

THE SOCIAL DIMENSION OF STUDIO SPACE: FACE-TO-FACE AND BEYOND - EXPLORING THE ONLINE LEARNER EXPERIENCE

Jolanda MORKEL

Department of Architectural Technology, Faculty of Informatics and Design, Cape Peninsula University of Technology

Abstract

There is wide acceptance that the studio stands central to architectural design education (Bakarman, 2003, 2005; Kuhn 2001; Forsyth., Zehner and McDermott 2007). It is a social environment (Gross, 1997; Chen and You 2010:152) which is characterised by communication, critique and collaboration. The studio is a physical place that facilitates pedagogy that supports community-centred instruction. It utilizes the theories of apprenticeship, social constructivism, socio-cultural theory of learning, collaborative learning, situated learning in communities of practice and enculturation.

However, the physical architecture studio, as we know it, is rapidly being transformed. Students spend less time in the studio and an increasing amount of time in computer labs. These spaces are not conducive to conversation and interaction - activities typical of the studio environment and necessary for critical thinking, ideation and design development. However, new ways to connect people and to nurture foster, and enable a sense of community are being presented by the Web. It provides possible ways to expand the existing traditional physical studio learning environment.

This paper presents work that is part of a current doctoral study by the author, entitled "The online architecture studio: towards an instructional design framework for design-learning." It reflects on the social nature, qualities and characteristics of contemporary studio learning, specifically related to the interactive and collaborative learning experience. It then proceeds to investigate how a similar social learning experience can be created online through a variety of tools such as Facebook, in teaching and learning. The learning context is one where students are involved in a fulltime final year of an undergraduate program in Architectural Technology at a University of Technology in South Africa.

Key Words: *architecture studio, online learning, design education, collaborative learning, Facebook for education, social media*

The architecture studio tradition

The architecture studio, as we know it today, originates from two past models, namely the Ecole Des Beaux Arts and the Bauhaus (Broadfoot and Bennett 2003:9). The studios at the Ecole Des Beaux Arts (1819-1914), known as "ateliers", introduced a pedagogical method that is still the focus of design and architectural education today. Broadfoot and Bennet (2003:10) describe how students were led by a tutor or senior students, in a "learning by doing" process.

In the period 1919 -1932 the concept of the design studio was reinforced by the creation of the Bauhaus by Walter Gropius. The Bauhaus program aimed to develop the students' personality as well as technical skills. Bauhaus students were either *apprentices* or *journeymen*. According to Broadfoot and Bennet (2003:10), Journeymen provided a link with professional practice outside the school. "What differentiated the Bauhaus was a tandem system of workshop teaching that attempted to equate craft with art, and equip graduates with as much technical expertise as theoretical and creative" (Broadfoot and Bennet 2003:10).

The architecture studio of today, characterized by "project-based work on complex and open-ended problems, very rapid iteration of design solutions, frequent formal and informal critique, consideration of a heterogeneous range of issues, the use of precedent and thinking about the whole, the creative use of constraints, and the central importance of design media" (Sarah Kuhn 2001:349), has not changed substantially from these historical models.

Studio as social learning space

Learning is in the relationships between people. (Smith 2003)

Studio learning relies on the interaction between people. In fact, one of the main reasons of the success of studio teaching in design education is often attributed to its social nature (Gross 1997; Chen and You 2010:152).” The studio model has fostered the type of enculturation into practice that modern schemes for distributed situated learning are just coming to understand.” (Schadewitz and Zamenopoulos 2009:1). The iterative design process calls for multiple opportunities of feedback and reflection, facilitated best by the student herself, a fellow student and staff.

Studio-based learning is traditionally situated in a physical design studio environment. Through a range of conversations (Pask 1976 in Laurillard 2008; Schadewitz and Zamenopoulos 2009: 2) or arguments (Hasirici & Demirkan, 2007) with themselves, their peers and tutors, students work towards producing a design proposal. This proposal is presented in the form of (process) diagrams, scale drawings in two and three dimensions as well as scale models and a verbal presentation. Such conversations or arguments take the form of various media including actions, words (written and spoken) and, most importantly, the sketch diagram.

These three relationships are presented in the work of Brown, Collins and Duguid (1988:23), as “reflection” (an internal relationship), “collaboration” (a horizontal relationship of peer to peer learning) and “apprenticeship” (Brown, Collins and Duguid 1988:23; Kvan, 2001; Lackey 1999, in Ellmers, Brown and Bennet, 2009), a vertical relationship. “In this sequence, apprenticeship and coaching begin by providing modelling *in situ* and scaffolding for students to get started in an authentic activity. As the Students gain more self-confidence and control, they move into a more autonomous phase of collaborative learning, where they begin to participate consciously in the culture. The social network within the culture helps them develop its language and the belief systems and promotes the process of enculturation” (Brown *et al* 1988:23).

