high level of technological competency. As Ross and Collier (2016) point out there is still an uncertainty and messiness that we face in using these emerging technologies, a sense of “not-yetness”, and there is a need to explore these spaces from a learning context, examining learner perceptions of their use and how we as educators can more effectively incorporate them into our practice.

Methods

Study Context

The case examines an open, online course in a post-graduate certificate in online teaching and learning. The courses in this programme are directed to both K-12 teachers and post-secondary teachers interested in bring learning technologies into their classroom practice or offering courses in an online or blended environment.

The course design draws on social-constructivist philosophy, where learners are critical, collaborative, and creative participants in the social construction of knowledge. One of the goals of the certificate is to provide educators with the technical and pedagogical expertise to use educational technologies, so learners are encouraged to explore social technologies so they can critically assess and reflect on their use for their own practice. As a traditional commercial Learning Management System (or VLE) might impede the integration of personal content and

Web 2.0 tools, an open-source system (WordPress MU) that could be adapted to provide a more flexible learning space was adopted.

The course blog site consists of the course content, space for instructor posts, and links to student blogs. Each week's activities consist of student blog posts on their personal blog sites, and include responses to questions/readings, collaborative small group projects and reports, creation of media or other teaching materials, reflective writing or other. Assignments and a final project are also posted to the blog, and students are encouraged to explore and use a variety of different social technologies in their exploration of the course topics. In this offering, seven participants enrolled in this course, but as a few of the students in this course were enrolled in multiple courses, there was evidence of *cross-cohort* communication between the courses.

Methodologies

A case study approach was chosen as cases have been shown to “investigate and report the complex dynamic, and unfolding interactions of events, human relationships and other factors in a unique instance” (Cohen, Manion, & Morrison, 2007; p.253). To explore both the visible and invisible processes at work in virtual environments, this project used a modified virtual ethnographical approach (Hine, 2005). Open and accessible historical web-based content were explored using, a modified form of web-sphere analysis (Schneider & Foot, 2005) combining both content analysis and elements of structural analysis of the linked course website.

A Community of Inquiry (CoI) scheme adapted by Heckman and Annabi (2006) was adopted to explore cognitive and social practices and interaction evidence, but as limitations were encountered after initial analysis, was expanded to include issues around technology and elements of discourse responsiveness called “communication and common ground” from Xin and Feenburg's (2006) framework for “engaged collaborative discourse”. As the intent of this paper is to trace the elements and development of practices and determine how the learning space may have been a factor influencing the development of communication norms, the coding that emerged borrowed elements from different frameworks.

Data Collection and Analysis

A total of 91 student posts, and 11 instructor posts were added to the course space over the term. As activity over time was an important consideration, posts, associated comments and media from weeks 1, 3, 7 and 11, which provides evidence over the duration of the whole course, were collected and then coded using a combination of the predetermined categories and emerging themes. A total of 38 blog posts and their associated media (video/audio), and 61 comments were coded using Atlas Ti. All student content was anonymized.

The course space was examined to look for linkages and patterns in course communications, and to determine what design factors might impact on the ways that course participants communicate. The space was explored intuitively, and though structural/feature analysis methods identified by Schneider and Foot (2005) such as number of pages, hierarchical ordering, and linking were examined, other structural elements such as flexibility (integration

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of content/media, visual design), physical elements (posts/comments length, location, connections), and spatial relationships (communication, site elements and configuration) were explored for effect on communication and interaction patterns.

Ke and Hoadly (2009) point out that one of the limitations of researching online communities is that the data collected are limited to the online activities. In this case, the interactions of learners outside the course space (in other social tools such as synchronous chats and social bookmarking sites), and those with the course instructor, are missing. Further data, such as interviews with instructors and students would provide more insight into their perceptions of identity, reflections on the influence of the learning space (open/closed, formal/informal) on cultural processes and perceived benefits/drawbacks of using social technologies in formal educational settings. The cohort size of seven, as well as the course content's proximity to the subject being studied, also limits the studies ability to be generalized, but it does provide novel insight into the methods used to explore social technologies as course delivery platforms.

Findings and Data Analysis

Structural Analysis

The structural analysis highlighted some of the difficulties students would encounter when trying to interact with both the content and with each other on the course blog.

