Perspectives on the Use of "Partially Anonymous" Discussion Forums in Undergraduate Education Courses

Perspectives sur l'usage des forums de discussion « partiellement anonymes » dans le cadre de cours universitaires de premier cycle en éducation

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Abstract

This paper theorizes issues involved with conflicts between participation in on-line settings and real-world social commitments, such as has recently happened in schools with students using public discussion forums for classes. We problematize how real-world social commitments negatively affect participation in online learning environments frequently used in classrooms. Drawing on interviews with, observations by, and written submissions from our students who participated in "hybrid" courses using an approach where identity was concealed in online discussions from other class participants (but not from the instructors), we discuss implications of this issue for evaluating forum submissions by students. Our analysis uses a cultural-historical activity theory framework to conceptualize implications from this "partially anonymous" forum approach and the resultant changes in participation in the learning environment.

Résumé

Cet article élabore une théorie des enjeux associés aux conflits entre la participation dans un environnement en ligne et les engagements sociaux réels, comme ce qui se produit actuellement dans les écoles, les étudiants se servant de forums publics de discussion pour leurs cours. Nous schématisons la façon dont les engagements sociaux réels ont des effets négatifs sur la participation aux environnements d'apprentissage en ligne fréquemment utilisés dans les salles de classe. À partir d'entrevues, d'observations et de communications écrites par les étudiants qui ont participé à nos cours « hybrides » en adoptant une approche par laquelle l'identité était gardée cachée des autres étudiants (mais non des instructeurs) dans les discussions en ligne, nous discutons des implications de cet enjeu dans l'évaluation des soumissions des étudiants dans les forums. Notre analyse se sert d'un cadre théorique de l'activité historico-culturelle pour

conceptualiser les implications de cette approche de forum « partiellement anonyme » et les changements de participation qui en résultent dans l'environnement d'apprentissage.

Introduction

It has become *de rigueur* in many undergraduate courses for a component of the class discussions to take place in online discussion forums. This approach to discussion has been a central component of distance education courses for some time, but is increasingly becoming an adjunct of traditional face-to-face classrooms as well. This approach to facilitating the discussion of concepts introduced in the classroom is clearly promoted by tools such as Blackboard and Moodle, which provide instructors an easy way to set up course-related discussion forums.

However, the online world can also be problematic for educators. Recent expulsions of students from school for their submissions to on-line discussions that (a) did not belong to the school (b) were not done during class time, and (c) did not use school computers/networks (Everest, 2007; Reinhart, Alphonso & DeLazzer, 2007) highlights the manner by which the "real" world interferes with and constrains actions in the virtual online world. In this paper we discuss the implications of that interference and interpenetration for the now-common practice of integrating online forums into traditional classroom-based courses, and further discuss a pedagogical/technological solution enacted by the lead author to address these issues.

Benefits of Discussion Forums in Teacher Education

Web-based technologies such as electronic discussion forums (for example, those found in Blackboard used by millions of students (Chan, 2005)) are considered important tools for training student teachers (Gillingham & Topper, 1999), both for developing their understanding of the educational concepts being taught in their courses and for modeling practices to them that they may adopt in their own classrooms. This may be particularly relevant in Canada, given initiatives such as SchoolNet, which was intended to extend internet connectivity into K-12 schools across Canada (Shade & Dechief, 2005). Although there is some discussion as to what type of "community" can be developed online (Bell, 2001; Harris & Higgison, 2003; Kollock & Smith, 1999; Preece, 2000; Riel & Polin, 2004), many researchers report that discussion forums contribute to the development of (at least) communities of common interests and purposes, as well as support the teaching and learning process (Bober & Paz Dennen, 2001; Browne, 2003; Bodzin & Park, 2002; Rich & Hibbert, 2004; Rogers, 2000). Furthermore, online tools such as discussion forums allow for the "blending" of approaches to teaching and learning (Kanuka & Rourke, 2008; Lord & Lomicka, 2008; Mari, Genone, & Mari, 2006, p.31), where students both learn from a teacher and learn from each other as they interact and share their understandings of course material with each other. However, what characterizes most of this research about the use and benefits of discussion tools in classes is that the participants use their real names so that they are aware of who the other participants are (either personally or through their other participation in the online setting; the latter would also be true even if pseudonyms were used).

However, use of discussion forums may have some educational down-sides as some authors have reported that requiring students to publicly expose their views can be problematic (Doolan, Hilliard & Thornton, 2006) as they may be reluctant to post comments in forums that might attract negative commentary (Pearson, 1999) so the use of anonymous postings may ameliorate

that as they provide a perceived freedom from that form of criticism and therefore to lowered inhibitions (Pinsonneault & Heppel, 1998, p.103). In some settings "anonymous" discussion forums have been used as part of the blended learning environment. These have either been "partially anonymous" (in that the students did not know who the other participants were, but the instructors did; known as a *Type 5* form of anonymity (Flinn & Maurer, 1995; Pfitzmann & Kohntopp, 2001)) or fully anonymous (where no one knows the names of the individuals submitting comments) using either pseudonyms or not. For instance, in a "blended" classroom students can see anonymous discussion forums as a "safe place" to express ideas that they would not be comfortable expressing out loud to their peers in a classroom (Cleary, 2008). Anonymous ways of contributing to class work have been found to improve the "honesty" of submissions (Bertera & Littlefield, 2003) and the quality of peer feedback (Lu & Bol, 2007; Strenski et al, 2005), as well as increasing participation by students who are hesitant to participate in a classroom setting (Miyazoe & Anderson, 2011; Ng'ambi, 2011; Warschauer, 1995/1996), particularly so in the case of female students (Freeman & Bamford, 2004). Students may, in fact, state a preference for forum contributions to be anonymous (Bertera & Littlefield, 2003; Cornelius, Gordon & Harris, 2009; Doolan, Hilliard & Thornton, 2006; Ertmer et al, 2007) although Theobald (2011) suggests that students did not think that anonymity was important. In situations where there is the opportunity to offer comment on the course, students were more likely to offer negative feedback on a course if the option to do so anonymously was offered (Freeman & Bamford, 2004). However, overall there is little research about the use of anonymous forum contributions in blended learning classrooms (which use both face-to-face and online strategies) despite anonymity being common in the real world beyond education (Miyazoe & Anderson, 2011) and despite the opportunity they offer to allow discussions of sensitive issues in ways that face-to-face discussions cannot (Larson & Keipler, 2002; Larson, 2003).

