A FRAMEWORK FOR SOCIAL NETWORKED ARCHITECTURAL EDUCATION

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Abstract. Students engage in Social Networks (SN) as a form of interaction with friends and tutors, as news or learning resource, to make their voices heard or to listen to other views and many more. Online SN work in close association with offline SN to form a blended social environment that greatly enables and enhances students’ learning. Some Schools of Architecture have struggled or failed to engage in the potential of SN or their respective University’s online Learning Management Systems (LMS). Despite efforts to facilitate blended learning environments or to engage students in problem-based learning activities architectural education often fails to tap into the rich resources that online social learning environments offers through their collective and social intelligence of its users. This paper proposes a framework for SN architectural education that provides opportunities for linking the academic LMS with private or professional SN such that it enhances the learning experience and deepens the knowledge of the students. The paper proposes ways of utilising SN supported learning environments in other areas of the curriculum and concludes with directions of how this framework can be employed in professional settings.

Keywords. Social networks; social learning; architectural curriculum.

1. Introduction

We argue that there may be a failure of Schools of Architecture to engage in the potential of Social Networks (SN) to enhance education. This is because they may treat the students’ online social experience as separate to their on-campus social learning experience. Despite efforts to facilitate blended learning environments or
to engage students in problem-based learning (PBL) activities, there appears to be untapped potential in relation to accessing the rich resources that a social learning environment offers through the collective and social intelligence of its members (Mason, 2012).

In the very recent past there have been various studies investigating the integration of Web 2.0 tools into learning within and outside of the discipline of the built environment. Wang et al. (2012) presents five core areas of application (using Web 2.0 demonstrates the capability for effective learning, skills learned via Web 2.0 can be transferred to other tasks and areas, limited research has compared learning in conventional E-Learning and Web 2.0 environments, E-Learning 2.0 enables social learning process to take place, and moving from eLearning 1.0 to E-Learning 2.0 requires a technological shift and a shift in the way knowledge is socially constructed & shared).

This paper addresses this issue and proposes a framework for social networked architectural education that provides opportunities for linking the academic with private or professional SN in such a way that it enhances the learning experience and deepens the knowledge of the students.

The focus of much research has been on the role of educational technologies to support, enhance and advance architectural education (Hirschberg, 2003; Gu et al., 2010). Since the initiation of digital technologies into the design studio and other areas of the academy, a complex ‘educational technology landscape map’ (Smithers, 2010) has evolved (Figure 1). We argue that educational technologies are contingent on, and indeed useless without, an understanding of the social aspects of the educational environment.

The paper focuses on social aspects of architectural education and draws upon previous research in the areas of the Social Networked Virtual Design Studio (SNVDS) (Ham and Schnabel, 2012) and Social Networked Construction Technology (SNCT) (Ham et al., 2012) teaching. The paper expands these to propose ways of utilising SN, their media and interaction platforms in other areas of the architectural curriculum, such as communications, history, theory and professional praxis. The framework outlines an open system of learning that utilises SN to crowd-source, flatten hierarchies, facilitate social engagement and peer learning and expands the learning experience beyond the academic context to include other institutions, practices and professions. Our framework can be employed in inter-professional environments and hence can contribute to academic and professional education.

2. Precedents in Social Network Integration

Key components in the framework for social networked architectural education are peer learning, sharing of knowledge, and flattening hierarchies through the use
of digital technologies. Significant precedents exist in these areas in research (Minocha, 2009; Rennie and Mason, 2008).

Over the past two decades the Virtual Design Studio (VDS) evolved as a learning environment that allows students in various locations to engage synchronously and asynchronously in design learning. VDS have facilitated collaboration across multiple boundaries and helped re-define the social and cultural contexts of the design studio. New technologies allow the VDS to evolve into new directions—some of which address shortcomings identified in past research. The VDS established virtuality as acting while physically distant, as acting by employing digital tools, or employing virtual instruments or other virtual components. Virtual Environments (VE) were established by the choice of design, way of communication or digital tools; later the VDS developed into real immersion within a VE, the medium for design interaction being the immersive VE Design Studio (VeDS).
In all these samples, (online) social interaction through the design interaction was important to the learning and engagement with the design. The social communication was enabled through chat windows, emails, blogs and posting sites, wikis and other online communication tools. However, these VDS did not recognise the social engagement as crucial or central to the overall process of construction of knowledge.

