AC 2010-1410: ENHANCING STUDENT CLASSROOM ENGAGEMENT THROUGH SOCIAL NETWORKING TECHNOLOGY

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Enhancing Student Classroom Engagement Through Social Networking Technology

Abstract

The terms Web 2.0 technologies and social networking technology (SNT) are an obvious part of our personal lives and are increasingly becoming a part of the higher education experience. However, can they be used in the higher education classroom to enhance student engagement? This paper reports on preliminary data from surveys of current engineering and technology students and faculty in the Purdue School of Engineering and Technology at IUPUI. In addition, it reviews current literature on social networking technology and educational best practices. Results of the surveys and review of literature indicate that while SNTs are prevalent and offer strong potential for connecting students to each other, their integration into higher education classroom settings is problematic.

Introduction

Whether we call them Generation Y, Generation Next, or Millennials, the students in today’s engineering and technology classrooms bring a startlingly diverse range of learning, working, and communication styles and expectations with them to college. To say that many of them are “multi-taskers” is to underestimate their nominal modes of working and communicating. Many of these students have come of age in a world filled with constant, nearly instantaneous contact with friends and media. Via ubiquitous technologies ranging from SMS messaging on smart phones to Web 2.0 technologies like Twitter and Facebook, they are constantly connected, frequently holding many simultaneous, fragmented “conversations” while at the same time engaging in work and play.

This multi-threaded approach to life and work, however, has its downsides. Many faculty members view it as an inability to focus and achieve the depth of understanding needed for mastering complex fields like engineering, engineering technology, and science. Furthermore, such disjointed attention spans in students may also make it difficult for those same faculty members to fully engage the students in the classroom itself, leading to lackluster participation, discussion, and critical inquiry and a frustrating educational experience for both student and instructor.

However, it may also be possible to use social networking for positive academic purposes. For instance, drawing on students’ existing familiarity, comfort, and competency with social networking may encourage them to transfer their affinity for virtual interactions to the physical classroom, thereby mitigating the boundaries between the online world and the academic one.

This paper explores that potential. By drawing on student and faculty opinions of social networking and its possible use in academic settings, we investigate the willingness and capabilities of those groups to integrate it into their courses.
Definition and Student Use of Social Networking Technology (SNT)

Heather Carter, a clinical assistant professor in the College of Teacher Education and Leadership at Arizona State University, Phoenix, defines social networking as a place for people to interact online as a “community” in order to share their information with friends, family, co-workers, and even strangers. This “community” is based on shared characteristics. She explains that many sites have profiles that have instant access to other profiles. This access to profiles of people the user may or may not know is usually called “friends” or “contacts.” She also explains that much of the information that is shared, whether it is files or a conversation, is kept on record on the profile or the site. She states many of the social networking sites such as YouTube, Facebook, and MySpace have unique features such as instant messaging, video messaging, mail, wall postings, and sharing documents and information with other users.¹

Social networking is a quick and easy method that promotes interaction without face-to-face communication. One explanation of social networking, according to Nancy and Frederick Barnes, defines social networking as a technology that allows users to interact simultaneously with one another without ever being in close contact.² This intercommunication includes information sharing and cooperation, a foundational basis of social networking and Web 2.0 technologies.

This sense of cooperation and sharing is the key component that delineates Social Networking Technologies (SNTs) from traditional Web/Internet technologies. Whereas traditional websites could only give and receive information as required, SNTs allow users to interact, allowing information to be shared faster, easier, and cheaper and with more control.³ Web 2.0 is no longer a screen with information on it; it has become a passage that connects people in an instant. Karen Klein explains that the “key concepts of Web 2.0 are the harnessing of collective intelligence, social networking, and an emphasis on the data gathered through computers rather than the technology itself.”⁴

In the 2007 book by Junco and Mastrodicasa Connecting to the Net Generation: What Higher Education Professionals Need to Know About Today’s Students the authors found that in a survey of 7,705 college students in the US

- 97% own a computer,
- 97% have, at one point in time, downloaded music and other media,
- 94% own a mobile phone,
- 76% use instant messaging and social networking sites,
- 75% of students have a Facebook profile, and 69% of them check it twice daily,
- 60% own some type of portable music and/or video device, such as an iPod,
- 49% regularly download music and other media,
- 34% use the Internet as their primary source of news,
- 28% author a blog, and 44% read blogs, and
- 15% of Instant Messaging users are logged on 24 hours a day/7 days a week.

