

Survey of the Current Use of Social Networking in Construction Education

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Over the past decade, web access and contexts for learning have transformed. Internet access in homes, schools and communities has become increasingly available which lead to an emergence of a new digital landscape that fundamentally changed both current and future students in colleges and universities across the world. Students today have around the clock access to a wealth of information to invest and discover new knowledge.

Individuals walking around school campuses often see today's students engaged with technology such as smart phones and laptops for both social and educational purposes. With this in mind, educators must be more than information experts. They need to be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students. This level of engagement requires the use of technology and access to an extended social network that would benefit adults and peers.

This study examines construction faculty perceptions on using social networking in construction education as a tool to improve students' performance and learning experience. The authors conducted a survey to obtain the faculty's perspective about the available features and their impact on students' education.

Key Words: Social Media, Communication, Construction Faculty

Introduction

Individuals walking around school campuses often see today's students engaged with technology such as smart phones and laptops for both social and educational purposes. Higher-education students have been classified as 21st century learner who: are digitally literate and mobile, assume computers are part of the life experience, want to be challenged to reach their own conclusions, and need practical applications in real-world contexts (Rodgers, et al., 2006). A new generation of learners has entered college armed with an understanding of technology that prepares them to have a greater control over their own learning (Bonk, 2009). Students today have around-the-clock access to a wealth of information, and will use their technology resources to create and discover new knowledge. Gumpert and Chun (2005) note that technology plays a role in the evolution of educational processes within higher education.

A 2010 report from the U.S. Department of Education reports that our educational system needs to leverage the learning sciences and modern technology in order to create meaningful learning experiences that mirror students' daily lives and the reality of their futures. The report stated that to accomplish this, schools must be more than information factories. They must be incubators of exploration and invention while educators must be more than information experts. They need to be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students. This level of engagement requires the use of technology and access to an extended social network of adults and peers (Bonk, 2009; Greenhow et al., 2009).

In an effort to enhance the quality of learning experiences, educators have begun to adopt a blended learning approach. Numerous models of blended learning are designed to integrate face-to-face and online learning to recapture the traditional values of higher education while meeting the demands and needs of the 21st century (Garrison & Vaughan, 2008). The implementation of e-lessons is an emerging area in both higher education and

related scholarly research. Both students and instructors have found e-lessons preferable for their low cost, smaller environmental footprint, and portability (Chen, et al., 2011).

College faculty members have the ability to use many different instructional aides in order to provide instruction to the students. Instructional aides have varied widely and have grown and progressed with increased technology. In teaching and education, communication between the instructor and the student is a key part of student success. Students are among the largest demographic of people using social networking to communicate. This study utilizes the perceptions of faculty of construction management programs to assess the value of social networking as a tool for improving the learning experience for students. The study will focus specifically on faculty members' use of social media websites.

Background

More than a decade ago, Hartley & Bendixen, 2001 identified opportunities and learning practices through the incorporation of the World Wide Web as an educational tool in classrooms. Over the past 10 years, web access, nature of the web, and contexts for learning have transformed. Desired technical professional skills for learners, teachers, and administrators have emerged (Greenhow et al., 2009). Internet access in homes, schools and communities has become increasingly available. Recent national surveys report the majority of teenagers go online daily or several times a day, mostly from home (Pew/Internet and American Life Project, 2008).

The frequent usage of social networking sites offers a unique new teaching opportunity to instructors. Because many students are familiar with these programs and the technology involved, instructors can utilize the communication tools in these programs to engage students in a manner comfortable and enjoyable to them. Instructors can utilize these resources to prompt out-of-class discussions and post announcements for students. These technologies offer students a real world example to draw from during discussions on information credibility and online resources. Emerging sites like wikis and social networking sites are being explored by educators and may also offer new avenues to take the classroom outside of the classroom (Rhoades et al., 2008). Actually students spend a significant amount of time interacting on social networking sites that offer a dynamic and unthreatening environment for students to communicate not only with the instructor or a small study group but also with all other students in the course (Schroeder et al., 2009). In fact a study performed by (Junco et al., 2007) demonstrate the popularity of technology use by today's college students. They surveyed over 7700 students at seven institutions and over 75% of respondents in the study reported using some type of instant messaging program (IM). The authors state that 15% of the students in the study were logged on to an IM system, 24 hours per day, 7 days a week.

