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ENGAGING TODAY'S NET GENERATION OF STUDENTS WITH NEW TECHNOLOGIES: A STUDY OF STUDENT USE AND PERCEPTIONS OF NEW ONLINE COURSE DELIVERY METHODS

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ABSTRACT

Technology is evolving at a rapid pace and the traditional modes of course delivery in higher education are increasingly being examined and supplemented or replaced by online or e-learning strategies, platforms, and methods. Research has indicated that today's multi-tasking college student desires flexibility both in scheduling and the delivery of course material. Based on these suppositions, online courses with enhanced technological components would be ideal for the "net" generation of students. The researchers augmented an existing online course for upper-level undergraduates with ipod Touches and a Facebook group page. The purpose of the study was to examine student use of a new technology for course delivery and to assess students' perceptions of that technology and the online course delivery format in general. Although use of the ipod Touch was initially viewed positively due to the flexibility afforded to students, use of this mobile device waned during the semester, but the itunes U interface for lectures and Blackboard platform for course material continued to be viewed positively by students. Preliminary findings from the mid-semester focus group interviews and weekly blog entries supported the contention of a changing educational environment with students who perceive technological enhancements in a positive light due to the flexibility afforded to their busy multi-tasking lives. However, use of mobile devices such as the ipod Touch for academic use varied widely by student.

KEYWORDS

Technology, online course, e-learning, student perceptions.

1. INTRODUCTION

Online or e-learning education in the United States has grown at unprecedented rates. Over the past five years, for example, the number of students taking at least one online course in the United Sates has more than doubled (Allen & Seaman, 2007). While several factors contribute to a university's decision to offer online courses, increased student access appears to be the primary determining factor (Allen & Seaman). As enrollments continue to increase and funding for building and infrastructure expansion decrease, most universities see online course delivery as a strategically effective and cost efficient method of accommodating growth. Opponents argue that online education is a poor substitute for face-to-face classroom instruction and that the delivery of course material and student comprehension and retention is marginalized in an online asynchronous format (Bork, 1997; Errington, 2001). In contrast, a growing body of literature advocates that online education, which includes the integration of new technologies combined with flexible learning formats, may more effectively engage today's 'net generation' of students (e.g., Conole, de Laat, Dillon, & Darby, 2008).

Sharpe et al. (2005) argue that a focus on pragmatic reasons for adopting online and flexible learning courses (e.g., student access and facility limitations) fails to acknowledge the learner's perspective. Today's students are fundamentally different from previous generations in the way they process information and communicate (Oblinger & Oblinger, 2005). Oblinger and Oblinger contend that today's students prefer to receive information quickly, are adept at processing information and multi-tasking, and use multiple communication channels to access information and communicate with friends and instructors. Most recently, Conole et al. (2008) confirmed that students are learning in a complex and changing environment and use a variety of technological tools to facilitate and support their learning. There also appears to be a shift from a passive to a more interactive mode of learning for students of the net generation (Conole et al.), placing greater demands on colleges and universities to move beyond the traditional face-to-face classroom format. Additionally, Kennedy et al. (2006) assert that there is a mismatch between current university offerings and student use and a further mismatch between perceptions of student use of technology and actual use. There also appears to be a consensus in the literature that, although many acknowledge the existence of a new net generation of students and that institutions of higher learning across the globe are integrating technology and increasing online opportunities, we still know very little about how online education and technology in general is affecting today's students (e.g., Sharpe, et Al., 2005; Conole, et al., 2008). More in-depth and targeted studies are needed to determine how students are using technologies in their education and what they think about these new technologies.

The purpose of this study was to examine student use of a new technology for course delivery and to assess students' perceptions of that technology and the online course delivery format in general.

2. BODY OF PAPER

2.1 Methods

Study participants (*n*=20) were randomly selected from a senior level (4th year) undergraduate course (*N*=40) at a major public university in the southeastern United States and invited to participate in the study. An invitation to participate in the study was sent to selected students using the email address each student provided to the university. An initial invitation was sent on December 1, 2007 with follow-up emails sent on December 15 and again on January 3, 2008. By January 7, thirteen students had agreed to participate in the study for a response rate of 65%.

