USING WIKIS, PODCASTS, AND VIDEO FILES TO ENHANCE THE LEARNING EXPERIENCE

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ABSTRACT

Today's college students are well versed in the use of new Internet and WWW technologies. Many of these technologies fall under the umbrella of Web 2.0. A key differentiator of Web 2.0 is an emphasis on the social creation and sharing of information. This paper examines a pilot project integrating Web 2.0 tools into undergraduate business classrooms. The authors share both successes and challenges in introducing a range of Web 2.0 tools into their classes.

Keywords: Web 2.0, classroom technology, teaching

BACKGROUND

Over the past 5 years, emerging Web 2.0 technology has become increasingly available to those with Internet and WWW access. While new software tools have supported the development of Web 2.0 tools such as wikis, blogs and podcasts, perhaps the greater shift has occurred in how people use the Internet and WWW in Web 2. [2] [4] [6] [7]. Batson suggests Web 2.0 represents a shift from earlier personal productivity applications which allow an end user to complete a task or job on their individual desktop to the sharing and placement of information in a social context accessible to all with Internet access [1]. Many faculty use online course management systems as a course organizer (e.g., to share lecture notes, collect homework assignments, conduct online exams), an online course administration tool geared toward increasing productivity inside, and outside, the classroom [3]. However many of our students are using Web 2.0 to share their experiences and perspectives globally using a variety of media-rich communication tools which can be accessed on their laptop, cell phone or MP3 player [6].

Today's college students are well versed in the use of new, portable technologies. A 2007 survey of 18- to 24-year old college students enrolled in four-year colleges or universities found that 97% had a cell phone, 79% had a laptop computer and 73% had a media player of some sort [4]. Some authors suggest that faculty may in fact be operating at a technology disadvantage, having adopted older desktop and wired technologies, while our younger students have come of age using multi-function mobile technologies for educational and social purposes [5]. What sets many of these newer, mobile technologies apart is their integration with Web 2.0 technology, and the younger generations embrace of the social computing paradigm supported by Web 2.0 [2] [4].

The need to better understand how our students perceive the use of Web 2.0 in our courses, as well as to gain a professional understanding of which tools should be used to teach which lessons served as the major impetus for this project.

PILOT PROJECT

In June 2007, the authors received funding under a campus educational technology grants program to pilot the use of Web 2.0 tools in several undergraduate business classes. The pilot project commenced during the Fall 2007 semester, with a small selection of Web 2.0 tools introduced into three undergraduate classes (i.e., Leadership Processes, Managing Innovation, Management Information Systems). The tools used varied based on the course and assignment. A summary of Web 2.0 tools used during the Fall 2007 semester is included in Table 1 and a lengthier discussion follows below.

TABLE 1

Web 2.0 Tools used in Pilot Semester

Class	Web 2.0 Tool	Purpose
Leadership Processes	Video Podcasts	Exam review lectures
N=45	2 sessions	
	Camtasia Flash Files	Lecture review
	2 sessions	
Management Information Systems	Wimba Voice Chat	South African guest lecturer to class
N=35	1 session	
	YouTube Video	
	6 sessions	
Managing Innovation	Video Podcasts	Student review of their class presentations
N=29		
	Camtasia Flash Files	
	5 sessions	Student review of guest lecturers
	2 sessions	Exam review lectures

The pilot semester was used to familiarize the authors with the technologies and their use in the classroom. In addition to the Web 2.0 tools noted above, each course used Blackboard Vista as a course management and communications tool, allowing each instructor to share pertinent course information (e.g., syllabus, assignments, lecture notes, assignments) with students in each face-to-face course. An end-of-semester survey was administered to students in two of the three pilot semester classes (i.e., Leadership Processes, Managing Innovation) to assess student use of Web 2.0 tools in these classes along with the students' perceptions regarding the contribution each tool made. The third course (i.e., Management Information Systems) utilized a focus session format to discuss students' perceptions of the usefulness of each tool. This data is summarized below.