A Cultural-Historical Activity Theory (CHAT) Framework for Problematizing Issues with Forum use in Classrooms

In conversations with our students in past years we came to realize that the following issues resulted in their self-censorship of what they wrote in discussion forums where they were required to use their real names:

(I)   consideration that they might offend a peer in their professional/social circle,

(II)   concern that a potential employer/supervisor/other professor might go to the online forum, read their contributions, and form a negative opinion of them, and

(III)   concern that they might in the future be held accountable in some way for something that they had written long beforehand, despite possibly changing their view in the interim (their program is 2 years long, and they have 3 sequential "methods" courses in that time).

As course instructors, we recognize that this becomes problematic in our grading and evaluation of student work (not to mention our responses to it) in discussion forums; the postings we have to evaluate may not actually reflect what the students actually think about an issue under discussion, but instead may reflect the student authors' needs to conform to the expectations of peers to maintain and reinforce whatever social relations have been developed in face-to-face settings in their program.

We conceptualized and theorized this issue by drawing upon a Cultural-Historical Activity Theory (CHAT) conceptual framework (Engeström, Miettinen, & Punamaki, 1999). CHAT aids theorizing complex activity because it takes into account the entire *activity system*, which is the basic unit of analysis, and which includes the subject and object of activity as well as the tools, the community, the division of labour, and the rules that mediate our actions. We constructed a diagram of the theorized activity system, termed an "activity triangle" (Engeström, 1999), including the various interests involved in the production of student work in a class.

We theorize that, in classroom settings using "blended" learning environments, students are acting within two interacting and co-defining activity systems. While participating in the online forums, students are acting within (and on) a school activity system, but they are also acting within their social activity system, as small class sizes allow students to get to know each other very well. These two interacting activity systems are depicted in Figure 1.
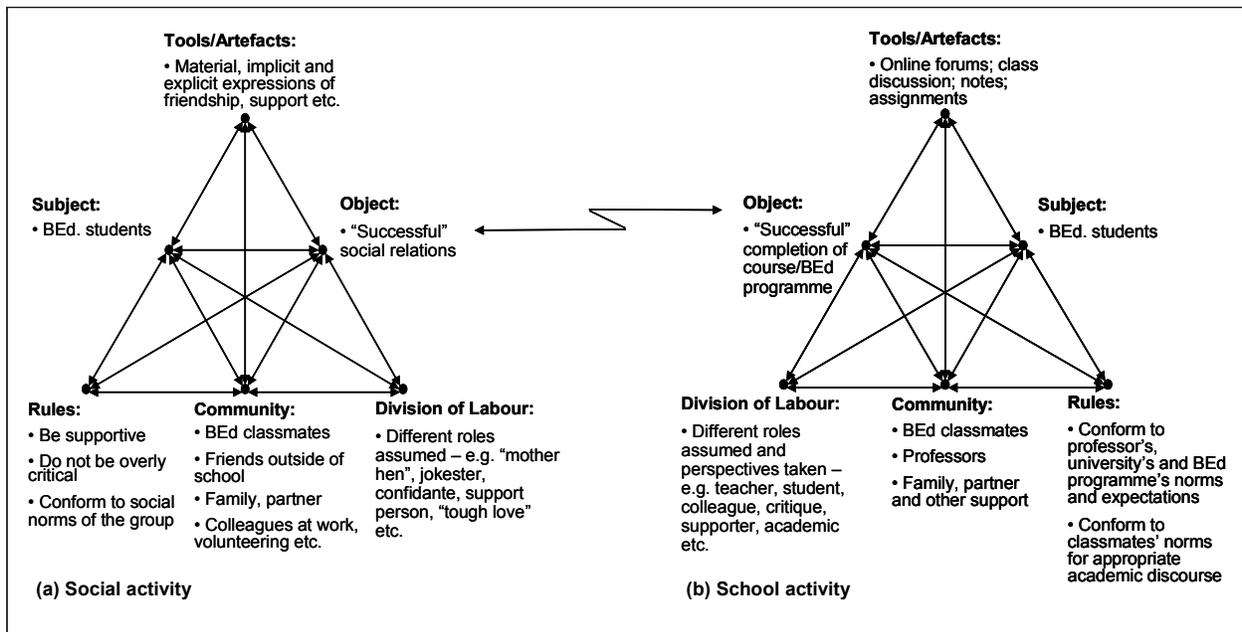
Figure 1: **School/Social activity system representation, incorporating some theorized contradictions -** The participation of pre-service teachers in the online forums for this class is conceived here as being embedded in two interacting activity systems. They are acting both within a social system – which may include in- and out-of-school social interactions – and a school system. There is potential for these systems to be both complementary and conflicting.

The students' (*subject*) social activity system (Figure 1a: Social Activity) includes in- and out-of-school social interactions, including relationships, friendships, rivalries, and so forth. The *object* is to have successful social relations. The term "successful" was chosen explicitly because it is vague. What constitutes a successful social interaction is open to interpretation and subject to change. The subject and object are not interacting directly. Rather, this activity is mediated by the *tools and artifacts* of these relations, the *community* in which they are acting, and the *rules* and *division of labour* within this community. This system is dynamic and changing, and,

depending on the specifics of the mediating factors, specific instances of social activity can manifest very differently between individuals and groups.

The students' (*subject*) school activity (Figure 1b: School Activity) constitutes their participation in their education and preparation for the teaching profession. Their *object* is the successful completion of the Bachelor of Education (B.Ed.) program or a particular course within this program. Again, the term "successful" was specifically chosen for its ambiguity. For some students, "successful" means good grades, for others collegial relations with (future) colleagues, while others may view "successful" as deriving from a focus on learning or professionalism. As with all activity, the subject and object interact and define each other, and the outcome of school activity may cause students to re-define their perspectives on "success." How the subject changes and develops through this educational activity will be influenced significantly by how he or she views the object (success), and also by the *community* within which they are acting, the *rules* and *division of labour* within this community, and the *tools and artifacts* which mediate activity.

Depending on how the objects of these two systems are defined, students may find that these two realms are in direct competition or opposition. For example, they may find that achieving "success" in the B.Ed. program or course requires that they jeopardize some social relationships. They may want to express an unpopular opinion, or engage in a critical discussion about key educational issues, but find that creating this controversy causes tensions and conflicts to emerge in the social group. Trying to address the tensions may lead to either a decision to sacrifice relationships or to abandon a potentially fruitful intellectual pursuit. In short, meeting their goals in one of these systems may leave them vulnerable to judgment or attack in the other system.

The current generation of activity theorists considers contradiction and tensions, such as those described above, to be of profound importance. These "historically accumulating structural tensions" (Engeström, 2001, p.137) often manifest as unease and conflict, but they can also be productive as they drive systemic change. This change can be applied at any point in the system, but as these systems function as an organic dynamics whole, rather than as a collection of constituent parts, change applied anywhere in the system (either by design or by unconscious reaction) will have reverberations throughout the system (Engeström, 1999).

