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Faculty Perceptions and Policies of Students' Use of Personal Technology in the Classroom

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Abstract

With the increased use of personal technology in the classroom, such as laptops, tablets, and smartphones, effective teaching may have some powerful distractions, or some excellent support. The purpose of this paper is to report on the progress of personal technology in the classroom and to determine how members of the Association of Business Information Systems (ABIS) and the Southwest Decision Sciences Institute (SWDSI) are clarifying the use of personal technology through syllabus statements and policies. The study does not intentionally set out to provide definitive answers related to the best way to handle personal technology in the classroom; but rather, to share some current perceptions and policies that have been adopted by educators. This, in turn, may provide a springboard for specific policies that would work in an educator's classroom.

Keywords: technology, smartphones, tablets, laptops, classroom procedures, syllabi technology statements

A Short Sketch of Technology in the Classroom

The modern era of the college classroom began with two instructional items: the chalkboard and the overhead projector. Since those early days, faculty have consistently introduced new equipment in the college classroom. Today's college classroom may be well equipped with computer projection, large screens and/or whiteboards, and all of the devices necessary to enhance instruction. All of the technology in the classroom had one thing in common: it was controlled or utilized by the instructor.

Perhaps the most interesting, challenging, and controversial technology to be introduced does not come from the instructor, but rather the student—t hat being the electronic devices students are bringing into the classroom.

Personal Technology

Personal technology can be defined as mobile devices, such as a smartphone, tablet, or notebook (Thornton, 2011). These devices are easily connected to the Internet permitting student access to the Internet during class. The frequency of college students bringing their personal technology into the classroom is increasing. Students' dependence on the devices indicates that the personal technology is here to stay. In some cases, students may have more than one device, such as a smartphone, as well as a notebook or tablet computer.

A combination of increasing technological advances, competition, and lower prices has resulted in the technology being more available to students. In fact, a survey of 976 faculty and students in public universities located in New York, North Carolina, and Texas, indicated that 90 percent of the respondents owned laptop computers and 99 percent had cell phones (Baker, Lusk, & Neuhauser, 2012).

Cell Phones and Smartphones

When cell phones first began to appear in the classroom, an annoying ringing phone would announce its presence and students would look around wondering who it belonged to. This distractor made it difficult for the instructor to keep the attention of the class. Later the rings changed to notes of a song, then to vibrations, which could bounce a phone across a metal desk, and finally to text messages. Every call or message is a distraction to someone.

Now smartphones have access to the Internet allowing students to browse on Facebook or any other website, as well as check email and send text messages. A study from Ball State in

2010 revealed that 98.8 percent of college students owned cell phones. In addition, 97 percent of students reported that text messaging was their main form of communication (Sprint joins University of Notre Dame, 2011).

In a further study of text messaging, researchers found that 92 percent of college students admitted sending or receiving text messages while waiting for class to start. Nearly 95 percent of students said that they always bring their phones to class, with 30 percent indicating that they send or receive a text during class every day. Whether or not a student texted often depended on class size. More texting occurred in classes with 100 students or more, while the least amount of texting occurred in small class sizes such as 12 students. When asked what would shock professors about texting, 54 percent of the students said professors would be shocked at how much texting is going on during class (Tindell & Bohlander, 2011).

While texting and inappropriate use of smartphones in the classroom have been distracting, the advent of numerous educational apps and the opportunity to connect wirelessly with the Internet provide educators a dilemma of what to do with this technology. This dilemma expands to other personal technology such as laptops and tablets.

Laptop and Tablet Computers

After initially embracing laptops and tablets in the classroom, many educators determined they were more of a distraction than they were beneficial. Georgetown Law School, George Washington University, American University, the College of William and Mary, and the University of Virginia are just a few prominent universities where professors banned the use of laptops (de Vise, 2010). Instructors at Florida International, Harvard, and the University of Michigan, and the University of Wisconsin created laptop-free zones (Fischman, 2009). Sample (2012) also suggested establishing a lapto- free zone in the classroom. For instance, this might

keep the first few rows of desks free of any personal technology so that those who felt they were easily distracted by someone else's technology would not be exposed to it.