THE TOOLS

Social Media – Podcasts

Podcasts refer to compressed audio files that are saved on a central website and then downloaded by end users for use on their desktop and/or portable MP3 player. A unique feature of podcasts is the ability to subscribe to the podcast, meaning end-users request that any additional podcasts from a site be automatically sent to the end user when they next launch their podcast software. Podcast software such as ITunes, IPodder, and Doppler allow end users to manage their

subscriptions, files and synchronization with portable MP3 players. An increasingly popular variant of the podcast is the video podcast, which includes both an audio track and video image. Video podcasts can be used to present a lecture, matching the audio lecture to images or slides.

The authors used podcasts in two different ways. They both created video podcasts of course lectures and exam reviews for review by students outside of class as well as integrating the review of podcasts created by others into homework and course assignments. Specific uses are described below:

Video Podcast Lectures - All three courses presented students with the option of reviewing video podcasts of selected course lectures while students in two classes also had access to exam review video podcasts. Video Podcasts were created using the multimedia authoring application Camtasia. Lecture time varied from 15 minutes to 50 minutes. Anecdotal comments by students regarding the use of course lecture video podcasts were mixed. Some students found the audio stream useful, but the reduced size lecture slides were not recognizable on their MP3 screen. Students also stated they prefer to have the lectures divided into briefer 15 minute sessions rather than longer 50 minute lectures. Students indicated this was due primarily to the limited ability to index and scroll through audio and video podcasts.

In the two classes that utilized video podcasts as an exam review tool (Managing Innovation, Leadership Processes), 87.3% of students (N=64) reported using these files at least once before each of the two courses examines. In these same two classes, 88.7 % of students indicated agreement with the statement "Review of course website materials prior to each exam contributed to my learning in this course."

Podcast Reviews - Students in Management Information Systems were required to find and review a podcast on an Information Systems topic, and then summarize the content in a 5 slide PowerPoint presentation. Students were randomly selected to present their findings to the class. Students reported "liking" this assignment since it provided a way of obtaining additional information on a topic of interest to them individually. Most students reported listening to the topic on their laptops or desktops, rather that uploading the podcast to their MP3 players.

Podcast Perspectives – A structured assignment examining ethics in Leadership Processes provided students with links to podcast interviews with a retired congressman from two competing news organizations (in this case NPR and Fox News). Students then responded to a series of questions and were asked to summarize the differences between the two perspectives. Informal feedback from students suggested that they did not typically look for opposing viewpoints when conducting course research. Several written responses to the assignment indicated that the tone of the interviewer and subject influenced their response to questions.

Social Media - Video Files

A key aspect of Web 2.0 is the sharing of self-produced content. Sites such as YouTube host and serve self-produced video clips while sites such as Flickr, SmugMug and Webshots host and serve digital photos. These sites typically charge no fees and require no special software applications. Amateur (and professional) photographers and videographers can upload, tag

(label with keywords) and share their work with anyone who has access to the Internet and WWW. Streaming video clips linked from the social networking site YouTube were integrated into the introductory Information Systems course lectures. These files were used during lectures to highlight specific course points. The video content was produced by amateur videographers not related to this course or institution.

While YouTube and similar sites provide search and review options, the first challenge confronted in using others' video clips in class is the amount of time required to find and review clips appropriate to the course content. One author spent approximately 15 hours searching for appropriate video clips, then used six whose total elapsed time was 14.5 minutes. Since tags, or keyword identifiers, are added by the author without any enforced taxonomy, one must first learn the tagging language and then hope the author tagged the clip appropriately and sufficiently. Additionally, some sites return search request data in order of ranked popularity, meaning the more frequently a video clip is viewed, the more likely it is to appear in the first several pages of search returns. The ability for an end user to find the content he or she desires is somewhat dependent on the content author's tagging experience and the viewing trends of thousands of other Web 2.0 users.

When appropriate clips were found, the author found that these were most useful when short in length (less than 3 minutes) and humorous in nature, adding levity to a some times dry academic topic. The major downside was the upfront time to identify and review the video clips, as there was no adequate search mechanism to identify the content or the quality of the video clips.

Synchronous Conferencing Tools

Horizon Wimba is a collaborative educational technology. It allows for synchronous audio lectures and conversations, multimedia presentation and the sharing of the same desktop between multiple locations. One of the authors (Management Information Systems) used this tool to invite a guest lecturer and a question and answer presentation from a colleague in South Africa. Students reported overwhelmingly liking this classroom tool primarily because they could ask questions of an expert at a distance location. While the guest lecture added to the student experience, a significant amount of time was required to prepare the technology for the presentation. When using Wimba for a remote lecture transmission, it took 6 hours of preparation time for each participant for a 1 hour 45 minute interaction. The issues encountered primarily involved firewall settings, bandwidth restrictions and user setup. These issues could be related to institution specific network policies and firewalls.