Bonk and Zhang (2008) state there are four good reasons to incorporate instant messaging or texting into courses. First, there is an increased sense of awareness that others in your course are online and might be available for consultation or support. Second, there is immediate feedback and rapid responsiveness, also known as instructional immediacy that occurs. Third, such tools are easy and convenient to use. The fourth reason is the similarity to having a conversation with someone and individuals can participate in an IM while completing other tasks.

Batson (2010) a proponent of online education using social networking, talks about the benefit of this new approach to learning saying that the learning experiences often involve conversation, a process, and this conversation can include teachers and others with knowledge in their field. The skills students gain in the process are those they need to join a wider community and succeed in today's economy. Colleges and universities need to do more to incorporate social software into their courses and methodologies. The extension of the learning conversation online (with blogs, wikis, email, texting, chat, conferencing systems, portfolios, and so on) helps students develop online literacy skills. Though it is dependent on technology, it represents a return to the roots of human learning

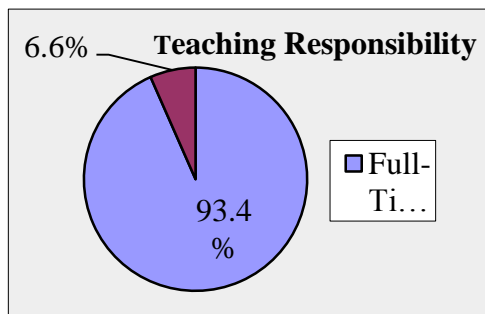
Methodology

The population for the demographic survey portion of this study included all full-time and part-time faculty from construction management programs that are members of the Associated Schools of Construction (ASC). Emails were sent to the all ASC webserv list representing all schools that are member of the Associated Schools of Construction. The survey contained four sections. Section one contained basic demographic questions. Section two investigated faculty technology familiarization and use. Section three examined the instructional use of social

networking site or tool. Section four contained questions on faculty perspective on instructional use of social networking sites to improve students' learning.

Demographics

Research Questions 2, 3, and 4 examined the profile of the participants allowing the reader additional information regarding the proportion/break-down of the demographic survey participants as highlighted in Figure 1. Each of the demographic survey questions was valid for one or more reasons. But the main purpose was to provide a richer descriptive background of the participants. 98 participants started the survey 87 completed it. The demographic survey instrument received approval from Michigan State University Institutional Review Board (IRB) prior to being administered. Survey recipients received appropriate IRB verbiage that explained their rights including the right to stop at any time during the survey. Recipients electing to respond did so by completing the secured online survey using Survey Monkey. The majority of the participants in the study were male with a total of 77.7% compared to female participations 22.3% of the demographic sample.



Age	Percentage
<30	2.2
30-39	30.4
40-49	26.1
50-59	22.8
>60	18.5

Figure 1: Profile of the Participant

Technology Familiarization and Use

The set of questions under this section asked for details on online teaching experience, mass emailing students, text messaging and faculty status, related to faculty using or not social networks. These questions are valid for determining whether or not participants have technical skills or knowledge with regard to developing or maintaining a presence on the Internet. Only 20.9% of participants are teaching a course online. The next set of questions dealt with sending messages electronically to students in the form of email and the frequency of any such email transmissions. The questions gave an indication of the usage of technology to communicate with students. Almost 99% of faculty send emails directly to students out of which 61.7% send emails 1 or 2 times a week, and only 22.3% send emails 3 to 10 times a week.