In schools that allowed laptops/tablets, students who arrived with laptops to take notes in class quickly found other uses in wireless classrooms—checking and sending email, checking and posting on Facebook, checking sports scores, shopping, playing games, and reading the news. All of these uses may occur while the instructor is trying to conduct a class at the front of the room (Bugeja, 2007).

While it is obvious that laptops and tablets may provide a world of possibilities related to innovative instruction, it is challenging to harness this power in a way that truly is beneficial for learning in the classroom.

Schools of Thought

With all of the issues surrounding the expanding student use of personal technology in the classroom, how are faculty members addressing these behaviors? On the issue of technology in the classroom, at least two schools of thought are apparent. One idea is to ban any extra technology from the classroom, and the other idea is to include technology in the learning process.

Students and faculty have different perceptions of the importance of personal technology (Miller et al., 2011). While many college students believe that they can productively multitask (Samson, 2010), easily sending text messages and paying attention to the professor's lecture at the same time, many professors believe the distraction limits learning. One study by a University of Colorado professor, Diane Sieber, found that students did 11 percent worse, on average, than their peers who did not have their faces in their computers as much (Fischman,

2009). Fischman further stated, however, that faculty find it difficult to enforce bans on personal

technology, and student access to the Web can enrich classroom discussions (2009).

Because students are using their personal technology throughout their day, they see no

reason why they cannot use the technology in the same manner when they get to the classroom

(Miller et al., 2011). With all of the issues surrounding the expanding student use of personal

technology in the classroom, how are faculty members addressing these behaviors? What are the

key issues related to banning or using personal technology in the classroom?

Banning Personal Technology

Why ban the use of personal technology? The arguments against classroom use are

numerous. They include distractions in the classroom caused by personal technology, incivility

in the classroom, poor notetaking, and the inability to think without computer support.

Distracted by personal technology. The Center for Research on Learning and Teaching

at the University of Michigan conducted a study of 600 college students. About 75 percent of

the students said that using a laptop in class increased the time they spent on non-course

activities. In addition, 35 percent of the students surveyed estimated that they spent more than

10 minutes per class using email and social networking sites (Sample, 2012).

Laptop usage in the classroom has been linked to poorer learning outcomes and self-

perception of education. In addition, students also realize the distraction factor. In lecture style

classes, students may not have received guidance on how to effectively use the technology in the

classroom (Rosenberger & Robertson, 2011).

One set of parents visiting the college classroom were at first impressed with all of the

students who were using personal technology until they noticed that the students who were

diligently typing away in class were actually on Facebook, banned sites, shopping and sports sites, or were instant messaging and texting friends (Bugeja, 2007).

Civility in the classroom. In a study of nearly 3,500 students at a Midwestern public university, questions were asked about civility in the classroom. Students were asked to rate uncivil behaviors. Allowing a cell phone to ring in class ranked third on the list right below coming to class under the influence of alcohol or drugs. Text messaging was tenth on the list between arriving late and/or leaving early and packing up books before class is over. When students were asked to rate the frequency of uncivil behaviors, text messaging was rated as the most commonly observed behavior (Bjorklund & Rehling, 2010).

In a study of 976 faculty and students in three public universities in three states, students used their cell phones to send 26-50 text and voice messages per day while receiving an additional 26-50 text and voice messages. In contrast, faculty sent and received an average of 3-5 text and voice messages per day. The authors indicated that the cell phone usage was greater with students "by an order of magnitude" (Baker, Lusk, & Neuhauser, 2012).

Notetaking is not improved. Early on, law schools faced challenges with laptops in classrooms. In fact, some law professors banned laptops in the classroom based on three general arguments 1) note-taking is not improved with laptops, 2) students are less engaged in class and less interested in participating when laptops are allowed, and 3) students using laptops and those sitting near them are easily distracted by the laptops (Murray, 2011).