Additionally, the study reported that the millennials surveyed spend at least 3.5 hours a day online.⁵
Peacock (2008) reports in *In-Stat*, “New research results indicate that millennials (those born between 1981 and 2000) are also eager to embrace mobile Web 2.0 technologies, which include cell phone-based blogging, multimedia sharing, location-based socialization services, gaming and chat.” The report released by market research firm In-Stat revealed that five major types of mobile social networks dominate the landscape in these young persons’ lives:

- SMS messaging networks
- Friend/community networks
- Personal content networks (photos and blogging)
- Location-based social networks
- Dating networks

**Student Engagement: Definitions and Measurements**

While most college instructors have heard the term “student engagement” and would likely agree that engaged students are a positive reflection upon their teaching strategies, a consensus on its definition is difficult to determine. A common definition of student engagement, however, evolves beyond the mere transmission of information from instructor to student and moves into the realm of active learning. As Williams and Chen write,

> Common characteristics associated with active learning include the use of higher level thinking and engagement of students in activities that encourage exploration and subsequent evaluation of their involvement. The emphasis on skill development and the use of prompt feedback as exploration occurs replaces the notion that learning is related to the transmission of information.

Promoting active student interaction with course materials and skill development activities does not necessarily constitute engagement, however. For most students, learning is not only an intellectual activity; it is also a social exercise. Working from Astin’s theory of college student involvement, Heiberger and Harper note that there are definite psycho-social aspects to student engagement: Students tend to be more active in learning and relate better to their coursework when surrounded by peers and mentors who encourage that kind of engagement. Ohland et al. expand this notion further by listing a number of “engagement or involvement factors” developed from their own experiences as well as those gleaned from the National Survey of Student Engagement. These factors include obviously classroom-related items such as “Active and Collaborative Learning” activities, “Time-on-Task,” and “Course-Related Interactions with Faculty.” Less obvious factors, however, are also listed. These include “Out-of-Class Relationships with Faculty,” “Quality of Campus Relationships,” and even “Use of Information Technology.” Engagement, then, can be said to be an amalgamation of a number of elements, constituting both the intellectual and social connections students make with course materials as well as the environment(s) in which the materials are situated.

**Social Networking Technologies and Engagement in Higher Ed: Reaching Out to “Digital Natives”**

The culture surrounding the computer and the Internet has transformed the student of yesteryear into the digital native—a person born after the advent of the computer as a home appliance and
Advances in hardware and software have been almost immeasurable in recent years, and for a generation that has grown up with a PC in the bedroom, a mobile in their pocket and a playlist on their iPod, it is almost unthinkable that the technology has not been around for much over 15 years.  

As a result, digital natives demand a dialogue between their culture, art, entertainment, and arguably their education.

Digital natives utilize their technology as a way to socialize and access a vast meritocracy. Online computer games offer insight into this world of interaction, “for example, players organize themselves around [the] shared goal of developing expertise in the game and the skills, habits, and understanding that requires... and, perhaps, most uniquely, run their own University to teach other players to play the game more deeply.” Digital natives “who have grown up with interactive media want to manipulate, remix, and share content,” and furthermore “expect to be able to be in conversation with other creators.”

Today’s students use new technologies as a way to express themselves and develop identities. Digital Natives demand more from their social interaction, their entertainment, their environment, and certainly from their overall education. Where does the attitude and lifestyle of the digital native come to intersect with the importance of education? Digital natives learn actively and aggressively in a constant atmosphere of relevance, of personal selection and choice. For a digital native to be engaged, they must connect and interact with the content.

Social Networking Technology Use in Higher Education

Social media is about dialogue, two-way discussions that bring people together in order to discover and share information. With the proliferation of Web 2.0 technologies, higher education faculty across all disciplines have been eager to begin this conversation with their students. Efforts have been made to utilize a variety of solutions, including Web logs or “Blogs,” Wikis, Social Bookmarking, Social Network Services, and custom technology solutions to improve the learning experience in and out of the classroom.