Challenges and opportunities of the studio today

The physical dimension of the face to face studio is being challenged (Forsyth., Zehner and McDermott 2007:4; Broadfoot and Bennett 2003). In his report on the 2003 Studio Culture conference, Henderson (2004, in Ellmers 2005:2) highlights the increasing difficulty of higher education institutions to sustain vibrant studio culture. Studio in the traditional sense appears to be in decline. Factors contributing to this situation include “pressures on staff time, diminishing resources, increasing student to staff ratios, changing student work and study patterns, health and safety issues, and increasing reliance on computer aided design” (Ellmers, 2005:2) and hence more time spent in computer labs. These spaces are not conducive to interaction, collaboration and social constructivism associated with the constructing of meaning based on learning that occurs in a social environment.

With the rapid development of the Internet and information technology (IT) and the globalization of business design practices have changed. (Chen and You 2010: 151; Chen and You 2010:154) This is also true for architectural practice and consequently, architectural education. Ivala and Gachago (2010) maintain that individuals create learning contexts for themselves within and across settings (Barron 2006 in Ivala and Gachago 2010). Learning therefore extends beyond the studio, and increasingly off the university campus, resulting in more permeable boundaries between settings (Ivala and Gachago 2010).

Case study

The architecture studio in the final year of an undergraduate programme in architecture at a University of Technology was supported with a Facebook group, for a period of six months when the data for this study was collected. This medium of communication support was requested by the students whom all had access to the internet on campus, some at home and the majority via mobile phones. These students were also introduced to blogging and Skype crits and required to each create their own online portfolio of design work.

The objective of this study was to understand the impact of the Facebook group on learning, and to which extent this social media intervention has enhanced the face to face studio experience. The

transcripts of two student focus group discussions conducted by the University teaching and learning unit was studied to establish the degree to which this intervention provided for a social learning environment, beyond the physical studio. The focus groups on average comprised of six students each. These transcripts were reviewed in terms of the three key learning relationships (reflection, collaboration and apprenticeship) and resulting conversations, and with reference to related key themes identified in the literature on studio and studio culture.

One of the key sources consulted for this study, in addition to the student focus group transcripts, is the document that contains the responses of the Studio Teaching Project by the Studio Design Forum (Forsyth, Zehner and McDermott 2007:7). This Forum involved more than a hundred academics from Australia and New Zealand in discussion, on challenges and opportunities they encounter in studio teaching in architecture, art and design (<http://www.theworldcafe.com>).

The social dimension of online studio through the use of facebook

“The World Wide Web offers new ways to connect people and to nurture, foster, and enable a sense of community. It reflects on the social nature, qualities and characteristics of contemporary studio learning, specifically the interactive learning experience” (Broadfoot and Bennet 2003:9).

Internet as a tool for mass communication allows for educational design studios to be expanded, supported and complemented online. The author does not argue for the replacement of the physical studio with entirely with online studios, but rather that a multi-modal approach be adopted. The online or *virtual* studio, as it is often termed, ideally involves a ‘community’ rather than isolated, one-on-one communication. Online studios are now perceived as an increasingly attractive support and supplement to traditional face to face studio teaching.

The *online design studio* refers to a networked studio, distributed across space and time. The participants are in various locations, and the design process and communication are computer mediated and computer supported. Often referred to as ‘Virtual Design Studios’ (VDS), they allow designers to be located anywhere yet still participate in collaborative work. There have been many varied formats in the relatively short history of online studios. The major differences often manifest themselves in the areas of communication and collaboration.

Social software enables communities to form and find each other (Brown, 2006:24), to learn through remixing, and sharing ideas and artifacts using the rich media now available. According to Roos (2011), the term “social network” has been around since the 1950s, but the dramatic rise of social-networking Web sites like MySpace, Facebook and LinkedIn has “turned a dusty sociological phrase into the hottest buzzword of the Internet age”).

Facebook, created in 2004 by Harvard student Mark Zuckerberg, is a Social Networking Site. Yudhi (2011) describes it as an “online community—a place where people can meet and interact; swap photos, videos, and other information; and generally connect with friends, family, co-workers, fellow students, fellow hobbyists and enthusiasts, and numerous others in their social network. Facebook connects people within cities or regions, work or school” (Yudhi 2011).