Challenge the ability to think. An article in *USA Today College* argued that laptops may be the ultimate classroom distraction (Glass, 2012). American University Professor G. Buden Flanagan believes that the easier it is to use technology to get answers, the less reasoning

and thinking we will do to develop our own answers. In fact, the mind will not get the workout it needs to function most effectively (Glass, 2012).

Using Personal Technology

Why include personal technology in the classroom? Proponents of using personal technology cite greater student engagement, use of equipment familiar to students, an increasing number of study applications for personal technology, and the ability to use personal technology for reflection and idea generation.

Greater engagement with students. An English teacher in Iowa is using a Twitter-like technology to improve classroom discussion. Students are encouraged to participate with their personal technology. While the discussion is going on as usual in the face-to-face class with one student contributing at a time, a second or back channel is opened so that students can contribute silently to the discussion. A comparison might be watching a cable news program, with viewers making live comments on the program in a feed at the bottom of the screen. As only a limited number of students can contribute in the regular discussion, using a back channel can greatly increase the amount of discussion generated on the topic (Gabriel, 2011).

To encourage student engagement, Purdue University has developed its own back channel system of communication called Hot Seat. Students can post comments or questions which can be read on phones, laptops, or projected on a large screen. The instructor has an opportunity to address questions that appear frequently which might never be asked verbally in class. In spite of the advantages, Hot Seat was used in only 12 courses in one semester as faculty were slow to adjust their teaching styles to the use of this type of technology. While Hot Seat is in its early stages, the goal is to create more in-class student engagement. Students who are more engaged in the course and its content may, in turn, become more successful (Gabriel, 2011).

Personal technology can also be used to increase student interactivity. Activities such as polling, posting questions, short answer writing, and others are used to involve each student in the class, rather than the few who might contribute to a discussion (Sample, 2012).

Use familiar technology. In support of using laptops in the classroom, some law professors believe that students know how to use the technology and have used computers since childhood. In addition, the professors expect students to be a part of the educational experience. Jana McCreary from Florida Coastal School of Law believes that by the time students are in Law School, they have already developed a learning style that may rely on taking notes with the computer in class. In a survey of her class, McCreary found that 77.8 percent reported that they used the Internet to look up cases, statutes, and other course-related materials during class (Murray, 2011).

Denholm (2013) argues that students should be allowed to use the smartphones and iPads in class because they are already using them and familiar with them outside of class.

Increasing number of applications. The number of applications is increasing for all mobile devices to help students have better study tools. Programs such as LectureTools, an interactive student response system, are now available. Over 400 colleges and universities have accounts with LectureTools (Samson, 2010). Additional applications that individual students can use are available.

Reflection and idea generation. Sample (2012) proposes that instructors should turn student laptops into a type of studio where students use them to reflect on concepts and generate ideas. In fact, he encourages a classroom environment where students would use the laptops to solve problems or create something new.

So, how are faculty addressing the personal technology issue? In one School of Journalism, about 20 percent of syllabi contain warnings about misusing technology in the classroom (Bugeja, 2007). The author further predicted that statements on course syllabi relating to personal technology would only increase in the future. Sample (2012) suggests establishing a policy on personal technology and communicating it to students.

Purpose

The purpose of this study was to determine college faculty's attitudes toward personal technology and to ascertain practices allowed or banned in the classroom regarding students' use of personal technology. The researchers wanted to learn if information systems faculty have a philosophy about personal technology, if they placed statements in the syllabus about personal technology, and if they were willing to share those statements.

Procedure

The researchers sent an electronic survey of 9 questions to 175 Federation of Business Disciplines colleagues who are members of the ABIS and SDSI communities. Participants were asked to indicate 1) if personal technology is ignored, encouraged, or banned; 2) if their syllabus contained statements relating to the use of personal technology in the course; and 3) if they could report any unusual experiences or distractions that have occurred in the classroom due to personal technology. Instructors were also asked to share the technology statements placed in their course syllabi, if any.