This section will explore two case studies of popular social networking technologies, blogs and Facebook, and present examples of their current use in higher education. Furthermore, a brief discussion will highlight efforts in the development of a custom SNT solution developed to harness current Web 2.0 technologies specifically for higher education.

Blogs

Blogs offer multiple opportunities for incorporation into the college classroom. For the instructor, blogs offer a transparent, online course management tool where class content can be posted without requisite Website authoring knowledge. For students, blogs offer flexible opportunities for class participation, review, and collaboration. Popular blog sites include www.blogger.com, www.livejournal.com, and www.wordpress.com.
The Pennsylvania State University College of Engineering eLearning Initiative, an effort to “expose undergraduate students within the College of Engineering to issues of globalization, ethics, and societal contexts in engineering practice,” extensively utilized blogs in the STS 233: Ethics & the Design of Technology during the spring of 2008. The initiative required that students demonstrate an ability to work with and lead collaborative projects, including virtual/distributed work teams. Assignments included the creation of an individual student blog, and a digital video field assignment. Gary Chinn, instructional designer and member of the eLearning Initiative team, stated, “it would benefit the students to have a community of peers with whom they could continue their conversations outside of the classroom. Our course hub allows students to interact with one another, and indicate their agreement or disagreement in the form of positive or negative votes. The idea with the course hub and peer voting is really to keep conversations moving forward.”

Zoë Sheehan-Saldaña, an Assistant Professor of art at CUNY’s Baruch College, uses a course blog for her class Designing with Computer Animation (Figure 1). Her students regularly post their assignments and are encouraged to leave peer review. The encouragement of student interaction is an important advantage when using course blogs; however, the dialog is not limited to classroom participants. Blogs also offer students the ability to discuss concepts and receive feedback from others outside of the classroom; often this interaction includes industry professionals. For students, this connection to the real world is exciting. Ms. Sheehan-Saldaña states, “For students to have a sense that they are doing something ‘for real’ is very powerful.”

Figure 1 – Designing with Computer Animation Course Blog
Facebook

The popularity of social network sites among adults 18 and older has dramatically increased in recent years. An October 2009 Pew Internet study states that 46% of online American adults (18 and older) use a social networking site such as Facebook, MySpace, or LinkedIn, compared to 8% in February 2005. In August 2009, Facebook became the most popular online social network; 73% of all adult social network site users own a Facebook account. Unlike other Web 2.0 applications such as blogs, evidence of educators utilizing Facebook as the framework for course content is limited. However, that does not limit the benefit of Facebook to higher education, especially with regard to marketing, communications, and public relations.

In November 2007, Facebook released the fan page concept, and as of January 2008, 420 universities had an official page. An example university Facebook page (Figure 2) contains routine communications presented as wall posts, public relation photographs and imagery, campus video tours, discussion boards, contact information, and links to other sub university pages and fans.

Figure 2 – Indiana University-Purdue University, Indianapolis (IUPUI) Facebook Page

With 350 million active Facebook users, university Facebook pages represent rich opportunities for recruitment. Nora Ganim Barnes, Director for the Center for Marketing Research at the University of Massachusetts-Dartmouth, states, “If you're an undergraduate or graduate institution and you're looking to attract people 35 and under, then I think you have to go to Facebook because that's where your opportunity is.”

But, are potential students using the viral marketing efforts of universities on Facebook as they consider their college selection choices? In an October 2008 studentPOLL of 960 students, only 18% indicated that they used social networking services such as Facebook to gather impressions about colleges they were considering. The effectiveness of university Facebook pages upon
Custom Web 2.0 Solutions

As previously stated, there is a growing movement in higher education to enhance the dialogue that forms quality, learning experiences. In a sea of technological solutions, how does one identify, embrace, and leverage those choices in the classroom? Recently, Purdue University has answered this question by developing an entirely new solution: Hotseat.

Developed to channel student conversations and questions in the classroom, Hotseat combines multiple Web 2.0 technologies and the freedom of choice craved by the digital native. The application captures student comments posted from Facebook, MySpace, Twitter, text messages, or the Hotseat Website (Figure 3), and allows everyone involved in the classroom to see the questions. Gerry McCartney, Chief Information Officer and Vice-President for Information Technology at Purdue University, states, “Hotseat is really sort of subversive in a delightful way, taking technologies more often used for things like dating or spontaneous get-togethers, and applying them to learning.”