The use of Facebook in this particular study was mostly asynchronous. A closed facebook group was created and students posted requests to join, which were accepted by members already accepted to the group. Posts included organisational notifications, photos taken on field trips and in the studio, links to interesting and useful online literature and websites related to the current design projects, social comments and conversation, links to updated student blogs and online portfolios, with the invitation to comment, notification and reminders of face to face events, links to project feedback podcasts and marks. It was intended to support the face to face studio, and used in combination with occasional Skype crits and supported by online portfolios. It was not intended to be used as a learner management system, nor replace the face to face studio in any way.

Ivalo and Gachago (2010) who conducted the focus group sessions, maintain that “Facebook groups enhanced teaching and learning by improving communication between the lecturer and students, assisted in accessing academic and moral support from their lecturers and peers and improved the quality of their projects through feedback from students and lectures.” Other significant findings of the

Ivalo and Gachago (2010) study are that Facebook was an integral part of the students' everyday life and that appropriate use of Facebook groups and blogs enhances students' engagement in learning activities of an academic and social nature on-and off-campus, by blurring the boundaries between students' academic and social lives. Facebook groups and blogs encouraged peer to peer support, collaborative learning, creation of student-generated content and improved interaction between staff and students, which are powerful indicators for student engagement.

Findings

The relatively limited published research regarding online design studios is often preoccupied with technology; consequently little examines the important issues of pedagogical content and student interaction (Broadfoot and Bennet 2003:9). Shao et al (in Schadewitz, N. and Zamenopoulos T. 2009: 2) argue that the level of social engagement in Social Network Sites (SNS) mirrors the practices and patterns of traditional design studios. In both settings, dialogue among peers and with tutors takes a prominent role. This study investigated the extent to which Facebook may enhance the three identified learning relationships and respective learning interaction by conversation.

a. Reflection

The first of three relationships and consequent discussions or dialogues presented in the work of Brown, Collins and Duguid (1988:23), is "reflection". It is an internal relationship (Brown, Collins and Duguid 1988:23; Kvan, 2001; Lackey 1999, in Ellmers, Brown and Bennet, 2009).

The concept of the 'reflective practitioner' outlined by Schön (1983; 1987) provides a framework for understanding and plotting the process of studio design practice and activity. Schön's (1983, 1985) theory is based on a constructivist view of human perception and thought processes; the designer constructs her view of the world based on her experiences (Valkenburg and Dorst 1998, in Ellmers 2005:3). Through the iterative process (Broadfoot and Bennet, 2003:18) of exploration a design proposal is formulated.

The focus group provides no data on this internal process of reflection, which could have been expected, considering the social nature of facebook as a social media tool. In the facebook interface communication happens with at least one other person.

b. Collaboration

Interviewer: And has it [facebook] also helped in your interaction with fellow students?

STUDENT D2: Yes it has. No, yes definitely. It definitely has.

STUDENT G1: *"I think a large part of it (is) ... interactivity... you can upload a project or like post an idea and then people in our class could in this like electronic environment give feedback on it."*

STUDENT A2: *For me it feels like we are still in a class and we are interacting, ja.*

STUDENT B2: *It's just a digital way. Digital classroom.*

Forsyth *et al* (2007:19) identified the following as important topics in response to the answer "What does Studio mean in your discipline": interaction, being together in a group, incidental learning, group and collaborative learning, students teaching students (peer-to-peer learning). Collaborative learning is learning that happens because of the conversation with peers; it is a horizontal relationship.

Collaborative learning is a process of enculturation that is supported through social interaction by members of a group (Brown, Collins and Duguid 1988:26).

Broadfoot et al (2003:18) present "a collaborative context" as one of the Four Conditions for Effective Contemporary Design Studio Education. This view is supported by a number of contemporary academics, including Kvan (2001). Jean Lave's theory of situated cognition focuses on learning as enculturation into a practice, often through the process of "legitimate peripheral participation" in a laboratory, studio, or workplace setting. Although this term is often thought of as equivalent to apprenticeship learning, it is a more general concept. Learning happens seamlessly as part of an enculturation process as the learner moves from the periphery to a more central position in the community.

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger: 2006). Social scientists have used

versions of the concept of community of practice for a variety of analytical purposes, but the origin and primary use of the concept has been in learning theory. Anthropologist Jean Lave and Wenger coined the term while studying apprenticeship as a learning model. They view communities of practice as a different kind of apprenticeship. The practice of a community is dynamic and involves learning on the part of everyone.

The theoretical construct of communities of practice (Lave & Wenger, 1991; Wenger, 1998, 2001; Wenger, McDermott, & Snyder, 2002) is grounded in an anthropological perspective that examines how adults learn through everyday social practices rather than focusing on environments that are intentionally designed to support learning. A community of practice is defined as “a group of people who share an interest in a domain of human endeavor and engage in a process of collective learning that creates bonds between them” (Wenger 2001:1; Grey 2004:22).

