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Cell Phones for College Teaching: A Literature Review

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Keywords: Cell phones, adult education, college students, mobile device

Abstract: Cell phone is the fastest growing technology among young adults. However, cell phones are considered more as a distraction in the classroom than a tool to support college student's learning. Cell phones can be noisy and distracting, but they can also be an aid to learning (Docksai, 2009). Although cell phone is the most preferred mobile device of college students and its ownership are widespread, cell phones in general are still underappreciated in the college settings. From the literature review, majority supported the use of cell phone to enhance college students' learning and interaction despite some prevailing limitations.

Introduction

In universities and colleges around the world, it is generally acknowledged that computers are essential for 21st century students. Six years ago, Prensky (2005) suggested it is time to think cell phones as computers. Moreover, the description of word "cell phones" itself seems vague. Some studies referred it as cell phones while others as mobile phones or smart phones. Boggs and Kennedy (2010) identified cell phones as one of the four types of mobile devices: cell phones, smart phones, portable media players, and tablet computers. For this study, "cell phones" was used to comprise not only cell phones but also mobile phones and smart phones.

As of June 2010, more than 292 million Americans were wireless subscribers with a penetration rate of 93% of total U.S. population (CTIA, 2011). Since wireless communications are ubiquitous, cell phones are widely owned by U.S. adults (Davids, Forrest, & Pata, 2010). Adult students and instructors use cell phones such as iPhones, BlackBerrys and Droids at home and at work. Boggs and Kennedy (2010) found cell phone was the most preferred mobile device among undergraduate students. This finding was supported by the fact that more than 94% of today's college students own cell phones (Burns & Loheny, 2010). Although cell phones are the most preferred mobile devices of college students and its ownership among them are widespread, cell phones in general are still underappreciated in the college settings.

Purpose of the Study

Cell phones are powerful little handheld computers (Eifler, 2009; Prensky, 2005). Cell phones are getting more powerful with enhanced features, increased hardware and software supports, lowered subscription fees, and abundance of mobile applications for learning. Lindquist et al. (2007) posited that cell phones features such as Short Messaging Service (SMS) and Multimedia Messaging Service (MMS) are robust, simple, affordable, and familiar to students. In studies on cell phones for teaching college students, the findings supported its use in

the classroom and for student-faculty interaction (Markett et al., 2006; Milrad & Spikol, 2007; Trotter, 2009). This led us to ponder whether cell phones are just a distraction or a great learning tool for college students.

The questions we asked as we tried to find answers in the literature were: why cell phones are still not considered for college classrooms? Why cell phones are still not acknowledged as other technologies to teach? Are cell phones only a distraction to college students' learning? How the use of cell phones in classroom impacts students' learning? Do cell phones provide advantage over other learning tools? These questions seem to emerge quite often among many educators and students alike. The purpose of the study therefore was to explore literature concerning how college students viewed the use of cell phones for learning and communication.

Methods

From the literature review, we found some of the software or applications used in the study were no longer in operation. We therefore narrowed the literature search largely to the last six years. In addition to the journal articles, we reviewed Websites, blogs, reports, and magazines, among others. We analyzed the key findings in the following section of the study.

Findings

The role of technology in the classroom has no doubt been a contentious issue since the first Roman student brought an abacus to his Grammaticus (Maclean, 2010). The same is happening with cell phones; some considering it as a great learning tool while most viewing it as a source of distraction and cheating. Yeshi and Aagard (2011) found that the supports for cell phone use are more widespread in the literature than many educators think otherwise. The rapid proliferation of cell phones presented an opportunity to develop new interactive classroom systems to enhance students' learning experience (Scornavacca, Huff, & Marshall, 2009). In addition, the use of cell phones as an interactive tool requires minimal technical and financial support in the college settings: a majority of the students possess the needed hardware and software and communication occurs via existing cell phone networks (Markett et al., 2006).

Moreover, cell phones can be a great learning tool like other communication and computing devices (Librero, Ramos, Ranga, Trinona, & Lambert, 2007). There are many proper uses of cell phones such as enhancing class projects, studying for tests, and getting instructors' help after school with tough assignments (Docksai, 2009). In a study on college classroom of more than 100 students, Scornavacca, Huff, and Marshall (2009) found the use of cell phones in the classroom provided a positive experience to the instructor by increasing the quality and quantity of student feedback in the class. Studies have used SMS and MMS for student's interactivity in the classroom via polling and feedback (Lindquist et al., 2007; Markett et al., 2006; Cobb et al., 2010), and beyond the classroom for after-class discussion (Markett et al., 2006). SMS and MMS were found to encourage shy, non-participatory or self-conscious students to participate; increased learner-content interaction, promoted classroom accountability, and encouraged student interaction (Graham et al., 2007; Markett et al., 2006; Patry, 2009).

Some benefits identified with cell phone learning were: great for people on the move, anytime anywhere access to learning content, enhance interaction between and among students and instructors, enhance student-centered learning, provides media-rich environment, reduce cultural and communication barriers, and facilitates collaboration (Corbeil & Valdes-Corbeil, 2007). Moreover, cell phone learning can also lead to a more sophisticated use of technology. For instance, cell phones support adults, school dropouts or socially disadvantaged, to develop

basic information and communication technology-based tasks such as word processing and Internet use (Liberio et al., 2007). In addition, in a study on the use of cell phones in UK's college classrooms, nine out of ten lecturers believed their teaching improved by using cell phones and hand-held computers to support student's learning (Thomson, 2009). In a similar study, texting (SMS) alone provided a potential means of supporting first-year students to adjust to the new college environment in the United Kingdom (Harley, Winn, Pemberton, & Wilcox, 2007).