The course selected for study is an asynchronous online class that has been taught for four years using an integrated online learning platform (i.e., Blackboard). For the current study, several modifications and enhancements were made to the course in an effort to further and more effectively communicate with and engage students. Enhancements were also made in an attempt to make course material more flexible and accessible. In addition to offering course material in the standard online learning system (i.e., asynchronous lectures, virtual field trips, videos, and supplemental readings) all course material was also delivered through Apple's iTunes using the iTunes U platform. In an effort to enhance student-to-student and student-to-instructor or teaching assistant (TA) communications, a Facebook group was created and all students registered in the class were invited to join. Each study participant was provided with an Apple ipod Touch and instructed to use the device in any manner they desired for the duration of the course.

Study participants were asked to complete an assessment of their learning styles (Felder & Spurlin, 2005) and asked to participate in two focus group interviews during the semester. Study participants were also asked to complete a weekly blog documenting their general experiences with every aspect of the online course, noting which course delivery platform they used (i.e., Blackboard or iTunes U) and their use of the ipod Touch for course activities and any other applications.

Preliminary analysis of this qualitative data has been conducted through thematic considerations only (i.e., identification of major themes from raw data). Learning styles are reported for descriptive purposes. Upon completion of the study, individual data from blog entries will be compared based on participants' learning styles. Individual and group data from blogs and focus groups respectively will be analyzed through open and axial coding with interrater reliability measures employed to limit bias.

2.2 Results

At the midpoint of the study, data have been collected through learning style assessments, weekly blog entries to date, and the mid-semester focus group interviews. The final focus group interview session has been scheduled upon completion of the final exam.

The first and most unexpected result from this study was the difficulty in acquiring 20 students to participate in the study. Invited students were informed that they would receive a free 8GB ipod Touch to use as they desired for the duration of the semester. Consultation with several students in the course and an assessment of email delivery receipts offered two possible explanations for a final sample size of 13 students. First, despite repeated attempts to email students, several students did not even read their email. Consultation with students further revealed that many students only periodically check email and rely more heavily on Facebook, cell phones, and text messaging to communicate. This prompted a late addition to the online course under study. A Facebook group site was created and all 40 enrolled students were invited to not only participate in the group but become a "friend" (as defined by Facebook) of the instructor and TA. Within 48 hours of the invitation 23 of the 40 enrolled students had accepted the invitation and joined the Facebook group. Following creation of the Facebook group, online communication for the course now included the following: (1) email (2) asynchronous Blackboard discussion board, and (3) Facebook messaging. Although a majority of students tend to use the Blackboard discussion board or email to correspond with the instructor and TA, several students (4-5) seem to exclusively use Facebook messaging. It should be noted that course instructions clearly indicated that any course-related questions directed to the instructor or TA must be posted on the discussion board. Consequently high discussion board use was expected. Also, given the structure of Facebook an assessment of student-to-student communication using Facebook or email was not possible. This will, however, be assessed during the mid-semester and final focus group interviews with study participants.

A review of the blog entries to date provided insight into several aspects of students' lives, their perspective on education and online learning, and the use of technology. Results from the first week of blog entries were primarily focused on student excitement with the ipod Touch and the flexibility afforded through use of the mobile device. The following entry by Student C (balanced learner with strong visual) was representative:

> *First off I must say the ipod touch is something really special. I love the touch screen and how easy it is to use. The thing that i like most about the touch is the ability to watch videos and listen to lectures on it. I have had two ipods before this one, one was the old generation ipod which stored music, and the other was an ipod mini used for working out. I also have a direct connection to my stereo system in my car for my ipod. One thing I found out this past week is that I could listen to the lectures while driving. I did not watch the actual movie but when I was on longer trips, say back and forth from work I could actually just listen to the ipod and the lectures.*

In subsequent weeks, the general tone of blog entries and reports about the academic use of the ipod Touch varied widely from the initial predominantly positive reports. Some students remained positive while others vacillated. For example, Student J (strong active, sensing, and visual leaner) reported in the first week enjoying use of the ipod and in the following two weeks utilized the mobile device infrequently stating in Week 3, "I really have not been using my ipod at all." In Week 4, this student's use changed slightly in reporting that the ipod came in handy to look up a reference during group project work. Student K (balanced and moderate visual learner) provided further insight into this aspect during Week 3:

> *As like a few other of my classmates, I too have been slacking. I have noticed a great decline in the use of ipod for academic use. I have still been using itunes to download the videos and will upload them onto my ipod, but for the past two lectures I have watched on my computer via itunes. My ipod has been used for mainly listening to music and getting online. However, overall the amount of time spent with my ipod has also decreased. It has been fun to have, especially as far as getting online and not having to tote around a heavy laptop. But when it's all over, I will go back to my little nano and everything will gradually go back to normal!*

