SOCIAL MEDIA, CONSTRUCTIVISM AND DESIGN STUDIO: LESSONS LEARNED

David Gelb

Department of Design, York University, Toronto, Ontario, Canada, dgelb@yorku.ca

ABSTRACT:

Internet-driven communication networks have made the use of social media technologies among students an intuitive and natural extension for learning with and from their peers. Familiarity and comfort level with social media is well suited for the co-creation of learning artefacts in online environments. Design educators employing social media practices have leveraged this socio-technological fluency by creating classroom activities that translate into meaningful learning experiences. Constructivist learning through social media technologies offers many inroads for collaboration and knowledge building experiences. While the online spaces act as the central gathering point class activities, these classrooms can be thought of as learning communities where knowledge is constructed through shared problem solving and collaboration. This paper reflects on the implementation on the use of wiki and related social media technologies as a platform to support a constructivist learning model for design education.

Keywords: constructivism, design pedagogy, social media

INTRODUCTION

Internet-driven communications have made the use of social media technologies among students an intuitive and natural extension for learning with and from their peers. Familiarity and comfort level with social media is well suited for the co-creation of learning artefacts in online environments. Design educators employing social media practices have leveraged this socio-technological fluency by creating classroom activities that translate into meaningful learning experiences. This paper examines social media environments, such as wiki, as a platform for supporting a constructivist learning model for design studio curricula.

CONSTRUCTIVIST LEARNING MODEL

The early work of Swiss psychologist Jean Piaget laid the groundwork for constructivism in the belief that knowledge does not exist as an external entity or an objective truth that is distinct from the learner (Greene, 2005). Not originating from educational research, constructivism is grounded in cognitive psychology and only much later it was adopted and applied to educational theory and practice. The constructivist view of learning is that knowledge is produced, for example, when a

person is reading a book or learning to speak a new language. The individual learner is building their own knowledge as they are assimilating, assessing and reflecting on new information within the context of their own experience and understanding. Social constructivists borrowed from Soviet psychologist Lev Vygotsky and take the approach that learning occurs culturally through social interactions (Lowenthal, 2008). Vygotsky's theory of the Zone of Proximal Development is invoked to emphasize the impact of shared learning and importance of peer-to-peer exchange. The learner's "zone" is the gap between the development level of what an individual can accomplish independently and the level of accomplishment with the guidance of a teacher or more knowledgeable peer (Vygotsky, 1978).

Constructivist learning models are often deeply embedded in design studio pedagogies as they emphasize additional characteristics of constructivism. These include authentic problem solving and experiential learning through critical and iterative reflection on one's own the design process. It could be argued that reflection and self-critique is inherent in design practice, however it not by chance that this working method enhances the student's construction of his or her own knowledge within the social context of the classroom.

COMMUNITIES OF PRACTICE

Another model of social learning that highlights the value of collaboration in design education is Communities of Practice, articulated by anthropologists Jean Lave and Etienne Wenger (Lave and Wenger, 1991). Communities of Practice refers to groups that are "are formed around shared commitments to have the knowledge and practice be applied, effective and produce results that forward the interests of the whole" (McMaster, 1998). Communities of Practice are often described as informal but require the right setting to motivate and have emergent qualities that surface from the bottom up as opposed to being directed and pre-conceived from a top level authority. In practical terms, design studio classrooms also need structure and purpose to foster a synergistic and community-oriented environment. The role of the instructor is instrumental in designing the curriculum that strikes a balance between teacher-centred direction and allowing students to follow their own interests within the curricular framework and the larger learning community.

SOCIAL MEDIA AND LEARNING

Social media platforms are extensions of Web 2.0 technologies that emerged over the past 10 years have greatly transformed online interactions (Jones and Gelb, 2010). Widely adopted digital media formats and the ability to share, publish and co-create with a variety of open-source web tools and services are widely available with fewer technical barriers. Opportunities for educators are plentiful in leveraging social media technologies to expand spaces for learning. A key affordance of many of these platforms is their inherent ability to capture the distributed agency of participants. This is evident is design education through the externalization and collaborative output of student work made accessible through many of these platforms. The ability to capture and share is particularly valuable for design studio learning as the version logging captures the formative design process from ideation to final

product. Communication can happen asynchronously thereby adding an additional entry point for participation and intellectual engagement between peers working towards similar goals.

DESIGN STUDIO CURRICULUM

In the design studio curriculum, open-ended projects offer students entry points to a wide spectrum of speculative and creative problem solving scenarios. These kinds of projects are often oriented towards particular skills and final product making for students to demonstrate proficiency towards the course objectives. In this model, learning can become an isolated solo effort as students propel through the design process; research, ideation and representation of their individual concepts through the creation of design artefacts. Independent thinking through making is critical to a comprehensive design education but the studio social context where this happens is limited in it's ability harness the potential for learning with and from peers. Beyond physical proximity, a more robust and absorbing learning environment can be cultivated with the activation of social media technologies to enhance the design studio experience. This does not mean by merely introducing sharing and collaborative technologies into the classroom that students will think, explore and create on a deeper level. Moreover, these kind of technologies challenge educators to develop innovative teaching practices for supporting students to hone their thinking and making abilities in the design studio.