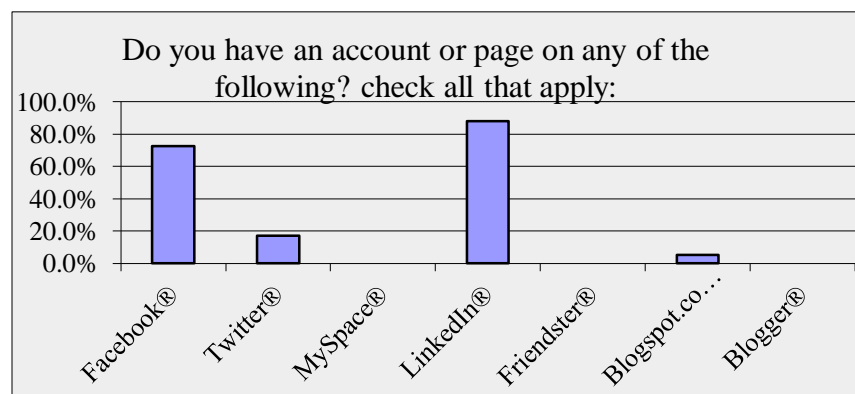


Figure 2: Multiple Social Networks

The data in figure 2 offers detail on the usage of multiple social networks by the participants depicting that LinkedIn is ranked number one (88.2%) followed by Facebook (72.4%) and Twitter (17.1%).

The next question addresses communication with students and introduces the possibility that there are multiple ways of communicating with students. The data in figure 3 gives details on the application of use of social networking with students. Even with the wide variety of social network available these days, conventional ones (email, phone calls, and text messaging respectively) still rank among the most used.

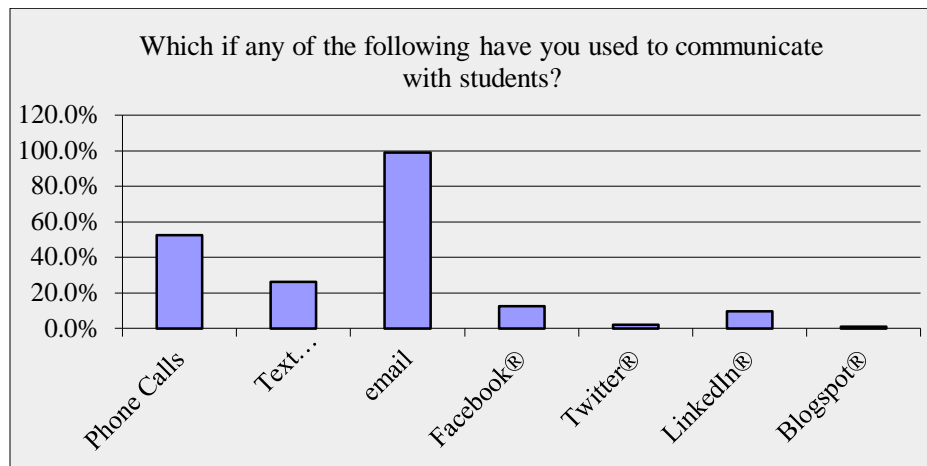


Figure 3: Means to Communicate with Students

Instructional Use of Social Networking Site(s) or Tool(s)

The next set of questions narrow down participants to social networking pages on the internet whether personal or professional. These questions will help focus on the goal of the paper. If participants have the pages, might they be using them to communicate with students? The question was in an unstructured response format so that participants could select other and then provide an alternate answer not already listed. From the previous sections, the authors were able to establish that Facebook and LinkedIn were the most popular social networks that are used by participants. Participants added in this section their usage of campus teaching website as a social network tool. The summary of the findings from the questionnaires are summarized in table 1. Table 1 list the most frequent answers for each question. The majority agreed that LinkedIn is used for professional setting and Facebook is used for social setting. What was interesting is that a lot of participants were not impacted by the advanced of social network to change their approach to teaching. On the other hand, some of them felt that social network sites are invasion of privacy.