- To interact with activities or each other students need to visit multiple spaces (the course blog, their own blog, and other students' blogs, other tools/spaces see (Figures 1). Based on student feedback many found this disorienting and confusing.
- The current course configuration is not optimized for displaying images and other embedded content, providing flexible organization of posts (other than chronologically) or providing structured space for extended discussions. Many non-textual items did not fit within the *space* and were difficult to engage with in a meaningful way.
- Posts are privileged over comments, unlike in threaded discussions where users can add new topics, in a blog the post takes up a central space, and comments are relegated to the bottom and are often hidden. Potter and Banaji (2012) characterize blogs as *performative spaces* where students are productively engaged with words, images, sounds and making connections. It characterizes the blog space as an individual rather than collective space. Of note is that the average post was 350 words, and comments 100 words.
- The disconnected and disparate spaces create a pattern of discourse that is *one-to-many* that not only focuses on the individual and not collaborative processes, but may also allow for conversation threads to be lost and abandoned.

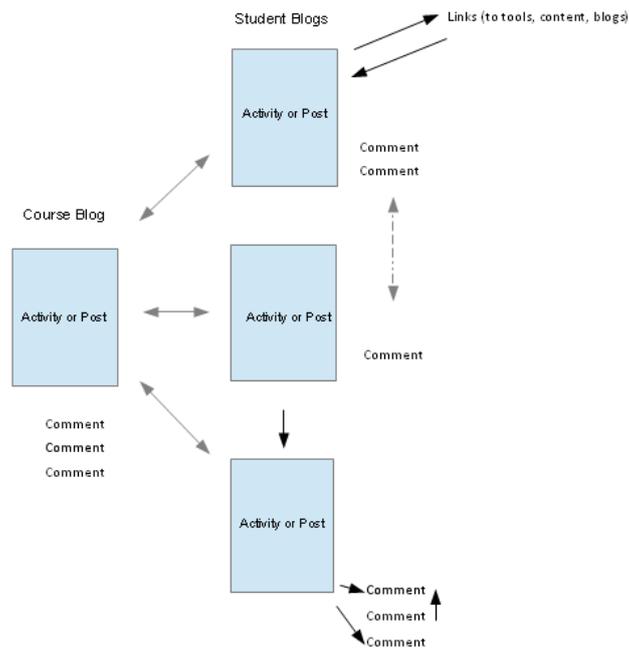


Figure 1. Participation Pattern for Blogs

Content Analysis

In the first week student communication focused mostly on social processes and particularly on establishing identity (see Table 1), which MacFadyen (2009) and Hewling (2006) identify as integral to the establishment of learning culture. Of the 74 entries recorded in the first week, over 40 were concerned with establishing identity, either through self-disclosure, sharing of educational or professional experiences, providing salutations or setting the climate for the course. All posts contained a photo, personal or of family, and many presented details of life outside the educational experience. There was evidence of customization of personal student blog spaces, with different themes, organization, tagging, and links to other sites.

Table 1: Participation patterns by week

Week	Blog Posts				Comments				
	Total	Social Processes	Cognitive Processes	Teaching	Total	Social Processes	Cognitive Processes	Teaching	Technology
1	14	8	7	2 (1, 1)	60	56	8	17 (7, 10)	14
3	9 (2*)	1	7	2 (1, 1)	17 (1 outside expert)	15	6	7 (3, 4)	4
7	6	0	6	1	13	12	11	4 (2, 2)	1 (instructor)
11	3	0	3	1	2	2	2	0	

* Collaborative Posts

For some learners' technology use was also a way to establish emerging online identities, for example using the tool Xtranormal to add gestures, movement, and humour into their online introductions, moving away from text to a more *embodied* sense of self. Those learners newer to technology, responded with admiration and support, and these early adopters developed an

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early cultural practice of “bringing technology in” to the course. In week one, 20 posts/comments were concerned with technology, either about introducing new tools, discussions about the best uses of tools to help in teaching, as well as self-organization and study, and a majority of the learners participated in these discussions, including some from other courses in the program. In the first week an active community is emerging, sharing experiences, particularly educational and professional.