Figure 3 – Hotseat Web Interface, Purdue University

Technology at Purdue University, states, “Hotseat is really sort of subversive in a delightful way, taking technologies more often used for things like dating or spontaneous get-togethers, and applying them to learning.”

recruitment is still debatable, and Noel-Levitz recommends that the focus remain on developing the university Web site experience.23
Web 2.0 and Social Networking Technologies, Engagement, and the Engineering and Technology Classroom: Study Results from Faculty Surveys

We began our primary research by attempting to ascertain current engineering and technology faculty members’ experiences with and attitudes about Web 2.0 and social networking technology. Using a web-based questionnaire, the research team collected 65 unique responses from approximately 200 full- and part-time faculty members of the Purdue School of Engineering and Technology, IUPUI. The survey questions covered a range of issues, from the faculty members’ personal comfort with and uses of computer technology in general to more specific items such as which Web 2.0 and SNTs they have themselves used and what role, if any, they believed those technologies could play in their classrooms. A brief discussion of that data follows.

Demographics of Respondents

The faculty survey consisted of a web-based questionnaire distributed via e-mail listserv to all full- and part-time faculty in the School. Of those who responded, 42 (65%) identified themselves as technology faculty, 18 (28%) as engineering faculty, and 5 (8%) as “other.” The latter category included representatives with appointments in more than one school, such as Informatics and Continuing Studies. The most-represented departments among the respondents included Computer, Information, and Leadership Technology (29%), Design and Communication Technology (25%), and Engineering Technology (22%). The remainder of respondents represented Biomedical Engineering, Biomedical Engineering Technology, Electrical and Computer Engineering, and Music Arts Technology (Figure 4).

The academic ranks of the respondents leaned heavily toward part-time and non tenure-track positions. Thirty-eight percent of respondents identified themselves as Part-time Faculty, with an additional 17% identifying themselves as Lecturers, for a total of 55%. An additional 41% identified themselves as Assistant Professor, Associate Professor, or Professor (Figure 5).

![Primary department affiliation](image-url)

**Figure 4 – Department Affiliation**
Figure 5 – Academic Rank

Approximately 70% of the faculty members reported that they regularly teach 100-400 level undergraduate courses, while 28% also taught graduate and post-graduate courses. Sixty percent of the respondents were male and 40% were female. The ages of the surveyed faculty members ranged from 24 to over 64, with strong representation among 34-43 year olds (25%), 44-53 year olds (22%), and 54-63 year olds (31%).

Personal Use of and Comfort with Computers and Social Networking Technologies

In order to help inform our results, we began the survey by asking faculty members about their personal use of and comfort with computers and SNTs. Nearly all of the respondents reported owning, in the last year, a desktop computer (88%) or laptop computer (94%). Additionally, some faculty members said that they owned other “high tech” devices such as a Smartphone (iPhone, Blackberry, etc.) (42%) or mobile web device (26%).

Regarding their confidence in using computers the faculty members were positive. Only one respondent reported “Low” confidence, while 29% said they had “Average” confidence in using computers and a combined 69% had “High” or “Extremely High” confidence (Figure 6). When asked to rate their knowledge of computer technologies, the numbers were slightly lower: The majority of faculty members rated their expertise as “High” or “Extremely High” (63% combined). An additional 31% rated their knowledge as “Average.” Only 7% said they had “Low” or “Extremely Low” knowledge (Figure 7).
Faculty members were then asked about their personal use of Web 2.0 and SNTs in the last year. Of those who responded, 22% reported that they did not use any SNTs. Those who did use SNTs showed a strong preference for Facebook (38 users), YouTube (36 users) LinkedIn (30 users), and Twitter (14 users). Some respondents reported using a variety of other resources such as Blogger, Google Wave, Ning, WikiSpaces, etc. The majority of faculty members (56%) reported using these SNTs for less than one hour per day (Figure 8).
<table>
<thead>
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<th>SNTs</th>
<th>Percent of Faculty Using</th>
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<tbody>
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<td>Facebook</td>
<td>59%</td>
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<tr>
<td>YouTube</td>
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<td>LinkedIn</td>
<td>47%</td>
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<td>22%</td>
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<tr>
<td>MySpace</td>
<td>23%</td>
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<tr>
<td>Flicker</td>
<td>16%</td>
</tr>
<tr>
<td>Do Not Use Web 2.0 / SNTs</td>
<td>22%</td>
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**Figure 8 – Most-Used SNTs by Instructors**

Of the faculty members who use SNTs, most have students as “friends” or contacts in their social networks. In total, 31 respondents allow current and/or former students to interact with them on these sites.