With respect to online learning environments, a rich and contextualized understanding of systemic tensions experienced by learners and instructors can be used to continually improve the design of online spaces (Barab, MaKinster, & Scheckler, 2004a). To explore this issue in an applied setting, a discussion forum (a *tool* mediating school activity) with an "anonymity" feature was developed so that the individual contributors (*subjects*) discussing readings were unknown to their peers (*community*), but known to the instructor (*community*). We then used this framework to discuss the implications of the typical use of discussion forums in class contrasted with the use of "anonymous" discussion forums.

Classroom Context

It is perhaps of some relevance to discuss the classroom context from which this project emerged. The course from which this paper derives is a "secondary science methods" course taught by Bowen as part of a 2-year long post-baccalaureate Bachelor of Education program. Students take five methods courses (one semester long each) during those two years; three in one subject area and two in the other. The purpose of the methods courses is to prepare the students

to become teachers in those subject areas. This preparation includes an integration of conceptual/theoretical information and practical information about teaching in the subject areas so that students can learn to adapt their practices to their individual teaching environment in a way that is consistent with the research literature in the area. The "secondary science methods" course discussed in this paper included weekly readings (i.e., journal articles, textbook chapters, magazine articles), usually about conceptual/theory issues, about which the students were expected to post comments in an online forum.

When he first offered the course the instructor (i.e., Bowen) noted that the commentary on the articles was often quite superficial with many "motherhood statements" and little criticism, critical commentary, or alternative perspectives being offered. He then attempted to increase the critical commentary by having students reply to the postings of other students (a form of formative assessment (Black, 2002)) but found that students often wrote complimentary platitudes about the posting of their peers without much critical depth – as related by some students to the instructor they were reluctant to post critical comments about what their peers had written. However, in contrast with this, in casual one-on-one conversations with students about the readings, he noted that they offered much more in-depth critical commentary about the readings verbally than they did in writing in the forum postings, and he subsequently noted that some literature (e.g., Harris, 1998) argued that youth were now more peer-oriented than traditional authority figure oriented. To address this lack of critical commentary he wrote a PHP forum script which provided anonymity when making forum postings in the wiki he used in his course and had students in subsequent offerings of the course use that tool (although the instructors could still tell who wrote what in the forum postings). Rather than allowing the development of on-line personae through the use of pseudonyms – an approach that he thought would not solve the problems he was encountering – he instead decided to go with greater anonymity, a greater de-individuation, by having the generic "Hidden Name" show instead of the name or pseudonym of the poster. This de-individuation helps the contributor "feel that they cannot be singled out by others" (Jessup, Connolly, & Tansik, 1990, p. 338) resulting in a reduction of social prescribed inhibitions and an increased likelihood of behaviour they would normally not display (ibid).

Design of the "Wikiforum" Tool

The bulletin board/forum tool used by students and discussed in this paper was written and designed specifically to examine the issues under discussion, and is also a component of a more broadly-based wiki tool used for all activities in the course, which serves as the course website. This course website contains lesson outlines, "slideshow" presentations, bulletin board/discussion forums/threads, personal and group blogs, project reporting, messaging, chat, distribution of readings, and so forth. Although there are reasonable similarities between this wikiforum tool and those found in commercial packages, a brief overview of the component parts of the wikiforum tool will be described so that the context of student involvement in posted discussions is clear.

In the iteration of the software used in this study, the wiki bulletin board front end (Figure 2) is composed using wiki links and wiki markup as well as tools allowing the number of threads and the date of the last posting in the forum to be displayed. Although not as graphically delineated as more formal bulletin board tools (lacking borders, nuances of colour, etc.), it nonetheless is

functional in that it allows a listing of different forums/threads at which students are to post their responses, as well as instructions for what they are responsible for in their submission. Students are directed to the location in which they are to post by finding the reading/topic they are to post on and clicking on the visible blue link.
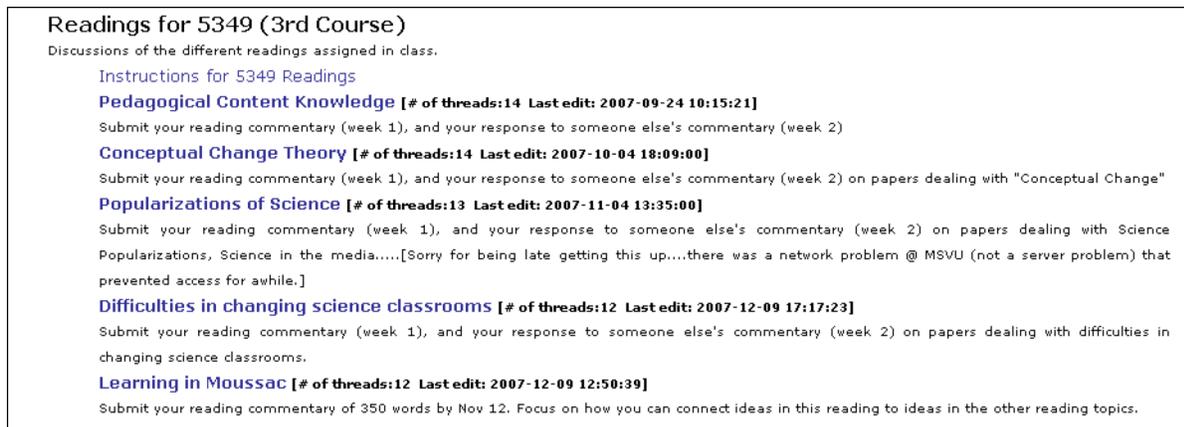
Figure 2: **One section of the wiki bulletin board front-end (Level 1)**

When students have clicked on a blue link, their browser is directed to a forum for that particular topic (see example Figure 3). Each forum offers a list of thread topics and also allows the student to begin a new thread by posting a title and the first comment. If, however, the student wishes to read other threads (and perhaps reply), s/he clicks on one of the blue links under the heading "Topic." Students can determine when postings were created, and which ones already have replies, from information supplied to the right of the topic title. If the creators/repliers are not "anonymized" then those are also visible (although for the sake of the forums discussed in this paper, all postings have the names hidden). Students can search for particular words/phrases in the text, but not for user names if they have been hidden. There is a further link at the bottom (not shown), titled "Show my Postings," which allows a student to see all of their own submissions to the forum threads.