The most common features of a cell phone i.e., texting was found often in the literature. This seems understandable as text messaging was far more widely used than voice calls among college students (Harley et al., 2007). One study on the college student's time-use found students spending 14.35 hours each week on texting and 6.49 hours talking on the phone (Hanson, Drumheller, Mallard, McKee, & Schlegel, 2011). The potential of texting was eminent from a study conducted in Philippines. In this study, SMS was used to provide lecture alerts, schedules of focus group discussions, examination reminders, deadlines for projects and papers, new courses, grades, schedules for consultation, availability for library resources, among others (Liberio et al., 2007).

However, not everyone consider the use of cell phones as favorable. Wei and Leung (1999), Campbell (2004), and Campbell and Russo (2003) found classrooms the least acceptable place for cell phone use. For instance, many college professors ban the use of cell phones in their classrooms considering it as a distraction to the learning process and compromising examinations (Braguglia, 2008). Some challenges with cell phone learning are: cheating, ringing, a feeling of isolation, a low advantage for less tech-savvy traditional students, and the rapid upgrades (Campbell, 2006; Corbeil & Valdes-Corbeil, 2007). Moreover, in a study on cyber bullying among undergraduate college students, Walker, Sockman, and Koehn (2011) found the three most frequent technologies reported by students to bully were Facebook (56%), cell phones (45%), and AOL Instant Messaging (43%). In other words, these three technologies can be accessed through cell phones with web capabilities. There were other limitations with cell phone use such as signal problems, texting errors and delay, small screens and keypads, texting abbreviations, privacy concerns, and immediacy, among others.

However, Burns and Lohenry (2010) suggested ways to overcome distractions posed by cell phone users during class such as a cell phone policy, orienting students to the policy, communicating cell phone etiquette for class, role modeling cell phone etiquette, and reinforcing cell phone etiquette in the course syllabus.

From the literature review, a majority of the study supported the use of cell phone to enhance college students' learning and interaction despite some prevailing limitations. We agree with Maslen (2006) that cell phones can serve as portable hand-held computers instead of seeing it as simply communication devices. The research on cell phones in the United States seems rare. There is clearly a need of more research on the role of cell phones in the U.S. education.

Applications

Some educators described cell phones as a modern Swiss knife, with the potential to be used as a tool for varied educational and learning activities (Nankani & Ojalvo, 2010). Some of its potentials are illustrated briefly. First, Polleverywhere.com is a free web application for instant feedback and comments via SMS from students in the class. Second, SMSeverywhere.com provides features such as professional SMS and bulk SMS to contact a group of students via a single SMS. Third, Google SMS is free and can be useful for language learning with its dictionary, translation, and Q&A, features among others. Fourth, Google Voicemail provides free voicemail number for instructors preferring not to share their personal

cell number. Fifth, for podcasting via cell phones, hipcast.com and phonecasting.com are two good applications. Finally, FreeConferencePro.com is a free application that enables phone conferencing for up to 250 callers at no cost. It should be noted that some cell phone carriers in the United States does not support some of these applications.

Conclusions

Cell phones can be a major distraction to learning when students use them improperly. A majority of the study, noted above, provided an evidence that positive results can be achieved by encouraging students to bring their mobile phones out in the open and to use them to contribute to the class, and to their own learning – that is, by joining students instead of trying to beat them. It seems instructors has no alternatives than joining students in using cell phones. For instance, although both students and faculty identified cell phones as a source of distraction during class time, more than 40% of the students still used cell phones during class (Burns & Lohenry, 2010).

Cell phones can be a great learning tool if instructors recognize its capabilities. Eifler (2009) stated there are pedagogically defensible alternatives to silencing cell phones in the classrooms. Kolb suggested educators have more to gain from embracing cell phones than keeping them out of the classroom (Kharif, 2008). For instance, a mere texting or SMS can be a great tool to help students' learning. In addition to the above findings, texting can be used for one-to-one tutoring for special need students and English Language Learners and also, to provide civic education by government or non-government agencies, among others. It will not be far when there will be eBooks for cell phone users too.

However, a big hurdle to cell-phone use is resistance by teachers (Kharif, 2008). Prensky (2008) proposed the need of teachers to move from old pedagogies (talking or lecturing) to new pedagogies where students learn from themselves using technologies such as cell phones. November (2009) also shared that the toughest part isn't in teaching teachers to use technology. The toughest part is to teach teachers to be comfortable with shifting control i.e., to shift from old pedagogies to new.

Elizabeth Hartnell-Young hoped, "in the future, mobile phone use will be as natural as using any other technology in school (and college)". Will Elizabeth hope materialize? There are several positive indicators such as increasing calls against the ban of cell phone use in the classroom, growing number of research on cell phone use, increasing capabilities of cell phones, and the declining monthly subscription fees. Moreover, as of 2008, Braguglia found in his survey of College of Business students that 45% of the students spend four or more hours daily on their cell phones, which provided evidences that students spend most of their daily time on cell phone than other educational tools.

To conclude, some limitations of cell phones and resistance from instructors may be the reasons why cell phones are still not favorably accepted as other technologies for college students' learning and interaction. Are instructors not joining the students to help use their preferred mode of communication? Or are there more reasons, than stated in this paper, for not adopting cell phones in the college settings?

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