**Academic Use of Web 2.0 and SNTs**

All but one faculty member reported using Oncourse, Indiana University’s course management system, which includes “SNT-like” elements such as chatrooms, forums, Wikis, blogs, and shared calendars and resources. However, not all faculty members considered Oncourse to be a “true” SNT. When asked about more specific and well-known SNTs, 57% reported that they had never used SNTs to interact with students for academic purposes. Of those who reported using them to interact with students in a professional context, most used either YouTube (~35%) and/or Facebook (~30%). Other popular choices included instant messaging services like AIM, Skype, or Twitter.

Most faculty (52%) reported that they also did not use SNTs for other academic purposes. Of those who did, the most common uses were:

- Collaborating with Other Faculty
- Posting Grades
- Scheduling Meetings with Other Faculty or Students
- Taking Notes at Meetings, Conferences, etc.

When asked about the potential of using SNTs to encourage collaboration among students, most faculty members (58%) either agreed or strongly agreed that SNTs could be effective for that purpose. Only 4% disagreed or strongly disagreed, while 39% were neutral on the issue. As for using SNTs to help students and faculty communicate about course material, results were slightly less positive. Forty-nine percent responded that SNTs could effectively be used for that purpose, while 42% were neutral. Ten percent either disagreed or strongly disagreed that SNTs were an effective way of interacting with students about course material. (See Figures 9 and 10.)
Faculty members were next asked about other potential uses for Web 2.0 and SNTs in academia. In general most respondents were positive (agree or strongly agree) in believing that SNTs could be used to effectively:

- coordinate classroom activities such as meetings and fieldwork
- distribute course-related information such as assignments and announcements
- involve students in professional and field-related activities outside the classroom
In each of these instances, between 50% and 60% of those surveyed were positive, around 10% either disagreed or strongly disagreed, and the remainder were neutral.

Finally, faculty members were asked an open ended question on what role they believed SNTs should play in the college classroom. Responses to this question varied considerably, with some faculty members vehemently opposed to using SNTs at all within academia and others embracing it. Even in the latter case, however, most urged some caution, believing that the type of course and purpose of using SNTs (either for disseminating information or encouraging interaction, for example) should play a significant role in determining the technologies’ effectiveness or appropriateness.

Student Engagement

The final section of our survey was designed to ask faculty about their opinions and experiences with student engagement. In general, most faculty rated the level of student engagement in their classes as either average (44%) or high (47%). Furthermore, 55% of those surveyed believed that students “absolutely” needed to be engaged to be successful in class, while 42% said that engagement was “not always” a crucial factor in class success.

When students were not engaged, faculty saw a number of factors at play. The most commonly-cited reasons by faculty were 1) distracted by personal technology, 2) not interested in the topic being discussed, and 3) distracted by personal issues (Figure 11).

![Figure 11 – Reasons for Students’ Lack of Classroom Engagement](image)

Regarding the best ways of engaging students, faculty responded that the most effective methods included:

- involving students in hands-on activities (47 responses)
• involving students in real-world projects (41 responses)
• breaking students into small discussion groups (29 responses), and
• requiring self-reflection on learning (17 responses)

Only 10 respondents thought lecturing was the best way to engage students.

Social Networking Technologies, Engagement, and the Engineering and Technology Classroom: Study Results from Student Surveys

The second phase of our primary research was directed at students. Again, utilizing a web-based questionnaire, the research team collected 155 unique responses from approximately 2400 students in the Purdue School of Engineering and Technology, IUPUI. The majority of questions were similar to those in the faculty survey, though they were rephrased to consider the topics from a student perspective.