SN were first used in design, construction technology and inter-professional teaching as a means of engaging students in architectural education socially outside of the limitations of the University’s LMS. These limitations include the development of silos of knowledge, lost opportunities for students to engage with each other and industry sources and limited sharing of resources for design decision support (Ham, 2010).

The Social Networked Construction Technology unit (SNCT) comprises a logical formation of the evolving streams of 1:1 construction and resource creation for design decision support as a means of engaging students as ‘amateur researchers’ in a way that ensures ‘that student research work is worth more than course assessment’ (Burry et al., 1995). The construction of knowledge was brought together within a social network through engagement in online blogs, YouTubeTM and FacebookTM (FB). The SNCT is based on ‘authentic curricula…that allows students access to the real world of construction technology whilst utilising digital media and the Internet to enhance the process’ (Ham et al., 2012).

With the advent of Web 2.0 technologies, the next logical step was to develop the VDS was collaboration within a SN (Howe and Schnabel, 2009). Ease of communication, leadership opportunity, democratic interaction, teamwork, and the sense of community are some of the improved aspects that are offered by SN (Owen et al., 2006). Mitchell (1995) also refers to the need for an on-going evolution of the VDS towards a fully integrated studio where the borderlines between realms, professions, tools and mode of communications are dismantled. Subsequently the advancement of VDS moves design education beyond conventional boundaries and curricula, and engages participants socially from diverse professional fields.

The Social Network VDS (SNVDS) is subsequently the successor of the VDS and has operated over various design studio curricula since 2009 (Ham, 2010). The key to the SNVDS is engaging with the nomadic device generation whilst facilitating social engagement in the form of ‘casual interaction online, leading to casual interaction offline’ (Barkhuus and Tashiro, 2010). Through the encouragement of a flattened hierarchical structure between students and staff, the teacher’s role changes from ‘the sage on the stage to the guide on the side’ (King, 1993). These flattened hierarchies create opportunities for collective intelligence,
wherein opportunities for information can be shared among social groups, extending beyond the conventional studio setting. From collective intelligence comes collective social intelligence that relates to both the current design project as well as knowledge in the relevant fields. The SNVDS differs from traditional model of delivery in that the students themselves became the primary contributor to skills, content, and knowledge required for the design project (Ham and Schnabel, 2012). It also differs from conventional PBL due to the difference of scaffolding and problem framing (Howe and Schnabel, 2012).

3. Models of Social Network Interaction at University

SN are defined as a ‘theoretical construct useful in the social sciences to study relationships between individuals, groups (and) organizations’ (http://en.wikipedia.org/wiki/Social_network). They form the core of the student University experience and, we argue, are secondary to elements of the educational technology map by Smithers (2010).

We identify and focus on four modes of SN related to the University experience; social-physical networks (SP), social-digital networks (SD), learning-physical networks (LP) and learning-digital networks (LD). These social network modes exist concurrently and intermesh with each other synergistically throughout the student University experience.

Social-Physical networks take the form of social groups of family and friends centred outside of the University environment. These may comprise of immediate and distant family groups, as well as school and work friends. The basis of these networks is normal face-to-face human interactions between the student and other people.

Social-Digital (SD) networks extend social-physical networks into the online environment through a wide range of channels including Facebook™ (friends, ‘likes’, groups, etc.), Google+™, Twitter™, Tumblr™, YouTube™, and Blogs.

Learning-Physical (LP) networks are networks of friends, class mates, group-work colleagues, teachers and others connected to each other within the on-campus University learning environment. The University learning experience forms the basis of these networks through shared design studios, classes, group project work and extra-curricular activities.

Learning Digital (LD) networks are digital networks set up within the University environment for the express purpose of facilitating and enhancing teaching and learning. These are generally centred around some form of Learning Management System (LMS) such as BlackBoard™, Desire2Learn™ and Moodle™ but also include online learning resources such as web sites and other digital aides to teaching and learning.
Direct synergies occur between SP and SD networks, where a complex series of face-to-face interactions take place, are enhanced by or facilitated by SD networks. The SD network acts as an extension of both the SP and LP networks, thus lines between digital and physical, social and learning networks become blurred. Concurrently, students engage in digital SN to create and extend forms of social interaction with friends, as a news service, to make their voices heard and as a form of entertainment. Online SN work in close association with offline SN to form a blended social environment that greatly enhances students’ University experience. The blended learning, here, represents a blending of social experiences as well as a blending of educational technologies.