WIKIS AND DESIGN STUDIO LEARNING

Wikis are a social media platform in which distributed participants can edit and contribute content. Popularized by the world's largest encyclopaedia Wikipedia, wikis have been used effectively as formative databases, which makes them particularly attractive as evolving learning spaces for capturing and representing classroom knowledge. Wikis offer an open environment for designing and activating constructivist pedagogies that promote collaboration and social learning, both online and in the face-to-face classrooms (Yates, 2008).

Wikis can work to enact the core sensibilities of collaborative learning in the design studio by focusing on co-creation of specific course artefacts. Co-authoring of course texts, glossaries of key terms, annotated resource building and creation of instructional modules highlight examples of student created wiki exercises and assignments. These components might typify a common breakdown of class activities designed by the instructor to scaffold learning in a collaborative wiki system. It could be described as "giant group project" in which students negotiate and build consensus as the conversation is mediated through the process of constructing a shared artefact.

In the design studio context, wikis highlight individual contributions that approximate what a learner currently knows (independent development level) but is furthered with knowledge input from peers. From a Vygostkian point of view, the collaborative nature of this technology and its applied pedagogy can have a tremendous impact on learning processes by leveraging the gap in knowledge between an individual and the larger group. This is tightly coupled with social constructivism in that learning is more successful when socially mediated and individuals are "better able and motivated to learn when

given the chance to work together to solve a given problem. It is also thought to inspire a more engaged, emotional and creative response to the task at hand " (Meatball Wiki, 2008).

From a pedagogical perspective, the openness afforded by wiki technologies provides multiple opportunities for students to share and learn with their colleagues. Interconnections are made by linking related ideas and digital artefacts to extend ideas amongst participants. Contextual hyperlinking is a way of building upon existing knowledge to logically introduce new concepts, often in unplanned ways. As new entries are posted, successive authors acknowledge these connections by adding meaningful links thereby progressively integrating new material within the pre-existing class knowledge. In doing so, a deeper sense of understanding is established and made explicit in the wiki environment through the semantic networks of content. While the highlighting of connections to construct new ideas is individually enacted, collectively all learners benefit as ideas are captured, published and ultimately consumed by wiki peers for further improvement.

The visibility of a wiki environment can belie its distributed nature when seen as a composite whole. Depending on the wiki platform, individual authorship is not initially obvious but can be filtered and searched to derive "who did what and when". For the most part, the outer layer emphasizes readability and navigation for quick and easy access to content. An important feature in wiki technology is version control; participants can analyse the co-creation process by peeling back the outer skin and revealing the temporal development of a document. In this way, the progression of ideas can be mapped in reference to time and contributor, revealing the evolution of form and content leading to the document's current state.

Conversely, participants may think about the wiki as a holistic entity that reflects the current state of the classroom and acts as a central gathering point. In this context, wiki classrooms can be thought of as a "learning communities" in that learning is achieved "through shared problem solving and collaboration" (Meatball Wiki, 2008). By externalizing much of their coursework, students situate themselves in the context of the class population. Individual work is now part of the bigger whole becoming less individualized and more focused on the output of the entire class. This may be apparent when proposing any group task or assignment, however the wiki structure amplifies the sense of community in that "we are all in this together" through its inherent visibility of the entire class efforts. Even when asked to post individual assignments, students soon experience the work of others, which can lead to a deeper reflection of their own contributions in this community

In practical terms, wiki classrooms also need structure and purpose to foster a synergistic and community-oriented environment. The role of the teacher in wiki can help strike the balance between the right amount of pedagogical direction and allowing students to follow their own interests within the learning framework.

Wiki as pedagogy has far-reaching implications for teaching and learning practices. In traditional classrooms, the learning dynamic is focused on the teacher as the gatekeeper and evaluator of knowledge structures. The social constructivist nature of wiki challenges the notion of teacher as knowledge authority and is replaced by a more egalitarian and democratic model of learning. Ideas of

knowledge being subjective and constantly shifting can make it difficult to operate under traditional paradigms of teacher-to-student educational delivery. From a teaching perspective, the pedagogy of student-centred constructivism is more complicated and less predictable than accepted and conventional teacher-centred methods (Bruns and Humphreys, 2005). In a constructivist paradigm using wiki technology, students can follow their own research interests and connect with others to negotiate meanings and produce shared understandings. Also less control over course content also means more challenges for teachers in regulating and evaluating student achievement (Lamb 2004). Loss of singular authorship makes empirical assessment a challenge for teachers in grade-focused education.

CASE STUDY – UNDERGRADUATE DESIGN STUDIO COURSE

This design studio class was focused on Toronto's public spaces as a theme for the term project. The coursework was carried out over 12-week semester following a structured process involving research, analysis and synthesis phases. Presented to the students, all course material was housed in a wiki to act as both a learning management system and as a presentation environment for the collected student coursework on going throughout the project timeline.

