

# FROM CMS TO SNS: EDUCATIONAL NETWORKING FOR URBAN TEACHERS

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## Abstract

A complex view of the socioeconomic digital divide in urban schools requires us to address not only the gaps in access to technology, but also inequities in access to human support, digital content, and *effective pedagogical* approaches to technology integration. This study explored the use of social networking site (SNS) as a platform to provide a supportive human and social infrastructure in an urban educational context. The use of SNS was compared with the mainstream course management system (CMS) by urban teachers in terms of the *education*, *esthetic*, *escapist*, and *entertainment* aspects of their learning experience. The study results suggested a high degree of learner engagement in all four aspects of participants' use of SNS, whereas the esthetic and entertainment realms of experience were found to be the weakest components of the mainstream CMS. These findings contribute to current understanding of repurposing popular open source technologies for teaching and learning in socioeconomically disadvantaged urban schools.

**Keywords:** Course management system (CMS), social networking site (SNS), urban teachers, digital divide, experience design.

With the increasing globalization and digitalization of higher education, we have a tremendous responsibility to open up broader education options for our students and the communities we serve. Effective implementation of e-learning plays a critical role in this regard. There are many significant advantages of e-learning, such as flexible self-paced learning, 24/7 on-demand accessibility, reduction of travel time and costs, etc. These advantages are important during the current time of decreased funding faced by educational institutions, especially for those in urban settings that have limited resources.

To date, most institutions of higher education have implemented a course management system (CMS) as the vehicle for online delivery. With the rising cost of CMS and several recent reports (e.g., OECD, 2005; Morgan, 2003) questioning its pedagogical impact, many institutions have begun to explore affordable and pedagogically effective alternatives. At the same time, the emergence of new Internet applications, known as Web 2.0, has provided a major impetus for innovative e-learning solutions. Collectively, Web 2.0 reflects a new trend of using the Web as a

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platform for participation (user-generated content), harnessing collective intelligence, and rich user experiences (Jaokar, 2007; O'Reilly, 2005). This trend supports a social constructivist approach to e-learning and thus is different from the traditional use of CMS primarily for administrative and course management purposes.

This study explored the use of a popular type of Web 2.0 platform, known as social networking site (SNS), as an educational networking tool by urban teachers. Most of these teachers work in the inner-city schools of Los Angeles, where the challenges of first-order barriers (access to technology, infrastructure support) and second-order barriers (perceptions and attitudes toward technology, motivation to integrate technology) that impede successful technology integration in an urban classroom have been reported (Javeri & Chen, 2006). Gorski (2005) pointed out that the problem of the digital divide must not only be seen in terms of access to technology. It must also be understood in terms of inequities in access to progressive pedagogy, encourage and support, digital resources, and a welcoming cyberculture. For these reasons, this study explored the use of SNS as a way to provide a supportive human and social infrastructure in an urban educational context.

## Theoretical Framework and Related Research

### CMS vs. SNS

A large-scale survey conducted by the University of Wisconsin System (UWS) to investigate how faculty members use CMSs reported that they use them primarily as an administrative tool, and there is little evidence found to support the impact of CMSs on pedagogy (Morgan, 2003). Milligan (2006) described the traditional CMS as "a conservative technology" whose primary function is to support content delivery and class management, while the needs of students are secondary to its purpose. Mott (2010) cautioned that the traditional CMS has become "a symbol of the higher learning status quo" and noted that many students and teachers have turned to the Web "for tools that support their everyday communication, productivity, and collaboration needs." These findings are disappointing given the high cost of CMS implementation.

As the traditional CMSs are not well suited for social constructivist learning activities, Dalsgaard (2006) urged educators to engage students in active use of new "social software." Web 2.0 platforms like blogs, wikis, and social networks appeared to fit well into the social constructivist paradigm due to their *collaborative, interactive, and participatory nature*. A notable new trend is the creation of a *Personal Learning Environment* (PLE), in which the learners use a set of Web 2.0 tools customized to their individual needs and preferences within a single learning environment (Milligan, 2006). In comparison with CMS, PLE provides greater flexibility and adaptability to the learners. Yet, the integration of multiple tools can be complex and difficult for inexperienced students and faculty members (Mott, 2010). Moreover, such integration does not typically offer rich media integration as seen in some social network sites (Annetta, 2008). As an evolving technology, many SNSs are increasingly sophisticated and have been used innovatively by educational institutions as a teaching and learning tool.

