Design of a Multi-Platform Teaching and Learning Environment

for a Fully Online School

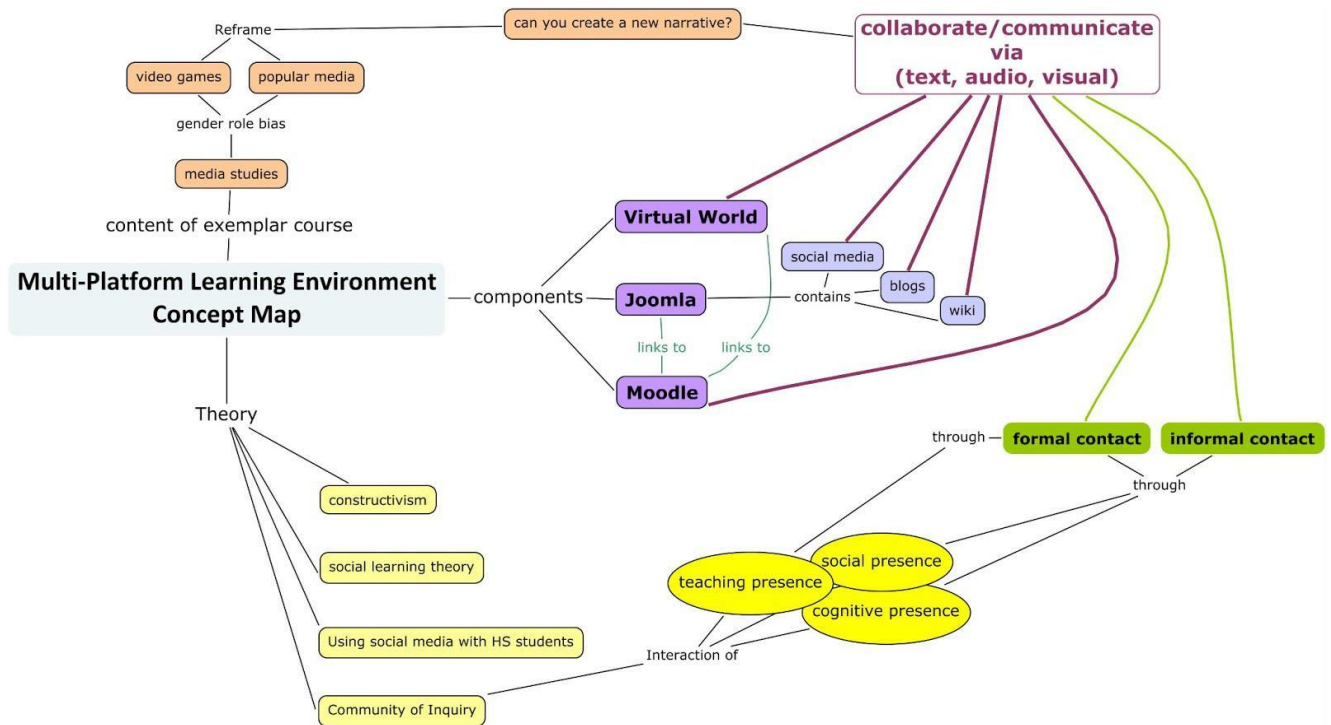Ashley Bayles

Annette Smith

Colin Grzeskowiak

Colin Kam

University of British Columbia

ETEC 510 65B

Professor Jeffery Miller

Design of a Multi-Platform Teaching and Learning Environment

for a Fully Online School

(Smith, 2013)

Key Frameworks

The focus of our design project is to create an online constructivist learning environment for high-school aged students enrolled in online courses. The website that we will create for this assignment will be an example of an online school website with the Moodle containing all of the individual courses offered at the school. For the nature of this assignment, we will focus on one course: media studies. The online school website will be a multi-platform learning environment, based on the content management system Joomla customized with social media, a wiki, Wordpress, forum, live chat and a collaborative space in an immersive 3D world (connected to

the Moodle with Sloodle). The design of the website is to provide virtual spaces for students to

collaborate in both formal and informal ways, to solve complicated problems and to promote

social interaction and relationships among the students. In this project, we will use as an example

of how the environment works, a problem related to bias in gender role representation in popular

media, such as video games.