When students click on a topic title they are directed towards a "flat" listing for that topic (Figure 4). Many forums offer a "nested" hierarchical presentation of comments and replies, but for the purposes of the teaching in this setting, where postings on any topic are usually only five or six items, we decided there was no benefit to such an approach, and that the students being able to see all postings on a single topic at once offered certain pedagogical advantages (as some hierarchical systems essentially require viewing only a single post at a time).

Note that in all examples student names are not visible, although student names are visible to system administrators (this is known as a *Type 5* form of anonymity (Flinn & Maurer, 1995; Pfitzmann & Kohntopp, 2001)). There is no way for non-system administrators to be able to see student names as the database fields accessed in order to display the posters' names to students do not actually have student names listed in them when the "hide name" attribute is activated but actually have the text "Hidden name" written in the database field. This means that the "Hide name" feature, if desired, can be subsequently re-set to allow *new* posters names to be visible, but will still maintain the anonymity under which the original posters submitted their comments.

Figure 3: Forum with listing of topic threads (Level 2)

Figure 4: "Flat" listing of comments on the particular topic (postings shortened considerably for this depiction) (Level 3).

Students engaged in posting in the forums in one of three different ways (as directed by the course instructor). In some instances, all students were reading the same article and each posted on that article and then replied to the posting of another student. In other instances, students read one of two available articles, posted once on their article and then replied to a student who had posted on the other article using their own article as a foundation for their reply. As a final type of engagement, students were assigned a topic and chose their own journal article on that topic, posted a comment on that paper, and then replied to the posting of another student who had read a different paper using their own as a foundation for their reply. In all instances, when posting their comment on an article, students were allowed to approach their writing task as a commentary, critique, summarization, reflection (in relation to their lived experiences), or analysis in relation to other readings previously done in the course. Combinations of these approaches were also allowed, as long as the student demonstrated that they had engaged the article they were reading in its entirety. Their replies to other students were usually a critical or integrative analysis, which included aspects of formative assessment (Black, 2002).

Having designed an asynchronous anonymous forum discussion environment to address issues we identified as problematic in the use of forum tools in classes which have a physical community and concomitant social commitments (as theorized in the CHAT diagram; Figure 1), the study on the student use of the forums used the following guiding questions to guide our research into the use of anonymous forums:

1. What differences did the course instructor and/or teaching assistant identify in the quality of the postings in the anonymous forums compared with the previous use of author-identified forums?

2. What strategies did instructors note were used in discussing anonymous forum postings in the classroom discussions? Did they note differences in how students now engage in discussion in the class given the anonymous environment (compared to previous classes with author-identified postings)?

3. What issues did student identify in their use of the anonymous forum environment?

4. How do students feel about their participation in an anonymous posting forum environment?

Research Methodology

To understand the outcomes of using the Wikiforum tool to address issues identified by the CHAT model, we compiled various types of information to provide insights into how student engagement differed from previous experiences with non-anonymous forum tools.

The instructor and the teaching assistant (two over two years) recorded ethnographic field notes of significant observations made during the class (as they were also teaching the class they were participating in the research was a combination of participant observation research and autoethnography (Barrett, 1996)). Prior to the commencement of the research the instructor typed out his past observations from past iterations of the course (which he had taught multiple times

over the previous six years) as a resource to use in making sense of the ethnographic fieldnotes from the classroom observations.

Student volunteers for the interviews were solicited by a graduate student contacting members of the class to request permission to use their written submissions or to elicit their participation in interviews. Student participants in the interviews, and those providing reflective submissions, were all members of a science "methods" course in a Faculty of Education. The class, usually between 20 and 35 members, was structured around an integrated series of academic readings and student activities including writing activities and science investigations.

The following resources constitute the data corpus:

1) observations noted by the course instructor and teaching assistant as the course progressed, including the noting of comments made by students, observations on the quality and type of submissions made in contrast with previous experiences, types of student participation in class discussion about the articles which were also discussed in the forums, and other pertinent observations about the student use of the forums,

2) interviews with students from two sections of the course about their participation in the forums (semi-structured, lasting 30 to 45 minutes), and

3) written submissions made by students from two sections of the course about their participation in forums.

Our analyses of the written submissions, fieldnotes, and transcripts is based on interaction analysis (Jordan & Henderson, 1995) and draws on grounded theory as an interpretive approach (Strauss & Corbin, 1990). For the analysis, we first independently viewed transcripts/texts and individually constructed personal assertions from those within categories we each constructed. We each listed the evidence we had (in the form of quotes or observations from the field notes) to support each of the assertions/categories. Then in a joint session where we got together, we then collectively examined each of our assertions and categories; we critiqued each assertion/category using examples drawn from our own reading of the database, and then further examined the database for confirming or disconfirming evidence. Through back-and-forth discussion we then refined the assertions/categories and the descriptions of them using the evidence we had now collectively agreed upon for a framework to provide the description. We then each went back and conducted our own re-reading of the database, examined the assertions and categories, and then, again, drew our own conclusions and collected (if necessary) our evidence to support those conclusions. We then re-met as a collective to discuss our current views of the data set and the conclusions that could be drawn from it. Final claims, implications, and construction and analysis of the activity system diagram arose from many repeated discussions and examinations of the database until we resolved all issues and were collectively satisfied with our final claims. In qualitative research like this we note that the findings represent the range of experiences discussed by students, but does fully represent the frequency of such experiences (except as noted) nor, necessarily, the full range of experiences which occurred, but only those commented on by the participating students.

Findings

In our analysis we will first examine classroom-based observations made by instructors during the class discussion of the assigned papers (which students discussed in class after posting about them in the "anonymous" forums). We will follow that section with our analysis of student interviews and the submitted written commentaries.

Classroom Observations

Students' varied engagements with readings (e.g., comment, critique, reflection, summarization, and so forth) are initially posted in the forums, following which students were to read responses from other students and then provide "critical" and "insightful" feedback to the original poster. Although there was often only a single response, we noted that occasionally engagement by more than one responder occurred, and sometimes the original poster responded to the commentary provided by others. Both the instructor and the various teaching assistant noted that the submissions on the readings themselves were often more detailed, analytic, insightful and, in some cases, strongly worded, than in non-anonymous forums they had previously engaged with in education courses (although there is no easy way to demonstrate this, given the loss of access to non-anonymous postings which occurred) or, in most cases, in verbal commentary in class.

Forum submissions preceded class discussions by 36 to 48 hours. This gave time for both the students and the course instructor to read the student submissions in preparation for discussion in class (although we noted that most students only read the submissions of a few other students). In subsequent class discussions, four notable trends were observed, and informal conversations amongst students during other course activities also provided insights into the role that anonymous forums served in class learning that was distinctly different from previous use of non-anonymous discussion forums. We will discuss these four trends under the headings "Preparedness," "Avoidance," "Deflection," and "Outing 'The Wikibitch'."