Table 1

Instructional Use of Social Networking Sites

Advantage of the tools used	Dis-Advantage of the tools used	How social network is helping you as an instructor?	How does social network benefit your students?	How has social network change your approach to teaching?
Easy & quick communication	Time consuming	Create a discussion forum	Always informed about the class	Real time learning
Instant messaging	Maintaining up to date information	Stay connected to students	Availability & Networking	Be more interactive with students
Well known to everyone	Lot of information at a time	Makes faculty more available	Improve communication	Get the attention of students
	Privacy			Most of them believe it didn't have an impact

Perspective on the Instructional Use of Social Networking Site(s) to Improve the Learning

The last section of the survey was to get the faculty perspective on instructional use of social networking to improve students learning. The questions were grouped into multiple tables based on different categories of interest (table 2-7). Participants shared a common ground on the impact of social networking sites on students' learning by being neutral (between 40~50%). The only exception to that was noted in the connectivity of students to each other's. In this case the percentage of agreement was 68.3%. When it comes to impact of the use of social networking sites on students' future choices, group performance, and critical skills participants tend to be agreeing more than disagreeing on the impact of social networking. On the other hand when it comes to critical thinking and professional ethics participants tend to be disagreeing on the impact of social networking on students' learning. When it comes to managerial skills, participants had mixed feeling based on the question asked

Table 2

Impact of Social Networking Sites on Professional Ethics

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Enhance student professionalism/work ethics skills	8.4%	14.5%	39.8%	25.3%	12.0%
2) Enhance student ability to demonstrate personal accountability such as punctuality	3.7%	20.7%	43.9%	19.5%	12.2%
3) Enhance student ability to demonstrate effective work habits such as working productively with others	4.9%	19.5%	50.0%	17.1%	8.5%
4) Enhance student ability to demonstrate effective work habits such as time management	6.2%	8.6%	49.4%	24.7%	11.1%
5) Enhance student ability to demonstrate effective work habits such as work-load management	4.9%	12.2%	54.9%	17.1%	11.0%

Table 3

Impact of Social Networking Sites on Students' Critical Thinking

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Enhance student critical thinking/problem solving skills	3.6%	7.2%	49.4%	27.7%	12.0%
2) Enhance student ability to apply knowledge, facts, and data to solve workplace problems	4.9%	9.9%	49.4%	25.9%	9.9%
3) Enhance student ability to exercise sound reasoning and analytical thinking	4.9%	6.2%	46.9%	27.2%	14.8%
4) Enhance student ability to apply math and science concepts to problem solving	5.0%	1.3%	41.3%	31.3%	21.3%

Table 4

Impact of Social Networking Sites on Students' Future Choices

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Make student learning relevant to their life	6.1%	23.2%	42.7%	18.3%	9.8%
2) Connect student to their possible career choice	9.9%	32.1%	42.0%	11.1%	4.9%
3) Allow students to connect with other people	32.9%	35.4%	25.3%	5.1%	1.3%
4) Make student connected to real issues in the global world	14.8%	19.8%	46.9%	11.1%	7.4%

Table 5

Impact of Social Networking Sites on Students' Group Performance

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Enhance student ability to teamwork/ Collaboration skills	13.4%	34.1%	29.3%	14.6%	8.5%
2) Enhance student ability to build collaborative relationships with others	14.8%	35.8%	28.4%	12.3%	8.6%
3) Enhance student ability to work with diverse teams of people	12.3%	30.9%	34.6%	13.6%	8.6%
4) Enhance student ability to manage conflicts	2.5%	12.5%	47.5%	18.8%	18.8%

Table 6

Impact of Social Networking Sites on Students' Critical Skills

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Enhance student Information Technology Application skills	12.3%	38.3%	34.6%	8.6%	6.2%
2) Enhance student ability to select and use appropriate technology to accomplish a given task	7.5%	30.0%	40.0%	15.0%	7.5%
3) Enhance student ability to apply computing skills to problem solving	6.3%	16.3%	45.0%	21.3%	11.3%