Demographics of Respondents

The URL to the student survey was distributed via a mass email sent to the entire School’s student body and data were collected over the course of approximately one month. Out of 191 visits to the survey site, 155 resulted in completed questionnaires. Those who completed the survey were a nearly-even mix of students associated with Engineering (45%) and Technology (52%). A few individuals identified themselves as being from “other” disciplines: New Media (1), Music Technology (1), and Business (1). One student did not identify his or her primary school affiliation.

When asked to choose their program or major, students gave a variety of responses, as shown in Figure 12.

![Figure 12 – Student Program/Major](image-url)
As shown in Figure 13, the majority of respondents were junior- and senior-level students, though some freshman, sophomore, and graduate students did complete the survey as well.

![Figure 13 – Student Academic Status](image)

Seventy percent of the respondents reported their gender as male and 30% as female. A slight majority was of traditional college age (52% were between 18 and 23 years of age), with older students comprising the remainder of the sample. An almost-even number identified themselves as being 24-28 years old (14%), 29-33 years old (16%), and 34-43 (12%). The final eight students reported themselves as between the ages of 44 and 53 (6 students or 4%) and 54-63 (2 students or 1%).

The vast majority of respondents (76%) identified themselves as being Caucasian. Students of Asian / Pacific Islander and African American descent made up 9% and 8% of the respondents, respectively, while other ethnicities accounted for between 1% and 5% of the sample per group.

**Personal Use of and Comfort with Computers and Social Networking Technologies**

When asked about which technologies they had owned in the last year, most students reported having owned a traditional-style cell phone (70%), a desktop computer (68%), and a laptop computer (90%). Forty-five percent of student also reported owning a Smartphone (such as an iPhone or BlackBerry) and 27% said they owned another kind of mobile Web device, such as an Internet-enabled MP3 player, Amazon Kindle, etc.

The students also expressed considerable *confidence* in using computer technologies in general, with only slightly less *knowledge* of such technologies *(Figures 14 and 15)*.
Students were then asked about their personal use of SNTs in the last year. The respondents reported using a wide range of technologies and platforms. The most-frequently reported were Facebook, YouTube, and MySpace (Figure 16). About 10% of students, however, reported not using any kind of SNTs. (This figure is still less than half of the percentage of non-SNT-using
faculty members, however). Forty-two percent of student reported using SNTs for less than one hour per day on average, while 29% said they used them for 1-2 hours.

<table>
<thead>
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<th>SNTs</th>
<th>Percent of Students Using</th>
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<td>Facebook</td>
<td>79%</td>
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<tr>
<td>YouTube</td>
<td>66%</td>
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<td>MySpace</td>
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<td>LinkedIn</td>
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<tr>
<td>Twitter</td>
<td>23%</td>
</tr>
<tr>
<td>Do Not Use Web 2.0 / SNTs</td>
<td>10%</td>
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**Figure 16 – Most-Used SNTs by Students**

Of the students who use SNTs, only about a third (32%) have either current or former instructors as friends or contacts.

**Academic Use of SNTs**

Only three percent of students reported not using Oncourse, Indiana University’s course management system, which includes “SNT-like” elements such as chat rooms, forums, Wikis, blogs, and shared calendars and resources. When asked about more specific and well-known (i.e., commercial) SNTs, 57% of students reported that they had never used SNTs to interact with classmates. Furthermore, 85% had never used SNTs to interact with instructors for academic purposes. Students who did use SNTs to interact with peers for academic purposes largely used Facebook (88%) or YouTube (21%). Likewise, students who used SNTs with instructors also made the most use of Facebook (68%) and a few used YouTube (24%).

For the students who did use SNTs for academic purposes, about a third used mobile devices for doing so, while a little more than half used desktop or laptop computers. Their reasons for using SNTs academically were distributed among several common purposes. The three most common purposes among mobile device users were

- interacting with classmates (18%)
- scheduling meetings with classmates (16%)
- scheduling meetings with instructors (11%)

The three most common purposes among laptop or desktop users were

- interacting with classmates (42%)
- completing assignments (36%)
- scheduling meetings with classmates (29%)

A significant aspect of the survey—especially for students—involved asking about the potential use of Web 2.0 and SNTs to encourage collaboration and communication in the classroom. Respondents were somewhat divided on the issue of whether or not SNTs could effectively be used to help students and faculty communicate about course material (Figure 17).
However, when asked if those same technologies could be used to help students collaborate among themselves, the responses were somewhat more positive (Figure 18).