## Social Constructivist E-Learning Environments

Based on the theories of situated cognition, community of practice, and cognitive apprenticeship (e.g., Brown, Collins, & Duguid, 1989; Collins, Brown, & Holum, 1991; Lave & Wenger, 1992; Brown & Duguid, 2000), design principles for social constructivist e-learning environments can be summarized as (1) learning is demand driven and an identify formation, (2) learning is a social act, (3) learning is embedded in rich cultural and social contexts, (4) learning is reflective and metacognitive, internalizing from social to the individual, and (5) learning is to transfer knowledge from one situation to another, discovering relational and associated meanings in concepts (Hung, 2001). Studies related to social constructivist e-learning environments suggest that social interaction is essential to provide a sense of belonging in online learning communities (e.g. Thurston 2005; Rovai 2000; Rovai & Wighting 2005). According to Baumeister and Leary (1995), the need to belong is an innate human desire to establish and maintain social bonds with others.

Two related concepts, *social presence* and *social space*, have been studied and linked to sociologist Ray Oldenburg's (1997) concept of a *third place* such as coffee house and community center where people actively connect, converse, and form communities. Digital communities, especially formed through participatory social media, are analogous to a physical third place as they tend to be highly interactive and enable participants to "experience emotional connections and intellectual engagement that are quite real" (Ohler, 2011, p. 42). Webster's Online Dictionary defines participation as "the state of being related to a larger whole." This definition fits well with the fundamental concept behind modern SNSs and how they have been used.

## Experience Design for an Urban Context

Recent studies have explored the feasibility of integrating SNSs into higher education courses (e.g., Holcomb, Brady, & Smith, 2010; Ophus & Abbitt, 2009). This study builds on this line of research by taking a specific look at urban teachers' perceptions of using the social networking platform as a learning tool. Most teacher participants in this study worked in low-income urban schools. Gorski (2005) cautioned that attempts to address the digital divide often replicate existing inequities in education. Thus, a complex view of the socioeconomic digital divide requires us to address at least three gaps: (1) access to technology, (2) access to pedagogically sound ways to incorporate technology, and (3) access to relevant digital content. This understanding is important as teachers in low-income schools tend to have less resources, training, and support to develop skills and confidence with the technology and use it in pedagogically sophisticated ways. Moreover, because most teacher participants in this study worked full-time while pursuing a master's degree in education, they were limited in their time and energy to engage in intensive graduate-level coursework. Hence, the use of SNS in this context was intended to: (1) provide academic and social support to urban teachers, (2) encourage sharing of digital resources, and (3) model *effective* uses of readily available Web 2.0 technology that can be integrated into urban schools.

To understand participants' experiences, this study draws upon Pine and Gilmore's (1999) experiential framework, which encompasses four experience realms (1) *esthetic* – design that provides an inviting, interesting, and comfortable environment, (2) *escapist* – design that

focuses on immersive, highly participatory activities, (3) *educational* – design that promotes active learning and exploration, and (4) *entertainment* – design that allows fun and enjoyment for sustaining learner attention and motivation (see Chen, 2010, for a comprehensive review of the theory and practice of experience design). This study was guided by the following two research questions: 1) In comparison with the mainstream CMS, how is the nature of learning experience within the realms of education, esthetic, escapist, and entertainment affected by the use of social networking technology in an urban academic setting? and 2) What specific features or tools that appear to harnesses the educational value of social networking as perceived by urban teachers?

## Methods

### Instructional Context

This study was conducted in a state university located in the heart of metropolitan Los Angeles. Participants of this study were enrolled in two graduate-level courses focusing on instructional media and technology. The courses were delivered in a blended format over 11 weeks (6 online and 5 on-campus). Blackboard was used as the CMS in conjunction with a networking platform called Ning. Ning was chosen due to its user friendly interface and “e-safe” features, which enable the creation of a private network. It has many similar features found in other SNSs such as comment walls, friends, photo and video sharing, and yet it provides a smaller and more private group setting (Holcomb, Brady, & Smith, 2010). At the time of the study, Ning was free but it phased out its free services since the summer of 2010.

The Blackboard CMS was used for the overall course structure so the weekly modules, assignment descriptions, and course materials were housed in it. Communications such as e-mail, discussions, chat, and sharing of student papers and projects were conducted both in Ning and Blackboard (see Figure 1). The weekly course modules were carefully structured to make it easier for students to alternate between Ning and Blackboard.

Figure 1.