Findings

Of the 175 faculty surveyed, 55 faculty responded for a 31 percent response rate. Figure 1 indicates the respondents' university rank, which was predominately professor, followed by assistant professor, instructor/visiting faculty, associate professor, and adjunct faculty.
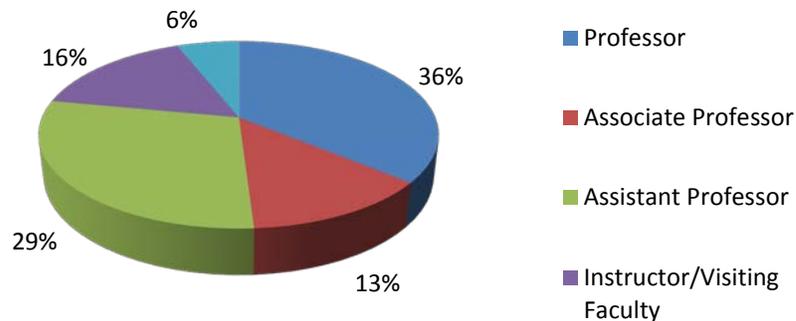
Respondent's University Rank

Figure 1

Syllabus Statements

When asked, "Do you have a statement in your syllabus outlining acceptable personal technology use by students in your class," 47 percent of the respondents reported they do have a statement in the syllabus outlining acceptable personal technology usage by students in the classroom; however, 29 percent do not have a statement, but indicated one might be helpful; while 24 percent indicated that they did not need a statement.

Respondents were asked to share their personal technology statements from their syllabus. An analysis of the statements provided by the respondents indicated a common thread: that while some allow technology for classroom-related activities only, others have an adamant statement that no technology is allowed. Of the 55 respondents, 27 provided their syllabus statements. Following are selected examples of these statements:

- I do not prohibit the use of electronics in the classroom as a general rule. I trust that most students are using these devices to further their education for educational purposes during class. However, if it comes to my attention that these devices are creating a distraction to yourself or to other

students, I reserve the right to change this policy by communicating such a change in class and through Blackboard. No cell phones will be permitted during exams.

- As a courtesy to your fellow classmates and instructor, you are asked to only use a laptop, PDA, iPad, etc. in class if you are genuinely using it for class purposes (i.e., taking notes, reviewing PowerPoint, etc.). I reserve the right to ask that these devices not be used in class if they distract from class lectures or activities. These and all other electronic devices must be stored, and not on your person, during exams.

- Expected etiquette: Silence (not vibrate – silence) your cell phone, Blackberry, iPhone, and other PDA devices. Do not text, email, read, listen to, or talk on your cell phone or other device during class time. If the professor sees you using your cellphone during class time, your name will be called; and 10 points will be deducted from your overall points in the course for each occurrence. No texting, no social media, no Internet! Class time is for discussion, learning, and participation. Laptops and other computing devices are not allowed during class time. Classes held in the computer lab are for coursework only. Do not use email, social media, or the internet during class time in the lab unless warranted by the assignment.

University Policy

The researchers also asked instructors if the use of personal technology in the classroom on their campus is encouraged, discouraged, banned in the classroom, left up to the individual

instructor, or other (please specify). Of the 55 responses, 75 percent indicated that it is left up to the individual instructor, 11 percent indicated it was encouraged, 11 percent indicated it was discouraged, and none said it was banned. Three respondents commented along the lines that personal technology was encouraged for course-related use, but some instructors may wish not to use it.

Classroom Distractions

Respondents were asked, to indicate if they have had problems with personal technology class distractions. Table 1 indicates the types of problems and the extent of the distractions to the educational environment that 76.4 percent (42) of the respondents indicated were issues in the classroom.

Table 1.

Personal Technology Class Distractions

Activity	% Response
1. Students reading text messages in class	73.7%
2. Students sending text messages in class	66.7%
3. Students browsing websites for personal information (i.e., latest news, sports scores, shopping, etc.)	64.3%
4. Students dealing with ringing phones	40.5%
5. Students checking or communicating on Facebook	40.5%
6. Students taking or making calls during class	21.4%
7. Students checking or communicating with Twitter	16.7%
8. Students cheating on assignments or tests using personal technology	16.7%

Additional input from the respondents indicated that sound was considered as the most challenging distraction overall. However, even though students have learned to turn off the ringer, silent texting is also considered a major challenge, and small smartphones enable browsing.