<div align="center">**Situating this Project in the Academic Literature**</div>

Intentional Learning and Expertise as a Process

Scardamalia and Bereiter (1994) discuss three lines of thought on creating successful

knowledge-building environments: intentional learning, process of expertise, and restructuring

schools. They indicate that social support is required for intentional learning and the process of

expertise, but feel that "first-order environments" do not provide this social support (Scardamalia

& Bereiter, 1994, pp. 266-267).

Our hope for the environment we are creating is for it to become a "second-order

environment" where "what one person does in adapting changes the environment so that others

must readapt" (Scardamalia & Bereiter, 1994, p. 267). Because of the social nature of the

environment we are creating and the collaborative nature of the communication and production,

what one student says or shares from their own learning will change the nature of the discussion

and cause the other students to adapt to the new knowledge that has been introduced into the

system.

By asking the students to solve less well-defined problems, like how to reframe media to

reduce gender bias, that have less clear solutions, we are asking them to both create knowledge,

and to learn the process of creating knowledge, or to participate in the process of developing

expertise.

Communities of Inquiry

Community of Inquiry

(Garrison, D. R., Anderson, T., & Archer, W. 2000b)

The community of inquiry model, described by Garrison et. al. (2000a), proposes that there are three elements which are "crucial prerequisites" to a successful educational experience. They are cognitive presence, social presence and teaching presence. Cognitive presence is "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication"; and social presence is "the ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as 'real people.' The primary importance of this element is its function as a support for cognitive presence" (Garrison et. al., 2000a, p. 3). In this proposal, we will mostly address the possibilities for this combination of platforms to foster and develop these two aspects of the model.

Social Learning Theory

In an examination of social learning theory, Tu (2000) references Bandura (1977) by saying: "Bandura's social learning theory states that neither inner forces nor environmental stimuli drive people as isolated influences. Behaviour and complex learning must be 'explained in terms of a continuous reciprocal interaction of personal environmental determinants...virtually all learning phenomena resulting from direct experience occurs on a vicarious basis by observing other people's behavior and its consequences for them'" (pp. 11-12).

Therefore, "human behaviours are affected by observation and by direct experience" (Tu, 2000 p. 30). Additionally, Tu (2000) found that "that social presence is required to enhance and foster online social interaction which is the major vehicle of social learning" (p. 27).

Informal Learning and Communication

In our model, informal communication is considered to be crucial to creating the social presence that is a major component of the Community of Inquiry model and the social cohesiveness of the groups. Because of this element of our social networks, and social spaces, there will be a certain amount of digression from the actual content of the course, but this is important to the development of the social connections that are so critical to the creation of identity in online contexts.

Additionally, "digression allowed students, and to a lesser degree, teachers, to depart from the structure of the content. It played a role in fostering the level of social presence in the WBSSC because students exhibited much of their affective and interactive responses in this context" (Nippard & Murphy, 2007, Digressions, para. 1).

We consider that the level of enjoyment and engagement is an important consideration for high school students, and so would agree with Garrison et. al. (2000) that "when there are affective goals for the educational process, as well as purely cognitive ones, (i.e., where it is important that participants find the interaction in the group enjoyable and personally fulfilling so that they will remain in the cohort of learners for the duration of the program), then social presence is a direct contributor to the success of the educational experience" (p. 3).

Use of Virtual Worlds

The use of primarily social spaces, like online 3D immersive worlds, for education, is still under investigation in many ways. These spaces, originally designed for "play" have many possibilities for increasing engagement, but there are some questions. One would be the level of distraction that increased visual stimuli present to students, while the other would be the steeper learning curve for virtual worlds than you might see in a text-based environment.