#### *Features used in Blackboard and Ning*

<b>Blackboard</b>	<b>Ning</b>
<ul style="list-style-type: none"> <li>• Weekly course modules</li> <li>• Announcements</li> <li>• Forum</li> <li>• Email</li> <li>• Chat</li> <li>• Project examples</li> </ul>	<ul style="list-style-type: none"> <li>• Forum</li> <li>• Email</li> <li>• Chat</li> <li>• Blog</li> <li>• Personal space</li> <li>• Photo and video sharing</li> <li>• Group</li> <li>• Recent activities</li> <li>• Comment wall</li> </ul>

## Participants

Twenty-six students (14 males and 12 females) voluntarily participated in this study. Their ages ranged from 20 to 54; most (62%) were between the ages of 25 and 34. There were 11 Hispanics, 8 Asian Americans, 5 Caucasians, and 2 African Americans. Their years of work experience ranged from 30 -0 years, including 15 in-service teachers, 9 pre-service teachers, one Liberian, and one college professor. Except the college professor, all of them were pursuing a master's degree in *Computer Education and Technology Leadership* and planning to become technology leaders in their schools or school districts.

All participants were experienced Blackboard users and eight of them had used a different CMS such as *Moodle*. Sixty-two percent of the participants rated themselves high in technology skills; the rest of participants rated themselves as having average skills. Most of the participants (85%) were a member of one or more social networks, e.g., *Facebook*, but only 27% used their favorite social network on a daily basis. Forty-six percent of the participants used their favorite social network weekly; 15% of them used it less than once a week; and 15% reported not belonging to any social networks at all.

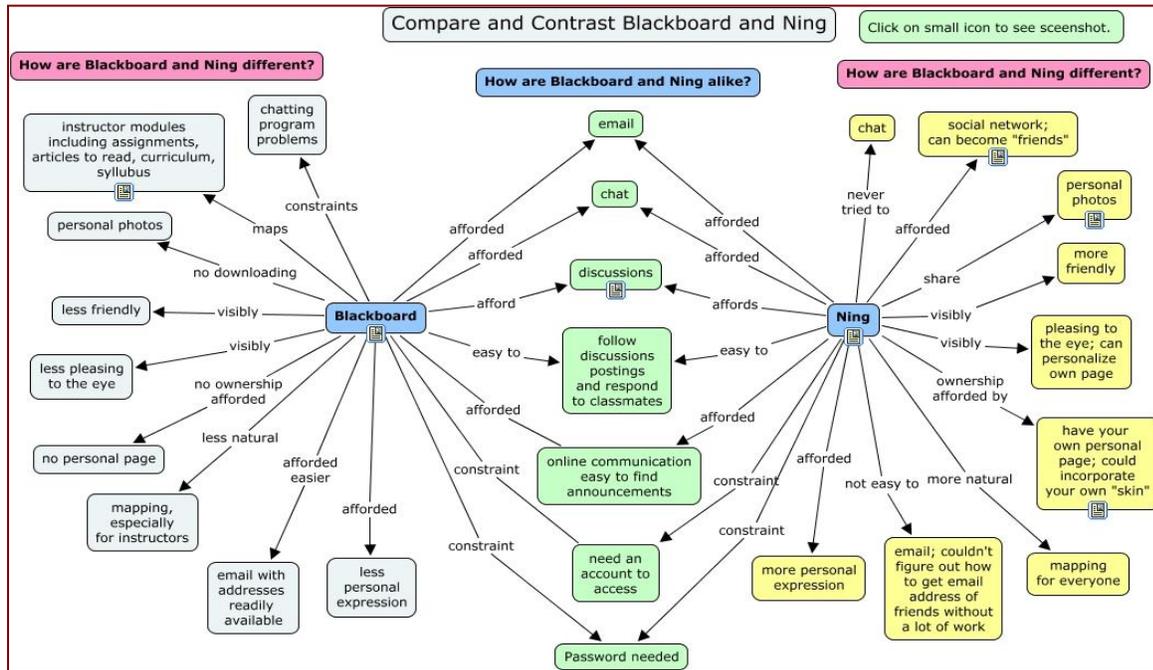
## Data Sources and Analysis

This study is a descriptive case study (Yin, 2003). Based on the sources of evidence recommended by Yin, this study collected various data sources, including (1) archival records: e.g., discussion board messages, chatroom histories, email records, comment wall messages, and student profiles/personal pages, (2) interviews and observations, (3) survey, and (4) artifacts (reflections and visual representations). Observations of online dynamics along with informal discussions with the participants were carried out throughout the research period by the researcher, who is also the course instructor. At the end of the course, participants completed a CMS vs. Ning survey. Based on Pine and Gilmore's experiential framework (1999) and Csikszentmihalyi's (1990) theory of optimal flow, the survey was modified from Yuen (2008) and was administrated electronically. In-depth interviews with a sample of participants (n=6) were conducted to verify data and interpretations obtained from other methods. Finally, participants were asked to submit a written reflection accompanied by a visual representation to express their viewpoints (see Figure 2 for an example).