Even though the majority of respondents indicated that the use of personal technology in the classroom was a distraction, many on occasion allowed students to use their personal devices in order to enhance specific learning. This contradiction in practice is summed up by one respondent who allows no challenges to the non-use policy since students are warned at the beginning of the semester that phone use is not allowed during class. However, occasionally, if students have Internet access, the instructor asks them to do a search, for clarification purposes, on a topic that they are discussing for clarification purposes.

Classroom Use of Personal Technology

When asked if students use personal technology to complete any course assignment or for any other course-related activity during class, the respondents were divided. While slightly more than half of the respondents (57%) report that students DO NOT use personal technology during class to complete any course assignment, 43 percent reported that their students DO use personal technology to search for pertinent information for classroom discussion.

Technology Literate Faculty

When asked, "How would you describe yourself in relation to today's technology," the respondents considered themselves relatively up-to-date in their understanding of today's technology. An overwhelming 62 percent self-identified as knowledgeable about technology, while 23 percent considered themselves as tech savvy and/or use the latest tech gadgets. Only 15 percent indicated that they have only some knowledge about technology. No one was averse to

technology. Such responses seem in line for faculty who are involved in teaching topics related to technology/information systems.

Personal Technology Perceptions

Following are additional comments shared by respondents about the use of personal technology in the classroom. These thought provoking comments led to the conclusions of this article and give reasons to continue to consider the importance of a personal technology statement in the class syllabus:

- As educators, we should be modeling technology in the classroom and occasionally have our students use their technology. Last semester, I had another professor teaching my class, and I was monitoring it online from home when three students emailed me during the class time about questions. I replied (with a copy to the teaching professor) "Why are you emailing me during class lecture?"

- Some of my colleagues 'ban' personal technology in the classroom and have temporarily 'confiscated' these items. But this approach seems very 'high school' to me, so I've avoided it because it's not the kind of classroom atmosphere I want to develop. Personal technology seems like it is here to stay; perhaps it is wise to conduct this type of study and try to find ways to incorporate it into teaching.

- Increasingly, textbooks will be delivered electronically, so tablets and laptops will be a normal part of the classroom environment. Collectively, we need to discover ways to focus students on the constructive use of their devices rather than on distractive activities.

- I support the use of technology in class; the challenge is to have students use it for learning purposes during class time!

Conclusions

Based on our study of information systems faculty, it appears that the use of personal technology remains a gray area in the classroom. Some faculty ban it, some ignore it, and some use it to enhance the classroom experience. Nearly half of the respondents have a statement in the syllabus relating to personal technology use, almost 30 percent say that they think they need to include a statement about personal technology in the syllabus, and about one-fourth do not think a statement of any type is necessary.

Our results from faculty indicate that text messaging is the biggest classroom distraction, which echo the results from the study conducted by Bjorklund and Rehling (2010) where the most frequently observed uncivil classroom behavior was texting.

One of the biggest issues relating to personal technology in the classroom may be that faculty have not found significant ways to use it to enhance teaching.

Recommendations

Because faculty have different viewpoints and expectations about personal technology in the classroom, they should specify policies for students to follow in the course syllabus. Following are two examples of policy statements relating to technology that could be used in a class syllabus.

Statement 1: This statement would be for the faculty member who wishes to exclude personal technology use in the classroom.

Personal Use of Technology. The use of computers, tablets, and smartphones/cellphones in the classroom will not be permitted without prior arrangement with the instructor.

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Statement 2: This statement would be for the faculty member who would like to encourage appropriate use of technology but provides restrictions on the use.

Appropriate Use of Technology. When students have personal technology available in the classroom or class lab, it should be used appropriately. Using devices for interacting on sites such as Facebook or Twitter is not an appropriate in-class use of technology. Sending or receiving text messages, instant messages, or making or receiving phone calls in class can cause distractions to the teacher and to fellow students. Cell phones, computers, and other electronic devices in the classroom are to be used for class purposes only.