Lave and Wengers’ (1993:63-64) model of situated learning proposes that learning involves a process of engagement in a ‘community of practice’. The basic argument made by Jean Lave and Etienne Wenger is that communities of practice are everywhere and that we are generally involved in a number of them - whether that is at work, school, home, or in our civic and leisure interests. In some groups we are core members, in others we are more at the margins.

c. Apprenticeship

In an apprenticeship relationship, the student learns under a master by observing her behavior. This relationship is typical of the traditional studio tradition. It describes another of the Four Conditions for Effective Contemporary Design Studio Education that Broadfoot et al (2003:18) present, namely the *One-to-one dialogue* between teacher and student. This vertical dialogue is in the context of the student attempting to design, and may take the form of regular reviews during the design process. Both Schön and Kvan uphold that *one-on-one* communication is essential for exposure to the *tacit* knowledge inherent in designing, whether this occurs face to face or remote.

Cognitive apprenticeship (Brown et al 1988:26) describes the student to lecturer relationship (Brown, Collins and Duguid 1988: 25). Social interaction and collaboration play a central role in this sort of learning.

Do you feel it [facebook] enhances the interactions with your Lecturer?

STUDENT C2: *...there is a thing I like about it which is to communicate with the Lecturers. Because when you are working on your project when you get stuck on something you can post it on Facebook and you actually get feedback to move on.*

STUDENTS: Yes.

STUDENT G: *Definitely.*

STUDENT I: *I think there’s a better bond between the Lecturer and student whereas in the past it was very formal. It was like Lecturer student where now she’s like a friend on the Facebook, so.*

STUDENT C2: *Yeah quick feedback that’s what I like, that’s where it comes in.*

STUDENT A2: *It’s just like an open discussion, they are open to...*

STUDENT C2: *It’s like they [the lecturers] stand with us.*

STUDENT C2: *And I think this is actually like making us gain confidence in our work, because actually you know where you are heading to and what is required from you.*

Conclusion

The findings in this study suggest that the online environment through facebook does provide a place for interaction, communication and dialogue. It promotes conversation, reinforces existing relationships and builds confidence. The internal, horizontal and vertical relationships are enhanced in a meaningful way, resulting in an engaged learning experience.

Through facebook students are drawn into a rich virtual learning community. It brings the academic work into the students’ social world. It is passion-based learning (Brown, 1988), intrinsically motivated by the desire to become a member of that community of practice. Both formal and informal learning happens through rich dialogue on both the levels of peer to peer and student to lecturer. Reflection comes from being embedded in a virtual social “studio” milieu that supports the physical learning environment.

Facebook, however, does not function as a learner management system. Conversation is mostly informal and asynchronous, and the learning informal and unstructured. Future studies should investigate the possibilities of using facebook as a synchronous tool where the group may agree to meet online at a particular time, possibly using google chat in conjunction with facebook so that the discussion may be more direct. The particular roles that students take on, particularly related to their learning styles, should also be investigated in order to learn more about the role of social media in the design learning process.