Data were analyzed to identify common themes, patterns, similarities and differences among participants' viewpoints. Participants' experiences were analyzed in terms of their *perceived enjoyment, concentration, control, exploration, and challenge* in relation to the four realms of experience, *education, esthetic, escapist, and entertainment*. Various data sources allowed the researcher (also the instructor) to triangulate observations and interpretations of findings. Member checking was employed in the form of ongoing email discussions and clarifications between the researcher and research participants.

Figure 2.

*An Example of Visual Representation of Blackboard vs. Ning Created by a Participant.*



## Results

A majority of the participants (81%) responded positively (4 and above) to Ning while 38% also responded favorably to Blackboard. Most of the participants (74%) affirmed the value of Ning in promoting peer interaction and knowledge sharing; 81% indicated that they will become more actively involved in courses that use social networking; 85% indicated that they like to see more social networking class sites used in other classes.

To understand the salient aspects of participants' perceptions within the four experience realms (esthetic, escapist, educational, entertainment), the median responses to related items were calculated and then positively (4 and above) as well as negatively (2 and below) rated items were examined (see Table 1).

As shown in Table 1, participants had a higher median rating for Ning on all items related to the four realms of experience. Their responses toward Blackboard were more moderate. The lowest rated items (median score = 2) reflected participants' perceived low enjoyment in the escapist and entertainment realms of Blackboard. Student comments confirmed these findings, as shown in Figure 3.

Table 2.

*Median Responses of Participant Perceptions toward Ning and Blackboard*

	<u>Median</u>	
	Ning	Blackboard
<i>Esthetic</i>		
• provides an inviting, interesting, and comfortable environment	4	3
• allows me to personalize pages to express individuality and creativity	4	2
• gives me a sense of belonging	4	3
<i>Escapist /Motivation</i>		
• allows immersive, highly participatory activities or interactions	4	3
• sustains my motivation and attention in learning	4	3
• gives me greater control and flexibility over my learning	4	3
<i>Educational</i>		
• promotes active learning and exploration	4	3
• fits into my learning style	4	3
<i>Entertainment</i>		
• allows fun and enjoyment in learning	4	2

High ratings:  $\geq 4$ ; low ratings:  $\leq 2$  (1=Strongly Disagree, 5= Strongly Agree).

Questions regarding specific utilities that appear to harness the educational value of social networking, participants largely favored the use of blog (89%), following by chat (63%), group (63%), forum (59%), photo (48%), video (44%), and members' pages (44%).

### Discussion

The study results suggested a high degree of learner engagement in all four realms of experience in urban teachers' use of social networking technology as an educational tool. The esthetic and entertainment realms of experience were perceived by the teacher participants as the weakest aspects of the mainstream CMS. The findings are consistent with those of previous research on human-computer interaction (e.g., Webster, Trevino, & Ryan, 1993), suggesting that learner engagement is positively correlated with the computer users' perceived flexibility and modifiability of the software. Participants felt more engaged in Ning as the system allowed them to express their individuality and creativity through modifying their online space. This contributed to a stronger sense of belonging in the Ning environment.

Figure 3.

*Examples of Participant Comments Pertaining to the Four Experience Realms.*

**Esthetic – design that provides an inviting, interesting, and comfortable environment**

- Ning afford a friendly atmosphere giving opportunities to upload photos, videos, build a personal page in which you may choose your own design.
- Ning rates very high on esthetics as compared to the more sterile environment of Blackboard.
- For Ning, I've seen peers upload photos that always make me smile and get to know them better.
- Blackboard is more of a one size fits all model.
- Ning allows you to modify it and make changes to fit each individual style. These processes are what give each person a sense of belonging within a network or group.

**Escapist – design that focuses on immersive, highly participatory activities**

- I feel Ning users can immerse themselves and participate in activities more easily than they would in Blackboard.
- Ning is geared for users to post text or pictures.
- Blackboard does its job if all you want to do is inform, but it doesn't "invite" the user in.
- Blackboard is more of a simple tool that allows for communication without much interaction.
- Ning has features that allow users to respond to each other quickly and visibly. Responses and updates by time on the home page and personal page.
- With using Ning, collaboration is possible. We can become highly involved in discussions whether they are synchronous or asynchronous.
- Ning was meant to be more of an inviting social network...which invites more users to post.