Student comments on the flexibility provided by the asynchronous format of the course through the itunes U interface for lectures and Blackboard for course material remained predominantly positive in blog entries and the mid-semester focus group interviews. The following three excerpts from students were representative of responses. Student F (strong sensing and moderate active learner) stated, "I still find Itunes U a good interface for watching lectures and finding course material." Student G (strong sequential and moderate

sensing learner) said, “Taking a class through iTunes U is also a great tool for those that find paying attention in class difficult, or if the professor moves at a fast pace. If I find myself distracted I can always rewind the lecture.” Student D (strong sensing and balanced learner) replied, “Lately I've been watching the class lectures on my laptop instead of the iTouch. But I still use the iTouch on a daily basis for checking email and listening to music between classes. I prefer to watch the lectures on a computer because you can flip back and forth between the lecture and the notes on Blackboard.”

3. CONCLUSION

A review of the preliminary results from this study supports previous research by both Sharp et al. (2005) and Conole et al. (2008) that students are learning in a complex and changing environment and use a variety of technological tools to facilitate and support their learning. The positive and enthusiastic nature of participant blog entries suggests that students easily integrated new technology into their access of course material and sought out and integrated additional applications of the technology. These preliminary results also support the contention made by Oblinger and Oblinger (2005) that today’s students are adept at processing information and multi-tasking and use multiple communication channels to access information. Without an instructional orientation to the ipod, participants still experienced little to no difficulty implementing the ipod into their access of course material. When problems did occur, as noted in two or three blog entries, students found their own solutions. Although anecdotal in our research, the difficulty in recruiting subjects to this study seems to further validate research by Brunner and Yates (2008) suggesting that the channels of communication for today’s students may be changing. Our inability to attract a desired sample size of 20 students appeared to be exacerbated by sporadic or limited email usage on the part of some students. Offering an alternative method of communication (i.e. Facebook) seemed to facilitate student-student and student-instructor communication. This speculation will be further explored during subsequent focus group interviews with study participants.

Although the results of this study are still preliminary it does seem evident that students in this study are both capable and excited about the use of new technologies in education and the flexibility of online course delivery. Further analysis incorporating results from an assessment of student learning styles will determine if perspectives and use of various course delivery components vary by student learning style. In addition, open and axial coding of the blog entries and in-depth focus group sessions will continue to explore student perceptions and evaluation of various aspects of the online course (i.e., the interaction of specific components such as lectures and virtual fieldtrips with the different technologies), a comparison and evaluation of itunes U with a more standard online learning platform (i.e., Blackboard), and finally, an evaluation and comparison between online course delivery and face-to-face delivery in general.

REFERENCES

Allen, I.E., & Seaman, J. 2007. Online nation: Five years of growth in online learning. Sloan Consortium. http://www.sloan-c.org/publications/survey/pdf/online_nation.pdf [1/12/2008].

Bork, A. (1997). The future of computers and learning. *T.H.E. Journal*, 24, 69-77.

Brunner, B. R., & Yates, B. L. (2008). What factors influence student e-mail use? *International Journal of Instructional Media, 35* (1), 53-61.

Conole, G., et al, 2007. Disruptive technologies, pedagogical innovation: What’s new? Findings from an in-depth study of students’ use and perception of technology. *Computers & Education* 50, pp 511-524.

Errington, E. P. 2001. The influence of teacher beliefs on flexible learning innovation in traditional university setting. In F. Lockwood & A. Gooley (Eds), *Innovation in open & distance learning: successful development of online and web-based learning* (pp. 27–37). Kogan Page Limited, London.

Felder, R. N., & Surlin, J. 2005. Applications, reliability and validity of the index of learning styles. International Journal of Engaging Education, 21, No. 1, pp. 103-112.

Kennedy, G. et al, 2006. Questioning the net generation: A collaborative project in Australian higher education. In Proceedings of the ASCILIE conference, Sydney, December 2006, http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p160.pdf [2/15/08].

Oblinger, D.G., & Oblinger, J.L. 2005. *Educating the net generation*, An Educause e-book publication, http//www.educause.edu/ir/library/pdf/pub7101.pdf [2/21/08].

Sharpe, R., et al, 2005. Final report: Scoping study for the pedagogy strand of the JISC e-learning programme, http://www.jisc.ac.uk/uploaded_documents/scoping%20study%20final%20report%20v4.1.doc [2/15/2008].