Table 7

Impact of Social Networking Sites on Students' Managerial Skills

The use of social networking Site(s) or tool (s) in the classroom will					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1) Enhance student Leadership/ Project Management Skills	6.0%	16.9%	47.0%	20.5%	9.6%
2) Enhance student ability to leverage the strength of others to achieve common goals	7.3%	23.2%	48.8%	14.6%	6.1%
3) Enhance student ability to use interpersonal skills to coach others	9.8%	18.3%	39.0%	18.3%	14.6%
4) Enhance student ability to use interpersonal skills to develop others	7.4%	17.3%	43.2%	18.5%	13.6%

Findings & Analysis

Based on the demographic information regarding the faculty responding to the survey, the mean age of the faculty members participating in this research was 47.5 years. The authors believe that the mean age of the participants explain some of the results found in section 4 of the survey. There was a correlation between the age of participants and the use of technology and involvement with social networking website. Participants in their 30's and low 40's tend to be more active in social networking. Faculty using Facebook were more likely to have mass emailed students 10 or more times.

When asked about use of technology to communicate with students, respondents to the survey reported that only 20.9% teach online, while 56.8% of the respondents have a faculty webpage. Almost 34% reported that had a

Facebook page compared to 29% for LinkedIn. 12.6% and 9.5 of faculty report using Facebook and LinkedIn respectively for professional purposes.

98.9% of faculty stated they email students. 61.7% of faculty indicated they had mass email students 1 or 2 times a week, while 22.3% indicated they had mass email students 3 to 10 times a week. Surprisingly, 8.5% of faculty indicated that they had never mass emailed students. The top three methods reported by faculty in this study for contacting students were email (98.9%), phone calls (52.6%) and text messaging (26.3%). An interesting result was that Facebook came in fourth place with only 12.6%.

When asked about their selection and use of social networking sites, some faculty consider campus teaching website as a social network especially when they are designed to be a learning management system for the delivery of course content and tracking of students' progress. Most faculty mentioned ease of use as a reason behind his or her selection. Many faculty indicated privacy as an issue and reason for not select Facebook or LinkedIn to communicate with students. Most faculty made reference to social networking, whether Facebook or others as a good touch point and way to communicate with students. Although some faculty realized that social networking has many benefits, others did not see the value and focused on the present concerns of privacy and preferred dealing with matters the conventional way. One of the reasons behind it might be the age bracket participants fall in (67.4% of participants fall in the age bracket of 40 and above) which lead to the assumption that they will be more resisting to implementing new technologies in the way they deliver class materials or communicate with their students.

When asked to recommend the do's and don'ts of social networking with students, faculty's most common recommendations were to maintain privacy of information and not to become friends with students.

Participants were asked about their perception of advantages and dis-advantages of using social networking tool as an instructional aide, looking for any commonalities, best practices or possible areas for product improvement or enhancement of the social networking tool. Responses included the easy access and quick communication from any Internet connection for all the social networking tools. On the negative side, the problem of privacy and time consumption arises.

Conclusions

In summary, social networking is part of today's life and is being used by people of all ages and for the widest variety of purposes. People have many different ideas on what social networking is and how to best harness the connectivity it provides while keeping in check privacy and safety issues. It appears that some educators are using social networking as an instructional aide. An instructor putting up a social networking page for a course to provide information to students is a good thing. One theory behind the results shown in this study is that 67% of the participants are greater than 40 years old. Older generations tend to resist changes and adapt to new things. The authors conclude that it is not practical to force faculty or students to join social networks in part due to privacy and safety concerns.

Social networking and sites are constantly growing and evolving and may someday meet the expectations of educators. Until that time, sites such as Facebook and LinkedIn can be used as an instructional aide with limited capabilities. The use of blogs for building an online learning repository for text, images and video is much better use of social networking. Educators could create a blog on his or her topic or subject matter and then use social networking sites such as Facebook and LinkedIn pages to allow them to reach their target audience and promote the blog.

Future studies could examine potential use of social networking in construction education from a student perspective. This will allow the authors to compare both point of view and come up with conclusions and recommendations.

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Appendix A

Survey Questionnaires Links

Survey link to Participants: <https://www.surveymonkey.com/s/QK522JV>