**Educational – design that promotes active learning and exploration**

- Ning was like a learning community and every student can contribute.
- Member of a Ning site often leave interesting and valuable ideas and web links in which to explore and extend my own learning on a topic.
- Ning provides more opportunities for ongoing and continuous collaboration.
- Ning can serve as a powerful learning community... allows students to interact with each other academically while freeing from the constraints of typical "boring" learning situation.
- [Ning] allows you to become friends with other members and make interest groups where group member can share ideas and resources with one another.

**Entertainment – design that allows fun and enjoyment for sustaining learner attention and motivation.**

- There is nothing enjoyable or immersive when accessing a course in Blackboard since the bland interface looks like it is from the 90's.
- Ning provides a much more fun way to interact and get to know peers.
- I feel that by the simple fact of allowing the user to make profile changes and being able to modify some setting [in Ning] the experience becomes more enjoyable.
- With fast internet connections available...it makes navigating to and accessing Ning much more fun and easy.

- Ning is more entertaining than Blackboard since it is geared for users' input...

The demand to provide alternative platforms to support the social process of learning in online environments is increasingly higher as today's students are accustomed to the use of social media. From an esthetic point of view, Ning was perceived as "artistic, inviting, fun, colorful and personal," whereas Blackboard was seen as "plain, structured, and organized." From an escapist point of view, Ning encompassed many features of a rich digital ecology where "learning, working, and playing co-mingle" (Brown, 2000). From an entertainment point of view, the rich environment allowed participants to infuse "playfulness" into the learning process, as evident in this comment: "Ning is definitely a more entertaining learning tool. The fun layouts and pictures move away from the traditional learning standards and more into the popular social site trend." From an educational point of view, the participatory nature of Ning made it easy for participants to form digital communities and to maintain "an ongoing scrapbook of resources" (Ohler, 2010, p. 42) that were consistently updated by all participants. As a result, it provided both academic and social support for the learners.

It is important to note that students will not engage in using CMS for coursework if they perceive using CMS to be less effective than using other means to communicate with classmates and instructors (Korchmaros & Gump, 2009). The four kinds of virtual space described by Hall (1966) have important implications for the design of next generation CMS: intimate, personal, social, and public. The sense of space is important in participants' online encounters, as indicated by the following excerpt:

*If Ning invited me to dinner ... I would take one look at the design of his "house" (site), and readily feel comfortable. Ning has lots of roommates and opportunities to chill out, look at photos and videos, chat or discuss the latest in the news in a casual relaxed feeling setting.*

*If Blackboard invited me to dinner ... I would again peek inside his "house" site, and 2<sup>nd</sup> guess if I really wanted to join him. His house seems a bit cold and sterile, nothing that says it's his. Basically the same colors in every room. So I'd wonder if he has an imagination or if he has friends that come over. I end up going to dinner and end up feeling a general sense of disinterest ... but it's a new friend, so I make an effort and learn more about him.*

Pine and Gilmore (1999) suggested that the richest experiences should include some aspects of all four realms, and one challenge would be to find the balance for each type of experience. It should be noted that the goal of experience design is to engage rather than entertain. While the escapist and entertainment aspects of SNS may be desirable to sustain learner motivation, they may also lead to over-involvement and counterproductive outcomes for some learners. For some participants, the standard Blackboard CMS "works for its purpose, education" and the integration of multiple platforms could be potentially overwhelming. Thus, the learning environments and activities must be carefully structured in the integration of CMS and SNS.

## Conclusions

This study contributes to current understanding of repurposing a popular social networking technology for teaching and learning (Ophus & Abbitt, 2009). It *builds on previous* findings by focusing more specifically on urban teachers' experiences. The inequity in technological resources has a significant effect on urban students' future lives (Javeri & Chen 2006). Any attempts to address digital inequities must simultaneously address inequitable pedagogical approaches to technology integration in urban contexts (Gorski, 2005). At the same time, we need to explore creatively and demonstrate effectively the use of open source digital tools and resources as we prepare urban teachers to take on the leadership role in their professional community.

The integration of interactive social software in this study provided a welcoming platform to support urban teachers both socially and intellectually. While the generalization of this study is limited due to the sample size, the results of this study help us better understand the needs of urban teachers and their perceived value of educational networking in urban contexts. Future research is needed to explore how we might harness the power of new media to effectively engage urban learners in each realm of experience (education, esthetic, escapist, and entertainment), especially in relation to the four kinds of virtual space (intimate, personal, social, and public).

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