Traphagan et. al. (2010) concluded, after comparing text-based and virtual world debates among high school students, that "all three presences were observed in both environments, confirming that the community of inquiry model is a useful framework to understand synchronous communications in virtual worlds" (Discussion, para.1). They caution, however, that "tool familiarity significantly impacts students' cognitive engagement level, and it would also affect how students represent themselves and perceive others socially, and how instructors would organize and coordinate the learning activities" (Traphagan et. al., 2010, Discussion, para. 5). Additionally, they suggest that voice tools in SecondLife (the virtual world in which they investigate), might reduce cognitive overload, along with familiarity with the environment (Traphagan et. al., 2010). For these reasons, we believe that it is possible, and positive, to include

a virtual world component in our environment, provided that sufficient time is given for student

to develop familiarity and comfort with the technological aspects.

Intentions and Positions

We intend to increase social presence in a group of students, through social media and 3D

immersive world activity and to create opportunities for collaborative problem-solving related to

gender role bias in popular media and games. We hope to develop a constructivist learning

environment incorporating virtual social interaction across three platforms. The intention of the

social network is to provide for a social element which many online students indicate is a

missing element in online learning. Journall noted that, "students crave personal interaction, even

unfavorably comparing e-learing to their classroom experiences because of the missing social

component in their online course" (2010, p.76). Many of the students in the study had social

media tools open while they worked on their e-courses as they missed talking with friends in

class and they commented that they missed group activities as well.

The social network is going to be used to support building relationships/community as

well as informal learning and identity creation. A counter argument to placing value on this

particular set of outcomes is that students may not engage with each other in the way we have

intended. Academic social networks are often difficult to start and even harder to keep students

consistently coming back. As Lang pointed out, "relationships are central to getting learning to

happen in the context of a social networking site: if educators get these right, they stand a better

chance of creating the conditions of possibility in which learning can occur" (2012, p.8). Social

networks are very dependent on a community being formed and updated frequently and without

this the benefits of this component wouldn't be realized.

One potential way of dealing with the difficulties in starting and maintaining social

networks in a school environment, would be to have this platform, or collection of platforms,

available across courses, and persist beyond any one subject or topic. While the project discusses

media studies as an example, this kind of platform would be used in a wider school environment

to allow students to maintain relationships after courses end, and with students that they may

have shared courses within the past.

This approach also deals with another counter argument for using a wide range of

platforms, namely that there is a learning curve, especially for virtual worlds. Using the

environment across courses means that knowledge about operating in the environment would

transfer to other courses. In this way the social interaction would become more familiar and less

affected by familiarity barriers over time.

A second potential way of dealing with this difficulty is to introduce a peer mentoring

framework where input is not directly provided by members of staff, but instead by students

acting as peer mentors. Then using the simple tools found in the design of our social media they

will start the important task of building relationships and redirecting discussions. Lang states that

"the real learning for social networking is the ability to learn from each other regardless of

geography and moves away from limited and linear models towards a different kind of model,

one which draws on the knowledge of students who may have more relevant, and more recent,

experience than academic staff" (2012, p. 22).

Key Concepts and Contexts

Conceptual Knowledge

We want students to understand that gender role depictions in much of popular media,

including video games, is very biased, and presents a view of women as weak, subservient, or

devious; and men as physically strong, dominant, and superior. There is also an undercurrent of sexual violence and bullying that is apparent in many video games. In the environment we will create, students will have an opportunity to examine several pieces of media, and examine the types of gender roles depicted. They will reframe a piece of media, in collaboration with their peers, to consolidate their understanding of the way in which media can create and reinforce gender roles and stereotypes.

Procedural Knowledge

1. Students will develop an ability to critique pieces of media through the lens of gender issues, relating to roles and characteristics, based on examples, models, and interactions with both their peers and instructors.

2. Students will become proficient in the use of social media and immersive spaces to interact and collaborate by creating an alternative narrative for a piece of media.

Social networks continue to increase in popularity among students as a means of personal social interaction. Our design will focus on creating an academic based social network that supports informal learning. Three of the key elements to creating this network are, the idea of identity, engagement (time and effort invested in education) and relationships/community. Identity can be formed in many ways. It can be mediated through avatars, pictures, relationships, status updates, comments, friends, photos, and videos which, due to their public nature, help define the individual to other users in an online environment. Since our students will be high school aged and taking online courses, we aim to design an online learning environment that will allow them to interact and collaborate with their classmates. Our environment will be engaging enough that students feel the need to spend more and more time there to develop their personality

and interact with their classmates. This level of engagement is often missing from online courses and is an area that we hope to innovate.