(a) "Preparedness"

Having students make forum postings about their comments on readings is not an unusual strategy for course instructors to employ. These postings are used by both the instructor and the students to better understand student perspectives on the article, and for the students it allows them to understand their own perspectives as juxtaposed against those of others. From an instructional perspective, even more valuable is the opportunity for each student to understand any critique of their ideas which may be offered by other students and prepare a response to that critique for the following classroom-based discussions of the article. The more detailed and specific critical feedback that anonymous forums seem to provide students also seems to allow them time to construct a considered response to the critique that can then be presented as part of the following classroom-based discussion. The observations by the instructor and the teaching assistants support the idea that the class discussions about the readings were enriched by the use of the anonymous discussion forums. We also noted that the advance postings allowed the instructor to better prepare for the forthcoming class discussions about the articles because he was aware in advance of student thoughts and arguments about the articles.

(b) "Avoidance"

In the past, classroom discussion of readings focused on the substance of the comments posted by individual students in the non-anonymous forums. In those discussions specific individuals were an essential part of the discussion around the content of the postings, and often their role was to defend or elaborate upon what they had written in the public postings. Thus, in non-anonymous forums the original posters are essentially co-opted into participating in the class discussion and also into continuing to support the ideas they had initially posted. However, in the case of the anonymous forums students raised discussions around issues submitted to the forums without any specific knowledge of who had contributed the posting. Thus, peer-pressure to provide a defense of the ideas in the forum was diffused and the instructor and the teaching assistants noted that a greater discussion of the contents of the posting, involving more students, seemed to occur and that the discussion was (in their opinion) more nuanced than when someone was merely defending the perspective they had originally posted (such as happens in class discussions following non-anonymous forum postings). In part, this seemed to occur when using the anonymous forums because the original poster(s) did not necessarily participate in the discussion of their ideas (although sometimes they did, and sometimes did so "on record" as being the original posters), as often the original poster let those who had <u>not</u> posted the original ideas discuss and flesh out a specific critique of the article. In previous classes involving non-anonymous postings the student who had posted the comment under discussion almost always participated in the discussions.

(c) "Deflection"

Related to (b), a more interesting form of student engagement also occurred. In some cases, when either raising a topic for discussion, or responding to other comments in class, students would refer to their own posting using the third person. For instance, a student would say something like "One of the postings on the forums said that it thought that constructivism was not something that applied to adults, that adults could just memorize information. What did the rest of you think about that?" The instructor noted from his reading of the forums that it was that particular student who had made that posting; in other words the student deflected attention away from their ownership both by referring to the claim in a depersonalized fashion ("One of the postings on the forums said that it thought ...") and by not identifying themselves as the person who had posted the information. Students also used this strategy in defending or discussing comments made about a student's reply (for example, by saying "Maybe they meant..." instead of by saying "What I meant..."). In both instances, the anonymous nature of the forums allowed students to raise issues for discussion without being identified as the person from whom the statements originated thus deflecting any potential social critique that could be made away from them, while still raising their perspective for consideration and discussion in the broader class discussion.

(d) "Outing 'The WikiBitch'"

Despite the anonymity students had (such that there were not even pseudonyms) some students wrote in a distinctive fashion such that other students could identify, or at least believe they could identify, the postings of specific unknown class members. Students providing specific and detailed academic critique of the ideas submitted by their peers and articles they read is, we believe from our experiences, a rarity in education faculties (at least compared to other

disciplines in which the authors have worked). That this is not a part of the culture of education classes was evidenced to us in one particular class where one poster (identified, we suspect, week-to-week by similarities in the writing style) was labeled "the WikiBitch" by her peers. This labeling was noted by the course instructor who overheard various students occasionally, during informal class activities when conversation was common, discussing postings by a particular unidentified individual (or so they thought) in small groups. While in our (the authors') view, the postings by this individual fell into the category of "tough, but fair" (an opinion formed after we determined who this individual was and examined her postings) and they were certainly professionally phrased and argued, the consistent critique led to a critical semi-joking labeling by others in the course. When this individual was eventually "outed" in a small group setting (within which one member said, "You're the WikiBitch, aren't you?" to which the respondent blushed such that she was unable to deny it), she justified her writing by replying "I thought I was doing what I was supposed to be doing. I was only trying to help us all learn about the articles better." The student appeared to be considerably embarrassed at being caught-out by her peers. In her subsequent posting she prefaced her commentary on the article thusly:

> It has been brought to my attention by my classmates that I have been too critical in past article postings. I believe the term that was used to describe me was "WikiBitch." This week I will try my hand at a kinder, gentler review. Please forgive me if I don't find a way to work in the sunshine, rainbows, and puppies that were requested.

Our examination of her original postings led us to conclude that her critical discourse and commentary on both articles and other student postings was at the more critical end of what we had hoped we would develop when students engaged in a critical examination of research literature, but that following her "outing" her postings became somewhat less pointed and insightful.

The student who responded to "Wikibitch's" first article commentary after she was "outed" (a student who was in a group which was more isolated from the groups discussing this incident because they were working on these informal activities in a different room), and notably the first of her (i.e., the "Wikibitch's") postings that this student had responded to, wrote:

> I think that you have a very good handle on this article and discovered the same things from it that I did. I am not sure who referred to you as "Wikibitch" because I am not familiar with this. I am not sure people within the class are looking for sunshine, rainbows, etc. but again I haven't heard of anyone being referred to as "Wikibitch" so what do I know about these people's expectations of you.

In our view, this reply acted as an "approval" of her new approach to posting, because in our view the postings by "Wikibitch" continued to be in a more moderated vein for the remainder of the course.

Choice of Anonymity

As a final note in this section: nothing precluded students from self-identifying in the body of their post during its submission, but only rarely did this happen. The course instructor (Bowen) also told students that he also posted responses to their commentaries on readings, and that he often did so without identifying himself. Students often indicated discomfort at the idea that this

might occur, and many suggested that they felt they should be aware if a comment was being made by the instructor rather than by their peers. This, of course, had been previously considered by the instructor, who self-identified only when his judgment was that doing so was specifically relevant to the learning on that particular issue. [From this we highlight the conclusion that using a forum with anonymity allows the "seeding" of conversation amongst students by the instructor without the privileging that would normally be granted to submissions known to come from the course instructor.]

Student Commentary – written submissions

Student submissions for a final course assignment (in which they were to comment upon activities in the course that they felt were most salient to their learning) were examined, and comments focusing on participation on the forum were highlighted for analysis (drawn from three sections of the course and involving different individuals than those who were interviewed). It should be noted that students were using non-anonymous forums in other courses within their education program, so their commentary about the use of anonymous forums was in contrast to that experience. Of fifty-four available assignments over two years, twenty students voluntarily chose (i.e., without any descriptive requirement by the instructors to do so) to comment upon their participation in the forums as part of that assignment.