Wikis

A wiki is a website or similar online resource which allows users to add and edit content collectively. As users add or edit pages, a log of changes to the wiki is recorded. Depending on the administration of the wiki, changes may be restricted to certain users or available to any potential contributor. Wikis are quickly gaining favor among educators who believe the ease with which this Web 2.0 tool supports student and educator collaboration is important in supporting authentic learning [2].

The College of Management at the authors' university has created their own wiki for use by faculty for course material and other college wide projects (http://comwiki.uml.edu). One author is using the ComWiki to share videos created for his Managing Innovation class. Thus, it is a repository of information where students in future classes can view videos from previous classes, post their own videos, and comment on the videos of their classmates.

The other author is integrating the ComWiki into his Spring 2008 online Management Information Systems course. Part of the class includes a discussion of a short novel, *The Goal*, and it is anticipated that the wiki will provide an online space where students can add their own comments and key questions related to this text. The wiki tool used for this course, MediaWiki, provides WYSIWYG editing, meaning there is no need for students to learn any markup language in order to edit the site. Progress regarding the use of this wiki by the authors and their students will be discussed at the conference.

Audio Video Screen Capture

While not strictly a Web 2.0 tool, the authors used the multimedia authoring tool Camtasia to create both video podcasts and online multimedia instructional videos. We discussed the video podcasts created in the pilot above, but several other uses of Camtasia deserve mention. These include:

Tutorials. Brief audio video tutorials were developed to provide students with hints on how to use different software products required in the Management Information Systems course. Specifically, these tutorials explain navigation of the course Blackboard companion site, and how to perform specific functions in Microsoft Access and Microsoft Excel. Once developed, Camstasia allows these files to be saved in multiple online formats (e.g., Flash movie, Streaming QuickTime movie, Microsoft AVI movie).

Enhanced Podcast. An enhanced podcast involves the synchronization of an audio file to a series of image slides. In regard to the three courses discussed above, this involved synchronizing the live recording of a class lecture to PowerPoint slides from the class. The enhanced podcast was created after the class had ended, was saved as both a Flash movie and video podcast, and was then uploaded to the respected class website. This approach was especially helpful for students who missed a specific class.

Using Camtasia to capture video clips from the net. Camtasia can be used to both capture and translate video clips downloaded from other websites. This is particularly helpful when attempting to download and play a video during a class lecture. When the material is downloaded and converted to the local computer, the instructor does not have to depend on the website and network access being available.

Short snippets before class. Camtasia was used to capture and record short video clips, snippets, which discussed various aspects of the material to be discussed in that day's class. After showing these snippets to students at the start of class, students were then quizzed on the content of the snippet later in the class. The main purpose is to engage students in the subject matter prior to class.

CONCLUSIONS

Web 2.0 technologies offer faculty new tools for working with today's technology literate student. Our pilot project has identified several practical applications of Web 2.0 technology in the classroom. Our students have quickly picked up on the nuances of this technology and, in general, expressed satisfaction with the use of these tools. The potential for expanding the use of Web 2.0 in our classes is significant, tempered only by the increased time required in materials and assignment development. As faculty expand the use of Web 2.0 tools in their courses it will be important to weigh the contributions of the technology against the time required of both instructor and student.

In order to fully realize the potential of these new technologies, faculty must consider the context in which today's college students are using Web 2.0. While earlier educational technologies have been used rather successfully to administer and organize course content and activities, the entry-level, common access platform of Web 2.0 makes it relatively easy for students and faculty to produce and share information in a variety of formats. The apparent strengths of Web 2.0 (e.g., ease of use, social creation of content, multiple forms of expression) require that faculty develop course activities that emphasize student development and sharing of course artifacts in a manner that attests to learning that occurred throughout the course. Even with these challenges, we believe that use of Web 2.0 tools is beneficial to the overall learning experience of our online and on-campus business students.

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