In the current model of social network interaction (Figure 2), interactions between SP, SD, LP and LD networks can be conceptually represented with the student at the centre. Interactions between SP, SD and LP networks are strong, as are interactions between LP and LD networks.

The University has however, through the focus on the corporate LMS, created a barrier between the LD network and SP and SD networks. Barriers exist because of the typical ‘paying students only’ access to the LMS, separate course and unit structure and the reinforcement of learning silos (Alexander, 2006) nature of the LMS disallowing linkage between units thus creating or enhancing knowledge silos between subject areas and elements of the University learning experience (Figure 3).

To compound these problems, some Universities have failed to engage in the potential of SD networks as an important channel of two-way communication between staff, students and others (including the Industry). Failure to engage takes the form of non-engagement or improper engagement in digital SN. Schools of Architecture have set up Facebook-sites as a unidirectional means of communication.

![Figure 2. Current models of Social Networks Interaction at University.](image-url)
of news; however this mode of social media use is based on the assumed need to control communication and simply replicates the capacities of a website.

In our experience, the University’s enforcement of the LMS and email as the sole means of LD networking is firmly entrenched. Pressures of increasing student numbers, shortened preparation times between trimesters and other factors provide a disincentive to engage in the potential of bringing together the SD and LD networks (Schnabel and Ham, 2011). We believe that this does not meet the needs or aspirations of social-media savvy students engaged in the learning experience (Robbins-Bell, 2008).

4. A Framework for Social Networked Design Education

We anticipate the re-conceptualisation of the current model of SN integration at University to increase linkages between the SP, LP, SD and LD networks. This is achieved by developing a student-centred approach that attempts to break down the barrier between the University LMS and other aspects of the students’ SN and integrates social networking to the core of the curriculum (Figure 4).

Any reconceptualization of the role of social networking in the learning experience can be achieved through “Just in Place” learning systems (JPL) (Punnen, 2010). These are ‘composed of virtual information layered on top of physical artefacts and made available through different social media outlets/technologies. JPL brings together ubiquitous and calm computing models (Weiser and Brown, 1996), social and immersive media (Shirky, 2009; Snibbe and Raffle, 2009), and situated technologies (Shepard, 2009) in a way that friendship-driven networks and interest-driven networks intersect.
Thus, information can now be pulled from various sources and consumed and produced asynchronously and/or synchronously in a chosen place and/or time. In addition, new smart mobile technologies also mean that we now have the ability to retrieve (and expect) just in time, and just in place information’ (Riel, 2000).

Through re-positioning the SP, LP, SD and LD networks through JPL, a framework can be developed based on the evolution of a ‘Social Learning Cloud’ (SLC). Here, the silos of the LMS-driven curriculum are set aside through the integration of the concurrent learning streams in the curriculum. Through active engagement in multiple SN, learning becomes a two-way experience: students act as both learners and researchers contributing to the body of knowledge in a way that ‘that student research work is worth more than course assessment’ (Burry et al., 1995). Figure 5
shows how a SNC enabled learning environment facilitates seamless learning between the rigour of various units or years and the construction of knowledge in a larger context. SNC enables life-long learning and authentic learning experiences, because content, participants and other (outside) sources form the network that has no boundaries of a specific course or subject.

5. Conclusion

We present a framework for SN engaged learning as a form of interaction with peers, friends and teachers, as learning environment. A SNC system forms herby the core of a blended environment that intersects between on- and offline learning as well as blends between the boundaries of individual units, courses, years and the lifelong learning in authentic contexts, subsequently greatly enabling and enhancing students’ learning experiences. The positive experience we gained within the curriculum of the architectural degree we propose to transfer this framework to other disciplines, which lays in the nature of SN acting independent of core-subjects or academic or professional realms. LMS, blogs or interest groups have failed since they don’t offer seamless interaction, from the individual to the network and only act as point to point or point to group communication. Hence SNC facilitate ‘cloud learning’ – the interaction of particles within cloud; flow – the seamless acquisition of knowledge; synchronous and asynchronous learning modes – enabling of JTL; ‘knowing is there’ and ‘knowing it’ – both access to knowledge and deep learning; and identity – the need of learners to belong to an environment that matches the level, skills and communication of the individuals.

References