In our analysis of these written assignment submissions about using the anonymous discussion forum, we identified three main themes in our analysis. These include (a) a reduction in the perceived oppression of opinion and dissent, (b) peer-scaffolding of understanding and confidence through commentary, and (c) assessment issues (self-assessment and practice of formative assessment). We discuss each of these in the following paragraphs and provide exemplar quotes drawn from the database.

(a) "Reduction in the Perceived Oppression of Opinion and Dissent"

The following quotes exemplify the issue of (perceived) suppression of critical analysis and commentary regarding both the readings (Romi and Emily) and the commentary made in response to other students (Arie), and how they might be received (Helen). These comments generally support the central reasons for which we adopted "anonymous" forums for class use.

> The forums are set up so that the author of the comments and the discussion are anonymous. At first I wondered why this was, and I wanted to know who was writing each comment. However, as I thought about it more and participated in more discussions I came to see the real value of having these done anonymously. *It allows us to be more honest and forthcoming with our comments.* We are not faced with the thoughts of what others may think if we write statements that we know would not be agreed with by others in the class. …*If our comments in the [forums] were tagged with our names, I think we would be more reluctant to offer our true feelings about the readings to the discussion.* – Romi

> The fact it was anonymous was also really beneficial. *I was definitely able to say things that were on my mind that I would not have mentioned in a class discussion.* – Emily

> Upon entering the classroom, it was nerve-wracking to think there were times when we would have to be critical of our peers. *Many teachers do not like to be critical due to fear.* However, it aids the learning process and should be done to help students improve. – Arie

> By removing our names we can never feel victimized by a comment made by another student and we have *the freedom to post what we truly feel.* – Helen

What was abundantly clear throughout many of the student postings, some explicitly stating it and others alluding to it, was that the students did not feel that they could say what they actually thought or felt about an issue in class discussions, and that it was not the instructor (as they were fully aware that the instructor and teaching assistant knew who was posting what commentary), but rather their peers who concerned them, and this concern restrained both their general thoughts about educational issues as prompted by the readings, and the nature of critical feedback they might have offered about submissions made by their peers. From their comments it is clear that many students felt as if the use of anonymous forums provided them the opportunity to voice their actual thoughts without having to be concerned about how the audience would react to them.

(b) "Peer-scaffolding of Understanding and Confidence Through Commentary"

As demonstrated by the quotes below, students identified that forum use influenced both their learning (Sam) and their attitudes towards their learning (Becky and Amy). In the first case, students were able to self-scaffold their understanding of a reading by examining the comments made by others. Also, students also found the feedback from their peers helpful in developing their understanding of the topic (Arie). Although one might argue that this would happen through use of a forum whether anonymous or not, these claims must be considered in light of the above evidence that the anonymous nature of posting influenced what students would consider writing in their forum postings, as it allowed for greater (perceived) freedom of expression. We would argue that students subsequently finding the postings useful for their learning must be considered in light of the "more honest" comments.

> I probably *learned more in this class from reading others' discussion posts* than I have any other way. From reading the postings, one can get several different perspectives. We may have an opinion on something, but after reading a few posts with an opposite view, *we can open our minds and respect others' views.* – Sam

> I began to *look forward to others' responses to my postings, and therefore put effort into them*, hoping someone would take the time to respond. – Becky

> [The instructor] had us reflect on our own ideas and on the ideas of others weekly by responding to another student's article and/or responding to an assigned article. This was extremely helpful in developing my ability to think critically. Being able to see where I could improve, or for that matter if I was completely off the beaten path, *helped my confidence grow.* – Amy

> I found that by getting feedback on the forum postings the comments were aiding me in improving my *approach and understanding of the readings.* – Arie

(c) "Assessment Issues (self-assessment and practice of formative assessment)"

The third main theme evident in the written submissions deals with the issue of assessment. In some cases students reported that being able to read the postings of other students allowed them to engage in self-assessment of their understanding (Siobhan) (we concede that self-assessment with this purpose is related to the "learning" theme discussed in the previous paragraphs). Students also recognized that by commenting on a peer's posting they were engaging in assessment of their peers (Piotr), and usually identified it as a type of formative assessment (Sam) (note that formative assessment (Black, 2002) was studied in the course, but was not related to the forum postings during the class discussion about the article).

> ...the feedback from peers helped us *self-assess our engagement in the reading*. – Siobhan

> The course discussion forum *forced us to assess our own learning*, by commenting on the writings of various authors. We also took part in the *assessment of our peers, as we provided feedback* in the form of responses to their article comments. – Piotr

> ...*there has been a lot of formative assessment* in our class. Probably *the biggest place where it has occurred was in the discussion forums*. – Sam

Less frequent comments included that the forums offered "the opportunity to hear everyone's voice" where "everyone gets equal time to express himself or herself" unlike in regular classrooms. Some individuals also suggested that writing in the forums (as opposed to talking about readings in class) offered the opportunity for people to develop a more considered position in preparation for discussing the articles in class. Although these do not appear to be related to the anonymous nature of the forums, we would argue that all of them would be influenced by the writing, which was able to emerge as a consequence of the forum postings being anonymous.

Overall, many of the reasons for which the anonymous wikiforum tool was originally developed are substantiated by information students themselves chose to focus on when deciding to write about their participation in the forums. However, their written commentary was often quite brief, and several issues, which we had identified as perhaps being relevant to their use were not discussed.

Student Commentary – interviews

Six students volunteered to participate in interviews about their participation in posting in the "anonymous" wikiforum tool from two classes totaling twenty-four students. Interviews were conducted by a third party (not an author) to conform to ethical guidelines (related ethical restraints meant that the authors continue to be unaware of who the interviewees are and therefore there comments cannot be related back to forum postings or any other information instructors may have noted about students in the class discussions. Written comments made in the previous section were made by different students than those who participated in the interviews.).

In our analysis of these interviews, three significant themes emerged: (a) Emancipation - the "freeing" benefits of anonymity in the forums, (b) learning/scaffolding, and (c) formative

assessment. Each of these themes is discussed below, with supporting quotes from the interview transcripts.