A social network site must allow for an individual to correctly display a student's online identity and a link to their physical environment (Merchant, 2011). In addition, research has shown that the simpler social network tools such as status updates and posting of content have shown a positive correlation with engagement (Junco, 2012). These tools will be available as a part of our private academic social network. We have chosen to go with a private social network as students have indicated in research that they want their Facebook accounts kept separate from a school network. "Hewitt and Forte observe that identity management is a significant concern for SNS users when the roles they occupy cross perceived social boundaries and bring organizational power relationships into visibility, citing one student's fears that Facebook could 'unfairly skew a professor's perception of a student in a student environment'" (Lang, 2012, p. 6).

Traditional e-learning platforms are often just designed for content distribution. The students may have a forum for discussions, but beyond that there is little interaction. The students in these types of traditional online courses are just names on a website, they are not the dynamic beings as they would be in a more social environment. Through a platform such as the one we are designing for our project, "students can easily share content and communicate with a much wider group of contacts with access to their favourite online social networks. This centralisation of functions in an e-learning platform allows learners to organise and lead their learning process the best way that they approve" (Rodrigues, 2011, p. 6). Current research supports that "online social networks enhance e-learning experience" and this is why we expect our platform to be successful (Rodrigues, 2011, p.8).

InterActivities

To communicate the ideas presented in our proposal we will be constructing and hosting a website that will be built with most of the features listed. Anyone can then come to the site to login and view the different dynamic objects right on the site and interact with them. The only exception would be the Virtual 3D world which due to hosting restrictions we might not be able to replicate. To compensate for this we would be placing videos on the website demonstrating how that component, when functioning, would perform.

The Joomla CMS system will be linked to the Moodle allowing for course activities and forums to be synced. This takes the discussion out of the individual Moodle course and places it in an area that is accessible to all students in the school. This allows students to start discussions as assignments and to elicit responses from the rest of the student community. The activity stream will announce items like new courses, new students in a course, and finished assignments all in a way to promote communication between students to stimulate the social network community.

Each course will have its own group page within the social network that would allow for future students to ask questions, or present students to discuss the course and assignments. Students can also create their own groups around topics of interest once again to promote a sense of community. Pictures and videos can be posted as many students prefer a visual reference. The RSVP system can be used to get groups together to enter the virtual world at a certain time or to host a live chat. Friend requests once again promotes the concept of relationships and helps build the community.

Components of the Exemplar Course

- We will be creating a Unit Plan Introduction to media - how to use: Joomla, Moodle, SecondLife, wiki

- Introduction to topic - gender roles in media

- Introduction to problem - how can you change gender bias in media? Introduction to assignment - groups - Can you rewrite the script to this game/media and still have it be good/exciting/engaging?

- Schedule of meetings (and on what platform), facilitated discussions.

  - Secondlife introductory meeting - field trip

  - synchronous meetings - with mentors, with instructors

- Presentation/sharing of new media narratives - choice of platform, choice of media for presentation.

In terms of content presentation, we will be providing ways for students to view, and respond to information from a variety of sources. In Moodle and SecondLife, students will be able to view media via clips from YouTube, depicting popular media and gameplay.

In Moodle and Joomla, students will be able to view and respond to flash-based interactive videos presenting both background and explanatory information on the topic, as well as those which make use of screen capture to demonstrate aspects of using the various platforms.

The discussion environment in SecondLife, is used to represent the possibilities of using an immersive 3D virtual world. For educational purposes, we would suggest that an education institution use a dedicated installation of a grid based on OpenSim (an open source version of the code developed for SecondLife), as that provides a more controlled and safe space for students. In the virtual world environment, students are able to interact with the Moodle courses through a

device called Sloodle. They will also be able to view YouTube content, and create a 3D mind-map as part of their collaboration. It is also hoped that the space will provide the students with some informal social interaction, designed to increase the complexity of their social connections.