Figure 17 – SNT Use among Students to Communicate about Course Material

Figure 18 – SNT Use among Students for Academic Collaboration
As in the faculty survey, students were asked about other potential uses for Web 2.0 and SNTs in academia. In general, a slight majority of students were either neutral or disagreed that SNTs could effectively be used to:

- Coordinate classroom activities such as meetings and fieldwork (52%), and
- Share course-related information such as assignments and announcements among students and/or faculty (51%).

However, when asked about the potential for using SNTs to involve students in professional and field-related activities outside the classroom, 53% of respondents either agreed or strongly agreed that the technologies could effectively be used for that purpose.

Finally, students were asked an open-ended question about what role they believed SNTs should play in the college classroom. While a few students believed that SNTs could be used for positive effect, the vast majority of responses indicated a more negative viewpoint. In general, resistance to use of SNTs in class centered on one or more of several concerns: privacy, distraction, intrusion on the part of faculty, and the overlap between SNTs and the University’s existing online resources.

Student Engagement

As in the faculty questionnaire, the final section of the student survey asked about the respondents’ opinions and experiences with engagement in the classroom itself. Most students rated their typical level of classroom engagement as either High (47%) or Extremely High (13%). When asked if engagement was necessary for learning in class, 38% felt that it was “absolutely” necessary. The majority—58%—felt that engagement was “not always” necessary, however, and an additional 5% said that engagement was “never” necessary.

When asked about the reasons why students might not be engaged in the classroom, several factors were attributed, with “Want hands-on activities” as most cited (Figure 19).

![Figure 19 – Reasons Students Reported Lack of Classroom Engagement](image-url)
Regarding the best ways of engaging students, the respondents said that the following methods were the most effective:

- Involving students in hands-on activities (71%)
- Involving students in real-world projects (66%)
- Lecturing (49%)
- Breaking students into small discussion groups (21%)

Only 21% felt that requiring self-reflection was a useful way of fostering engagement.

Implications of Survey Data

While both students and faculty seem to believe that Web 2.0 and SNTs do have potential for enhancing classroom learning and engagement, there are obviously still concerns about their appropriateness and effectiveness. As noted in both groups’ responses to the open-ended question about Web 2.0 and SNTs’ roles in the classroom, the issues of distraction, privacy, faculty intrusion in students’ online personal lives, and the superfluous overlap of SNTs and extant course software were chief among those concerns. If employed at all, the areas where both faculty and students seemed to agree most about Web 2.0 and SNTs’ usefulness was in the area of connecting students to each other and with extra-campus events and resources.

Regarding engagement, while 55% of faculty responded that engagement was an absolute necessity for good academic performance, only 38% of students responded in the same way. Also, while both survey groups rated average levels of student engagement generally high, students placed much more value on lecturing as a means of ensuring engagement than faculty did. At the same time, the students placed less emphasis on group (peer) activities than faculty.

Both of these factors may illustrate one reason why students—who admittedly use SNTs regularly—may be hesitant to use them to interact with instructors: they do not necessarily see themselves as potential “friends” (to borrow Facebook’s terminology) of the people who have control over their grades and who are—despite whatever intentions and postures of equality they may present—figures of authority. As two of our student respondents said, “I believe that Facebook and MySpace should be used only for social networking with peers and people of our choice. The content on my wall is not always professional, and I would not want my status with my professors to wane because of a comment my friend made, or a picture of me they posted” and “we already have enough places we have to check on a regular basis just to keep up with the professors. All of these things cause us to be insanely busy as it is. If we start adding professors as friends, that's crossing the line of privacy. It's inappropriate.”

Conclusion

This paper has explored the potential of using Web 2.0 and SNTs in higher education classrooms to enhance student engagement. The results of both secondary and primary research indicate that, while these technologies do show potential, many faculty and students are simply unready or unwilling to adopt them for academic purposes. The authors will continue to research this topic.
Bibliography