(a) "Emancipation"

In the first theme we highlight the emancipation students felt as a consequence of the "anonymous" nature of forum submissions. The quotes below illustrate the interviewed students' relief at having been freed to speak their mind in the anonymous forums, without fear of insulting a classmate or coming under scrutiny or judgment for expressing an unpopular opinion. Students also tended to feel that the anonymous format of the forums had more benefits than detriments. On the whole, students indicated that they felt that the greatest benefit of anonymity came when they were responding directly to their classmates' posts, as they did not have to worry about being influenced by their pre-existing perceptions of their classmates, and they could post honestly and critically without fear of being identified.

> I think that perhaps *we felt more free…*or *less censored* perhaps…*to say whatever we wanted to write, without thinking about what others might think*, or that kind of thing. So, the fact that it was anonymous was freeing in a way.

> *I don't have to worry about my judgment being clouded by…what they said in class.* I'm just reading what they wrote and commenting on that. So for *me that's the most important part*, more that I don't know who they are than anything else.

> *… you might be less likely [if the forums were not anonymous], I guess, to judge what they're saying on the merit of their arguments for thinking that or their reasons for thinking that…*and you're more likely to actually value what people are saying based on the merits of their arguments or their rationale for thinking that way.

> I think it works well now [being anonymous], because *it allows you to be more honest in your responses* and not worry about people's feelings, or…or whether you have the same opinion as your friend

> …the *quality of it and the engagement would definitely drop* if everybody knew who else was on there.

(b) "Scaffolding"

A second significant theme emerged, wherein the students expressed strong feelings about the effects of participating in the forum on their learning, particularly with respect to how they were able to use others' posts, and their own progression of ideas in posts made throughout the year, to scaffold their learning and to gain a richer understanding of course readings. Students also indicated that they felt that the forums also provided an excellent tool for tracking the development and changes in their own thinking as they progressed through the course.

> …I think *your experience of reading the article becomes a lot richer*. First of all, you experience it by yourself, and then others' ideas prompt you to revisit the article, re-read certain passages, have a deeper understanding, and then your responding to those submissions compels you to go back to the article, re-read certain passages and then make a response. Maybe *re-interpret things that you had misunderstood, or help others*

to re-interpret things that you think that they'd misunderstood. So I think…*the concept of scaffolding is built right in there*. And then, oftentimes we would come to class and discuss the readings again, at which point many of the points discussed in the forum would come up, and some other new ones would come up. *And so there's the face-to-face communication helping to solidify those ideas as well*…on top of that, it kind of helped to have *that record of the progression of ideas going through the class. So, sometimes I went back to read the forum discussion on articles read earlier in the course…to help me to understand later readings. So there's scaffolding happening there.*

I know people who have a lot of troubles with understanding the content of readings and find it useful to see what other people thought of them and other people's takes of them.

So you've got your own reading of the article, and that's your own level of understanding. And then when you read what other people have said, *that brings in sort of a community understanding*, because you've only got one perspective, your own previous body of knowledge, to gain your own insights into that from. So when you see, however people have responded or thought about that, *that's sort of another level of understanding*. And then we often will use concepts from the reading in class, with the activities we do or, even just in the way the course is structured, which is another level of applying the readings, so…it's good, and it ensures that you do those levels of *…scaffolding, instead of it just being a personal thing that you may or may not do.*

…if you didn't have those [other students' posts], sometimes you'd be kind of stuck without really a firm grasp on the reading or without coming up with some kind of response to it.

(c) "Assessment"

The last dominant theme that was present was the student perspective that the forums constituted a type of formative assessment (Black, 2002), whereby students offered each other feedback on their interpretations of course readings with the goal of both improving understanding of the issues being discussed and improving their collective capacity to analyze and comment on academic texts. Although anonymity is not specifically mentioned in the exemplar quotes below, it is important to recall that the students felt that the most significant benefit of anonymity was the freedom they felt to respond critically to their classmates' posts and we would argue that the issues are therefore related.

… in reading the responses and getting that feedback, um…reading other peoples' submissions, and reading other peoples' responses, whether or not they were to my own submissions*, helped me to prepare better responses the next time - helped me to be more critical, and more thoughtful, in my responses to other peoples' readings. So, in terms of formative assessment, it was a continuous opportunity to learn from comments on our own submissions and also from reading other peoples' submissions*…I learned quite a bit about what makes a good response, what makes a thoughtful, um, response to somebody else's submissions, and *I think I observed that I*

was becoming more thoughtful, more conscientious, as the course went on, because of that opportunity.

I mean *it [the forum] is formative assessment*; it's designed to engage without ranking, so it's a good example of formative assessment.

…it's absolutely formative assessment, to look at your own opinions, for an outside perspective, look at other people's perspective on your own opinions, and comment on others. You get to see, why do I think this way? Why did I draw that connection? Did I miss other connections? What did I miss from this article? You got to formatively evaluate your own thinking and what you're getting from the course.

Overall, we conclude that there is a clear sense from the students interviewed that the anonymous nature of the forums had a positive impact on their level of engagement, their ability to be critical, and the depth of their learning. Furthermore, the forums provided a concrete example of formative assessment, which is a concept that they were introduced to for the first time in this course. Though the students did not explicitly link the anonymous nature of the forums with their ability to scaffold their learning onto that of their classmates, in the context of their comments on the benefits of anonymity it is clear that the greater depth at which they were able to engage is likely to have improved their learning overall. It is also interesting to note the degree to which the themes that emerged from the interviews coincide with the themes emerging from the dataset of student written submissions. Again in the interviews, as with the written commentaries (the topics of which were self-generated), student comments reflect the issues taken into consideration when the wikiforum was developed.

Conclusions and Implications

We began this paper with the observation that most people readily accepted that there are boundaries enforced on internet use by external (real-life) forces. However, we also noted that in our classes real-world social commitments seemed to be interfering with using internet tools such as forums for learning purposes. This is consistent with other literature that has reported issues such as gender, race, interpersonal relationships, friendships and so forth interfering with students providing effective feedback to each other (Carson & Nelson, 1996; Ghorpade & Lackritz, 2001; Howard et al, 2010; MacLeod, 1999; Nilson, 2003; Zhao, 1998). Learning environments and online environments in the service of learning are extremely complex, and we chose to theorize these interactions between real-world social commitments and participation in this online forum by drawing on cultural historical activity theory. In this paper, we have explored the implications of adapting the online tool that is used in class to mediate academic discussion.