To facilitate learning within a social network we will be implementing several activities. First of all students will be allowed to use a social network as they normally would by creating their online identity and making non-academic posts. This will help contribute to creating a community, and relationships within the community. Teacher mentors would be helping to facilitate this community as well as bringing up questions that would promote discussion based on student's preconceived knowledge. For example they could post a video about a certain game and ask, "why are the women in this game always in need of rescue?" and from comments received the mentor would try to discuss bias in gender roles. The comments would be received from everyone in the school. The students of the media course would then use this input to create a new narrative for this piece of media, or this game, that has less bias. They could create this narrative on a wiki, or a collaborative blog post. The rest of the community could then comment on the collaboration.

In this way, the social and informal nature of the communication and relationships can be used to support the learning and collaboration of the entire community. It could be compared to a bulletin board in a physical school, where students post their projects for the rest of the school to see, but in the multi-platform environment, peers can post comments related to the posted work. This feedback and exchange with peers will, in part, help to prepare students for environments they will find in higher education, and employment, where peer feedback and critique are more commonplace.

References

Bandura, A., & McClelland, D.C. (1977). Social learning theory. Retrieved from
    http://www.sjsu.edu/counselored/docs/EdCo.248.Social_Learning_Theory.pdf.

Garrison, D. R., Anderson, T., & Archer, W. (2000a). Critical inquiry in a text-based
    environment: Computer conferencing in higher education. *The Internet and Higher
    Education*, 2(2-3): 87-105. doi:10.1016/S1096-7516(00)00016-6.

Garrison, D. R., Anderson, T., & Archer, W. (2000b). *Elements of an Educational Experience*
    [Digital Image]. Retrieved from http://communitiesofinquiry.com/model.

Hewitt, A. and Forte, A. (2006). Crossing boundaries: Identity management and student/faculty
    relationships on the Facebook. Paper presented at the Computer Supported Cooperative
    Work (CSCW) conference, Banff, AB, 4–8 November. doi: 10.1.1.94.8152.

Journell, W. (2010). Perceptions of e-learning in secondary education: a viable alternative to
    classroom instruction or a way to bypass engaged learning? *Educational Media
    International, 47*(1), 69-81. doi: 10.1080/09523981003654985.

Junco, R. (2012). The relationship between frequency of Facebook use, participation in
    Facebook activities, and student engagement. *Computers & Education, 58*(1), 162-171.
    doi: 10.1016/j.compedu.2011.08.004

Lang, A. (2012). Exploring the potential of social network sites in relation to intercultural
    communication. *Arts and Humanities in Higher Education, 11*(1-2), 120-139.
    doi:10.1177/1474022210394141.

Merchant, G. (2011). Unravelling the social network: theory and research. *Learning, Media and
    Technology, 37*(1), 4-19. doi:10.1080/17439884.2011.567992.

Nippard, E. & Murphy, E. (2007). Social presence in the web-based synchronous secondary
    classroom. *Canadian Journal of Learning and Technology,* 33(1). Retrieved from
    http://cjlt.csj.ualberta.ca/index.php/cjlt/article/view/24/22.

Rodrigues, J. J. P. C., Sabino, F. M. R., & Zhou, L. (2011). Enhancing e-learning experience
    with online social networks. *Communications, IET, 5*(8), 1147-1154. Retrieved from
    http://link.aip.org/link/?ICEOCW/5/1147/1.

Scardamalia, M. & Bereiter, C. (1994). Computer Support for Knowledge-Building
    Communities. *Journal of the Learning Sciences, 3*(3), 265-283. Retrieved from
    http://www.tandfonline.com/doi/abs/10.1207/s15327809jls0303_3.

Smith, A. [Diagram of ETEC 510 Project]. (2013).

Traphagan, T.W., Chiang, Y.V., Chang, H.M., Wattanawaha, B., Lee, H., Mayrath, M.C., &
    Resta, P.E. (2010). Cognitive, social and teaching presence in a virtual world and a text
    chat. *Computers & Education, 55*(3): 923-936. doi:10.1016/j.compedu.2010.04.003.

Tu, C.H. (2000). On-line learning migration: from social learning theory to social presence
    theory in a CMC environment. *Journal of Network and Computer Applications, 23*(1):
    27-37. doi:10.1006/jnca.1999.0099.