By week three new patterns emerge, as students spend more time engaged with the cognitive processes and less with social processes. 7 of 9 posts are related to cognitive processes, with these focused on course content and activities, which is to be expected. The learners use the comments for social check-ins (rather than making a post) and so combine the social processes of complimenting, referring, and encouragement, as they also engage with the intellectual content in the post. In this stage and beyond, patterns outlined in Xin and Feenburg’s (2006) “engaged collaborative discourse” might be expected, as learners move to deeply examine the course concepts. At this point however, the emerging learning culture shifts somewhat, and the structures imposed by technology perhaps start to impact on practices.

By week three there is evidence of strong cognitive engagement within the blog posts. Of the three main categories of cognitive presence identified in the CoI model, the posts represent a high level of intellectual engagement, as all were coded as either *analysis* or *integration*. The posts consistently use traditional formal academic writing, which includes evidence of consideration of course concepts, reflection on professional practice, and integration of resources and academic references. At the same time, the responses to these posts are mostly exploratory (rote factual responses and information exchange) which are at a lower engagement level. At this stage of the course, you might expect that the discourse would proceed according to Xin and Feenburg’s (2006) process of intellectual engagement and communication, which has three stages: topic initiation, multi-logue, and common-logue. In the initiation phase a topic is introduced and participants respond with their perspectives, thoughts and ideas. In the multi-logue the discussion moves beyond clarification or sharing approaches, to convergences of opinion, with participants agreeing and disagreeing, clarifying or elaborating, reflecting, justifying or putting forth solutions. In the common-logue the group should work to a consensus or decision through synthesis and integration. In this case, the posts act as topic initiation, and though most comments start to move into the multi-logue stage (they offer points of agreement, elaboration, reflection and justification), there is often no follow-up or further engagement beyond this. Of the 20 comments coded for *prompting* which was used to identify comments that would function as a way of “furthering the conversation”, less than half received an answer. So though there is a high level of intellectual engagement with the course topics, these are mostly at the individual, rather than the community level, and collaborative engagement within the course environment decreases.

In week eleven there are only two posts, which is a dramatically decreased level of engagement. This could be attributed to many factors (fatigue, as this week follows the submission of a major assessment, lack of engagement with the course topics, or other), but lack of engaged collaborative discourse might be one. In the final week, all students contributed a final reflection

and post, and most expressed enthusiasm for the overall learning experience, as well as support for each other's contributions, so a return to the cultural practices established earlier in the course (support, encouragement, engagement) is in evidence.

The student questionnaire feedback supports the findings above. Though overall, the students rated the course structure and learning activity design positively, many indicated that it was very time-consuming to visit every student blog, there was not enough collaboration, and suggested a need for a central space for discussion. They also commented that inconsistent participation from other learners made it difficult to participate in some of the collaborative activities. As one student claimed "there is still a need for tools for activities for collaboration and presentations – we had many disjointed things happening in many places and most tools had weaknesses."

Discussion and Reflection

Though social technologies are embraced by educators for their ability encourage participatory, collaborative and creative pedagogies, they can also provide barriers to the very processes and practices we want students to embrace. In this study, the learning space shaped the participation patterns in such a way, that individual engagement with course content and activities was favoured over collaborative engagement with fellow learners. The blog postings all showed a high level of cognitive engagement with the course concepts, and often followed a more formal academic writing format. As Hemmi et al. (2009) point out "the use of new digital media does not necessarily, it seems, determine new ways of writing or being within academic programmes" (p.27), particularly when they are embedded within the formal structures of the institution which requires formal assessment and evaluation of student work.

In this case it was evident early in the course learners were willing to participate and share in developing a learning culture that was supportive, engaged, and open, but in the end the demands of formal academic writing, the performative elements of the post, and the barriers imposed by the virtual space may have hampered their ability to sustain active levels and patterns of participation and engaged discourse. This seems to contradict the notion that social technologies support an "architecture of participation", and in co-opting social technologies for use in formal learning, there is a risk of recreating the rigid structures and hierarchies of the bounded and "walled-in" spaces of more traditional LMSs. If the LMS/VLE is the "nexus of social and cultural" processes then educators need to pay close attention to not only what is happening, but how the space can constrain or enhance what can be accomplished. To develop innovative pedagogies that embrace the capabilities of social technologies, further research will need to focus on the interrelations between what Hewling (2009) terms "all the players" in the online space – technological, social, and cultural – to establish an ideal configuration.

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