Overview of findings

To address the perceived and theorized tensions between school and social activity, and based on informal conversations with students, we decided to design a forum tool which permitted "anonymous" posting (although the instructor would know who was posting what information). What we found in both our subsequent classroom observations as well as in student submissions and interviews was that this "anonymized" tool offered several advantages over the use of non-anonymous discussion forums as part of a course that also had an in-class component. Student

comments suggest that the anonymous nature of the forums in particular made them more comfortable with commenting on the work of other students and also with receiving comments from others. Many students recognized that providing such feedback was an authentic teacher experience because evaluating and providing written feedback is both a form of formative assessment (Black 2002) as well as an activity that parallels their future employment. In general, students expressed the perspective that the anonymity of the forum participation allowed them to engage more honestly and freely with the course material without any concern about the *in-real-life* world of the classroom intruding on their commentary. Overall, many stated that they were able to express their honest thoughts about material in ways that they felt unable to do in face-to-face settings and in the traditional manner in which discussion forums are used in classrooms. That one student who was "outed" reduced the degree of her critical commentary highlights the bounding that social pressure applies to the production of student writing in forums.

Implications for assessment

As instructors, we note that one consequence of "anonymous" participation was that we felt that we saw much less of the "grey area" non-critical commentary which had predominated the comments on readings and feedback previously, and now saw more critical, insightful and detailed commentaries on the readings by the students. Indeed, the students commented that they often put more work into their assignments when they knew their peers were going to be looking at their work anonymously, suggesting that they themselves saw that they were doing better work as a consequence of the anonymous forum environment. Together, these findings suggest that there is a problem with instructors grading student submissions to non-anonymous forums as if they represent what students really understand and feel about the article under discussion, because their commentary in non-anonymous settings is mediated by their social commitments – to such an extent we suspect the mark may reflect an invalid assessment of the actual student understanding.

Revisiting our activity model

These observations and the comments made by students appear to support our model of students' school and social activities. In particular, the data seem to confirm our assertion that, to varying degrees, the objects of students' social and school activities may exist in contradiction, and that their intellectual engagement in discussion with classmates may be hampered by *in-real-life* social obligations, where being critical of classmates and problematizing their views on controversial topics may be considered unfriendly or inappropriately confrontational. This conflict between social and school objects may be particularly problematic in situations such as the one in which our students find themselves, where class sizes are small and students get to know each other, and form friendships (and potentially rivalries), quickly. Our subsequent re-viewing of the constructed activity system diagram (Figure 1) in light of the collected data from interviews and submissions leads us to the conclusion, therefore, that the interpenetration of a known 'virtual' community (where students' names, or even pseudonyms, are visible) with the actual classroom community can lead to a diminished learning environment, as the statements made by students in author-identified settings seem to be mediated by real-world social concerns (as, it would appear, are the commentaries they offer in class discussions). Understanding this tension arising from the interaction between activity systems led the course instructor to make

strategic changes to the online tool – which mediates discussion of, and engagement with, the course materials – in order to make the forum anonymous.

Implications for thinking about classroom communities

Community is a fuzzy concept, and defining community is controversial. This controversy may arise because the idea of community is a highly charged concept, which many people understand implicitly and idiomatically (Kling & Courtright, 2004). Earlier, we described online forums as having the potential to create communities of common interests and purposes in order to support the teaching and learning process. Doing so, however, is no easy task, and communities are not always functioning ideally, and can in fact come with a lot of "baggage" (Bell, 2001, p. 93).

The perspective that one must have openness (including being identifiable as an author of postings) to develop a "community" is well-entrenched in educational settings, but ignores the conflict between participation in the real and virtual worlds that may emerge. Thus, this research has implications for how learning communities, in particular those supported by online environments, are designed. From our activity theory perspective, system tensions and conflicts experienced by learners, as well as the context within which learning is taking place, must be harnessed and used to direct the design of learning environments (activity systems) (Barab et al., 2002; Barab, Schatz, & Scheckler, 2004b; Jonassen & Rohrer-Murphy, 1999). Of chief importance in creating and maintaining a learning community online is the concept that Preece (2000) refers to as *sociability*. That is, she stresses that members of online communities require that the online forum support their social needs, in addition to addressing the more tangible issues of usability. Indeed, to ignore the "fragility of social processes" in the design of online learning environments is to ignore the crucial issues that must be addressed in order for learning to occur (Kling & Courtright, 2004, p. 102). In the case we have described, students' social obligations were perceived as having the potential to interfere with their academic engagement in course-based online discussion forums. In our case, to address concerns about the quality of student work, the decision was made to make the forums anonymous, in order to address this issue of sociability and to reduce the tension felt by both students and instructors caused by the interaction of school and social activities.

Ironically, it may be that an improved community of learners emerges by the counter-intuitive usage of online discussion forums which mask the identities of its members. Of course, as these students spent a lot of time in class together, they were often interacting in environments where they were known. In the study that we have described here, this classroom community is supported in a variety of ways by an online tool, which is composed of an anonymous discussion forum (the subject of this paper) as well as several non-anonymous tools. These non-anonymous tools are designed to assist students in presenting their work online (in the form of web pages, graphs, tables, etc.), and communicate with each other and the instructors (using mail, chat and blog programs). We are not suggesting, therefore, that non-anonymous interaction is not important in building learning communities, and we agree that members of successful communities feel part that they are part of a group that they can trust each and work with effectively to have their needs met (Lord & Lomicka, 2008). What the results of this work suggest is that in a "web-supported community" (Barab et al., 2004a, p. 82), such as this course for pre-service teachers, using an anonymous discussion forum was an effective way to increase the students' and instructors' action potential, because it helped to address a tension within the

broader classroom activity which was presenting a barrier to free and open engagement with the course readings and with each other.

Limitations

We would be remiss if we did not acknowledge some of the limitations of this research. Firstly, ethical considerations meant that we could not video- or audio- tape class discussions about readings and directly relate student comments there back to their postings in the forums. We (and the teaching assistant) were able to record general impressions and observations as ethnographic fieldnotes, but the study would have been strengthened if we had a more substantive database about student discussions of the articles. In addition, the lack of ability to compare postings in the anonymous forums with those in non-anonymous forums is also a weakness (again, an issue of ethical restrictions on the study), however it should be noted that student comments recorded in field notes, in interviews, and in written commentaries are made by students who are using non-anonymous forums in other classes in the program and often they were making comments contrasting their experience using the anonymous forum with their use of forums in other classes. Commonly, each year, some students comment to the course instructor that they think that their other classes should also use anonymous forums. Finally, the use of a convenience sample presents the possibility that the students who volunteered their submitted work or to be interviewed may not represent the full range of students (however, we will note as an anecdotal observation that the comments derived from these sources seemed consistent with other written sources and student comments over the years the course has been offered).

Future research

Future directions for this research include adding the option for students to choose whether or not to make individual posts anonymous. Students could then be interviewed, in order to learn about their decision making surrounding when and why they chose to reveal or hide their identities from their classmates. This further study will, we hope, help us to understand the tension between school and social activity in greater detail, in order to improve the on-going design of this online learning tool.

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