Faculty should also reassess assignments and classroom activities to see if personal technology could enhance those assignments or make them more current and relevant. Sharing that knowledge with other information systems faculty would assist in more efficient utilization of personal technology in those classrooms that use it.

In addition, faculty should develop new activities that rely on personal technology to increase student interest as well as engagement. Increasingly, personal technology will become more available. At some point, faculty may have to decide to embrace the technology if they are not doing so now. It will not be going away.

Future Research Implications

Further research could provide information about additional creative ways students and instructors are using personal technology to add to the learning environment. Problems and cases that require the use of personal technology would be advantageous to both the instructor and the students.

At the current time, the use of personal technology in the classroom is in transition. A definitive answer of no—to ban personal technology—or yes—to use personal technology—has

not yet been established in higher education. Research to follow this trend may develop a definitive answer.

Students and faculty appear to have diverging viewpoints on the use and value of technology in the classroom. Students sending and receiving 100 text messages per day may find it difficult to see the importance of not texting during class. A further study highlighting differences in perception between faculty and students could be of value to higher education.

With information systems professionals' greater understanding of technology than university faculty without that expertise, it may fall to our profession to develop more effective ways that technology can be used to enhance the classroom experience.

References

Aydin, A. (2013, January 21). Smartphone use on college campuses. *Verizon Wireless News Center.*

Baker, W. M., Lusk, E. J., & Neuhauser, K. L. (2012). On the use of cell phones and other electronic devices in the classroom: Evidence from a survey of faculty and students. *Journal of Education for Business, 87*(5), 275-289.

Bjorklund, W. L, & Rehling, D. L. (2010). Student perceptions of classroom incivility. *College Teaching, 58*, 15-18. DOI: 10.1080/87567550903252801.

Bugeja, M. J. (2007, January 26). Distractions in the wireless classroom. *The Chronicle of Higher Education.*

de Vise, D. (2010, March 9). Wide web of diversions gets laptops evicted from lecture halls. *The Washington Post*.

Denholm, A. (2013, January 26). Smartphones and iPads must be allowed in class: Pupils will benefit from using their own devices, say report. *The Herald.*

Fischman, J. (2009, March 16). Students stop surfing after being shown how in-class laptop use

      lowers test scores. *The Chronicle of Higher Education*.

Gabriel, T. (2011, May 13). Speaking up in class: Silently using the tools of social media. *New*

      York Times. p. 1. Retrieved from EBSCOhost.

Glass, N. (2012, September 8). Laptops may be the ultimate classroom distraction. *USA*

      TODAY College.

Miller, M., Berg, H., Cox, D., Carwile, D., Gerber, H., McGuire, M., …Williams, J. (2011). A

      bird's eye view of an I-phone world: Differing perceptions of cell phone use in academic

      settings. *Eastern Education Journal, 40*(1), 3-10.

Murray, K. E. (2011). Let them use laptops: Debunking the assumptions underlying the debate

      over laptops in the classroom. *Oklahoma City University Law Review, 36*(1), 185-229.

      Retrieved from EBSCOhost.

Rosenberger, J. & Robertson, J. (2011). Smart career advice: Laptops as a classroom distraction.

      Communication of the ACM, 54(1), 14-15. doi: 10.1145/1866739.1866743.

Sample, M. (2012, March 20). Best practices for laptops in the classroom. *The Chronicle of*

      Higher Education.

Samson, P. (2010, May 20).   How laptops can enhance learning in college classrooms.

      *University of Michigan News Serv*ice.

Sprint joins University of Notre Dame for groundbreaking study of students' wireless and social

      networking habits. (2011, July 26). *Business Wire.*

Thornton, B. (2011, April). Personal technology in the classroom. *elearn Magazine: Personal*

      technology in the classroom. Retrieved from

      http://elearnmag.acm.org/archive.cfm?aid=1999649

Tindell, D. R. & Bohlander, R. W. (2011). The use and abuse of cell phones and text messaging in the classroom: A survey of college students. *College Teaching, 60*(1), 1-9.