References

- Bakarman, A. 2003. Quality Evaluation Tool for the Design Studio Practice. A theoretical background. *Proceedings of the 6th Asian Design International Conference: Integration of Knowledge*. Tsukuba, Japan.
- Bakarman, A. 2005. Attitude, Skill, and Knowledge: (ASK) a New Model for Design Education. *Proceedings of the second CDEN Design Conference on Design Education, Innovation, and Practice*. Alberta, Canada.
- Broadfoot, O. and Bennett, R. 2003. Design Studios: Online? *Apple University Consortium Academic and Developers Conference Proceedings 2003*. Wollongong: Apple University Consortium Academic and Developers (2003): 9-21.
- Brown, J.S., Collins, A. and Duguid, P. 1988. Situated Cognition and the Culture of Learning. Institute for Research and Learning Report No IRL-88-008.
- Brown, J.S. 2006. New Learning Environments for the 21st Century: Exploring the Edge. Change September/ October 2006. Accessed online, 15 July 2011 <http://Johnseelybrown.com>
- Chen, W. and You, M. 2010. *Int J Technolo Des Educ.* (2010) 20:151-174. Springer
- Ellmers, G. 2005. A re-examination of graphic design pedagogy, and its application at the University of Wollongong: Towards a PhD study in design education, ACUADS 2005 Conference: artists, designers and creative communities, School of Contemporary Arts, Edith Cowan University, Perth, Western Australia, 28-30 September 2005.
- Ellmers, G. 2006. Reflection and Graphic Design Pedagogy: Developing a Reflective Framework to Enhance Learning in a Graphic Design Tertiary Environment, 2006 ACUADS Conference: Thinking the Future: Art, Design and Creativity, Faculty of Art & Design, Monash University & School of Art, Victorian College of the Arts, Melbourne, 27-29 September 2006, 1-10.
- Ellmers, G & Foley, M. 2007. Introducing reflective strategies informed by problem-based learning to enhance cognitive participation and knowledge transference in graphic design education. *Proceedings of 2007 Connected International Conference on Design Education*. 9 – 12 July 2007. Sydney.
- Ellmers, G., Brown, I. and Bennett, S. 2009. *Graphic design pedagogy: Employing reflection to support the articulation of knowledge and learning from the design experience*. EKSIG 2009: Experiential Knowledge, Method & Methodology
- Forsyth, G., Zehner, B. And McDermott, R. (eds). 2007. National Forum on Studio Teaching. UNSW Publishing and Printing Services.
- Grey, B. 2004. Informal Learning in an Online Community of Practice. *Journal of Distance Education revue de L'Education a Distance spring/Printemps 2004 Vol 19, No 1, 20 – 35* .
- Gross, MD & Do, EY. 1997. The design studio approach: Learning design in architecture education. In J Kolodner & M Guzdia (eds). *Design Education Workshop*. Georgia Institute of Technology, 8 Sept – 9 Sept.
- Hasirici, D. & Demirkan, H. 2007. Understanding the Effects of Cognition in Creative Decision Making: A Creativity Model for Enhancing the Design Studio Process. *Creativity Research Journal*, 9 (2-3):259-271.
- Laurillard, D. 2008. The pedagogical challenges to collaborative technologies. Computer-Supported Collaborative Learning. Unpublished article.

- Ivala, E. and Gachago, D. 2010. Learning At “Frikking 4 In the morning”: Using Facebook and Blogs to enhance student engagement unpublished paper presented at HELTASA 2010.
- Kuhn S. 2001. Learning from the Architecture Studio: Implications for Project-Based Pedagogy. *International Journal of Engineering Education* 17(4, 5): 349-352. Great Britain.
- Kvan, T. 2001. *The Problem in Studio teaching – Revisiting the Pedagogy of Studio Teaching*. 1st ACAE Conference on Architectural Education. Milton, T. Centre for Advanced Studies in Architecture, National University of Singapore: 95-105.
- Lave, J. 1993. Situated learning in communities of practice. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 63–82). Washington, DC: American Psychological Association.
- Roos, D., How Social Networks Work, <http://communication.howstuffworks.com/>, 2007 in Benjamin, O. The effects of social networking on Nigerian Universities research works (a case study of University of Abuja), *Proceedings of EDULEARN11 Conference. 4-6 July 2011, Barcelona, Spain*.
- Rose, E. A., Higgins, M., Dixon, J. and Kabzamaloza, E. 2007. Connections and transformations: The role of the planning studio in educating for the future. In Zehner and Reidsems (eds). *Proceedings of ConnectED2007 International Conference on Design Education*, University of New South Wales, Sydney, July 9-12.
- Schadewitz, N. and Zamenopoulos, T. 2009. Towards an online design studio - A study of social networking in design distance learning. IASDR 2009.
- Schön, DA. 1983. *The Reflective Practitioner*. Basic Books. New York.
- Schön, DA. 1985. *The Design Studio*. London. RIBA Publications.
- Smith, M. K. 2003. *Communities of practice*, the encyclopedia of informal education, www.infed.org/biblio/communities_of_practice.htm. Accessed 10 July 2011.
- Wenger, E. 2006. Communities of practice. A brief introduction. June 2006. <http://www.wenger.com> Accessed 12 July 2011.
- Yudhi, F., Introduction to Facebook, <http://www.indometric.com/> 2010 in Benjamin, O. The effects of social networking on Nigerian Universities research works (a case study of University of Abuja), *Proceedings of EDULEARN11 Conference. 4-6 July 2011, Barcelona, Spain*.
- Zehner, R. 2008. Studio teaching in Australia, from art and architecture to urban design and planning. Unpublished paper presentation at the ACSP – AESOP Joint Congress, Chicago, Illinois, July 2008.

Short Biography

Jolanda Morkel is a senior lecturer in the Department of Architectural Technology in the Faculty of Informatics and Design at the Cape Peninsula University of Technology. The focus of her research and current doctoral studies in Design is the virtual learning environment for mastering conceptual design. She is investigating how emerging technologies may support the collaborative studio learning experience online.