From onset of the course, the instructor emphasized the use of the wiki as an environment to document and organize their research findings and to explore the use of various widgets to present their work (widgets are essentially small bits of source code that can be embedded into the wiki using the editing tools to extend its functionality). As the research involved acquiring and annotating visual material, many of the students posted their commented photos to Flickr and fed the stream directly into the wiki using a widget. The updating of new visual material was accomplished easily by the wiki's open platform making it possible to embed multiple media types including video and podcasts. To finalize the first phase of work, students presented visual essays to articulate the main points of their research in a slideshow. These presentations were then embedded in the research sections for quick and easy reference by peers and instructor for evaluation purposes. The extensibility of wiki, a core feature evident in social media technologies, underscores the value of open platforms in leveraging existing services to augment and support the learning experience for students.

From an instructional angle, the wiki and its available widgets extended the ability to effectively manage the course from its administrative dimensions. The second phase of this project involved teaming up in small groups and to focus the project towards in a more constrained direction. A portion of the grading scheme was awarded to a peer evaluation component to assess and comment on their colleague's performance. The data was remotely generated and collected by embedding a poll widget. By using a third-party service such as Survey Gizmo, the instructor was able to design, deliver and analyse the results from outside the wiki environment.

This ability to parse out the specialized tools for particular tasks in regards to instructional administration, typifies the nature of using an open platform like wiki to conduct course management. Reliance on an exclusive piece of learning management system limits the customization capabilities to

the current version of the software and does not allow for easy extensions like third party widgets. The proprietary model of first generation learning management system creates a closed situation where the technology dictates the course delivery rather than an open and adaptable learning management system that allows for more flexibility in pedagogical designs.

In this course, a segment of the grade was attributed to class participation through community building in the form of wiki contributions. On the accompanying wiki page the instructor had posted:

For class participation, students are required to contribute to the on-going development of the class wiki. This wiki will be the central gathering point for working on ideas, building design knowledge and hosting resources for furthering class understanding.

This participation component was meant to steer the students towards using the wiki for leveraging the social connections available in their own learning community. Although not mentioned explicitly in the above quote, the collaborative nature of the wiki would be advantageous in expanding their own experience with the course and related concepts. None of the class members had ever been exposed to a wiki but most were versed in using social networking platforms for exchanges amongst friends and family. The wiki proposed a new paradigm in communication as the focus was course specific and involved a more socially explicit learning space. By stressing the importance of participation in the classroom, the notion of accountability towards themselves, peers and the class as a whole, was further emphasized. Value was placed on providing resources and input that could assist the class in furthering the course objectives, whether directly project related or more generally in their overall design education. Building of frequently asked questions (FAQs), calendar of events, design inspirations and technical help with the wiki and production softwares, were some of the ways students supported each others learning. By identifying their own needs and possible solutions, students were actively constructing a dynamic learning community by contributing to class knowledge. The instructor reinforced the participation by requiring all students to plot their significant contributions in a personalized wiki page with accompanying hyperlinks to referring documents and assets. In this manner, the management task of tracking participation performance was the responsibility of individual students rather than requiring the instructor to wade through the many edits for verification. By making the students responsible for posting this log, it allowed them reflect on their own participation levels in light of their peers. The openness of the wiki platform offers participants exposure not readily visible in face-to-face classrooms, thereby promoting a highe degree accountability and engagement with one's own learning success.

LESSONS LEARNED

The implementation of social media in design studio curriculum has lead to some key lessons:

EXTERNALIZATION OF DESIGN KNOWLEDGE

All student work is externalized within the learning community and viewable throughout the course lifespan by all participants. This broader sense of audience is an important part of design culture as open critique and dialogue is valued as way to improve and respond to design goals. As students are

displaying individual work, they are viewing the work of others, which often leads to deeper reflection on their own design work within the learning community.

STUDENTS WORK AS COURSE CO-CREATORS

Most learning management systems are organized in a way that leaves instructors fully responsible for creating and maintaining the online environment. This can pose significant challenges in engaging a fuller and broadly based collaborative experience for design learning. Wikis afford a bottom up approach and have an emergent quality rather than a top-down traditional management model. From a class management point of view, the co-creation model can decrease increase the instructor administrative overhead as students self-organize. Success of the learning space is shared and relies on student driven goals, which activates a core aspect of constructivism towards student driven learning.

PROCESS VS. PRODUCT

This refers to formative nature of an evolving online learning environment built from the smaller pieces of individual design work. At any one time this space reflects the current state of the classroom, which continues to develop throughout the lifespan of the course. Many ideas are initially ill-formed (incomplete and/or possibly inaccurate) that generally improve over time within the larger system. At the same time, students record and document their own individual progress in a highly social learning space.

DESIGN LEARNING COMMUNITY AND A CULTURE OF SHARING

While the online spaces act as the central gathering point class activities, these classrooms can be thought of as learning communities where knowledge is constructed through shared problem solving and collaboration. These learning communities are shaped around shared goals and to apply this knowledge towards a holistic enterprise whereby the benefit is shared amongst the participants. For the design studio, the culture of sharing is reinforced through social media technologies that ultimately benefit the individual by providing an encouraging and intellectually lively learning space.

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