Using Podcasting for Blended Learning

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Abstract

Blended learning is a hybrid learning format combining some of the best features of distance learning and traditional face-to-face classes. Through the use of online course management sites and other media, students can access material at their convenience and attend a reduced number of classes that then emphasize interaction. This educational opportunity is especially valuable for working adults who cannot attend traditional classes. However, the lack of lectures can be a challenge for students who learn best by hearing. Podcasting, which involves the creation and distribution of audio and/or video files, is one tool that can help students to learn better and more easily.

Introduction

A class using a blended learning (also called hybrid) format relies heavily on the distribution of online materials, while still allowing for some face-to-face contact. This system thus provides the convenience of distance learning, without completely forsaking the advantages of personal interaction. This hybrid format tends to be particularly popular with working adults who have limited time for time- and location-bound classes, providing what some call the "best of both worlds" (Dziuban, Hartma & Moskal, 2004, p. 3).

However, many materials are visually-based, which can put audio-learners at a disadvantage. Podcasting allows instructors to create audio files of lectures or other materials, thus helping students who learn better by listening. After these files are downloaded to portable mp3 players (for example, an ipod), students can listen to them anywhere—in the car, in the gym, etc. This also allows students to review the material as often as desired. Therefore, podcasting provides an additional resource for students, and is often provided to students in courses using a blended learning (hybrid) format at the Pennsylvania State University in the United States and Buskerud University College in Norway. The following sections provide a short background on blended learning and podcasting, and describes how podcasting can be used effectively in a course using a blended learning format.

Background on Blended Learning

The availability of internet access has opened new opportunities to students who cannot or do not wish to attend traditional college courses. Although correspondence courses are not new, the use of online course management systems and email communication makes delivery of course material faster and easier. A problem with distance learning is the lack of face-to-face interaction, although online discussion boards can improve interaction and communication among students who are not physically assembled together. With a blended learning course, limited face-to-face sessions are scheduled so that students can still benefit from personal contact while still limiting the time spent in a classroom.

The specifics of a blended learning format course vary widely based on the needs and desires of the students, instructors, and institutions. At one end of the spectrum, students spend only a minimum amount of time physically together, such as at the beginning and end of the course (Martyn, 2003). At Buskerud University College, students meet together for a few days at a time two to three times during the semester. The Pennsylvania State University typically offers one hour per week, although students are not required to attend the weekly sessions if they find it inconvenient. This format, which was designed by the students themselves, has been used every semester since 2006 and has proven very popular. A traditional class section is also offered during the same semester, providing students a choice of format. While it is common for students who originally enrolled in the traditional class to migrate to the blended learning course, as of yet, not a single student has moved from the hybrid to the traditional class format.

Dziuban and associates (2004) had similar success using blended learning over seven semesters. They found that the use of blended learning resulted in course attrition rates similar to those of face-to-face classes. This was important finding given that completely online courses had attrition rates approximately 50% to 100% higher than both blended and face-to-face courses. Although the differences were only slight, the proportions of students earning passing grades were consistently

higher in blended learning courses than in either online or face-to-face courses. Only 5% of instructors were dissatisfied with their hybrid experience while 88% were satisfied and 7% were neutral.

Blended learning is not an easy way out, as some might think based on the reduced class time. In contrast, it presents a new challenge for students as they must "relearn how to learn" (Dziuban et al. 2004, p. 9). Instead of passively sitting in a classroom listening to an instructor, they must actively take more responsibility for learning the material on their own. For students who learn best by listening to lectures, or who appreciate the instructor's vocal inflections and stress on certain items, podcasts can fill an important gap in the hybrid model.

Background on Podcasting

There is some debate over the origin of the term podcasting. Many believe it started with Ben Hammersley (2004), who suggested several terms for audio blogging while writing in *The Guardian*. The term is generally thought to be a combination of "cast" from "broadcast" and "pod" from the Apple iPod, although the creation of audio file distribution on the internet did not start with the iPod. Podcasts are generally in the MP3 format, which means they use the MPEG audio format of encoding and compressing data.

One benefit of podcasts over other online media is that they can be downloaded so that listeners can listen to them without being connected to the internet or even to a computer. Through the use of portable MP3 players such as iPods, Zunes, and other brands, students can take their learning on the road. Udell (in Campbell 2005, p. 38) contends that the reason podcasting and other forms of "rich media authoring" have become so popular is the combination of pervasive broadband internet access, fast personal computers, and portable MP3 players ("the new transistor radio"). According to the 2008 Statistical Abstract of the United States, factory sales of MP3 players increased 1400% between 2003 and 2007 (United States Census Bureau, 2007).

Brittain, Glowacki, Ittersum and Johnson (2006) contend that the difference between podcasts and other audio and video files accessed via the Internet is that podcasts are created on a regular basis and then distributed automatically through a subscription. Although many podcasts are syndicated in this way, it is not the only way to use them. Instructors can create podcasts relevant to class as needed or desired. Students may also create one-time podcasts to demonstrate their learning of particular material. Although aggregators such as iTunesU are not strictly necessary, the ability to regularly download podcasts as they are released is indeed an advantage. Many publically available podcasts may also be relevant to class, the majority of which are free. This provides an easy, low-cost tool for instructors to use with blended learning courses.

Using Podcasts for Courses Using the Blending Learning Format

Traditional-age students attending college now are part of the Net Generation or "Digital Natives." Unlike previous generations, they cannot remember a time when the Internet did not exist, and they have grown up being both entertained and educated through the use of TV, video games, and the Internet (Prensky, 2001). Digital Immigrants, on the other hand, have had to learn new technologies as they have emerged. While it might be expected that Digital Natives would be more likely to listen to podcasts, research has shown that older students in a course using blended learning were more interested in podcasts than younger students and more likely to use them (Robinson,

2007). Given that those in the Digital Immigrant age group are also those most likely to sign up for hybrid courses, podcasting is a good tool for providing class material in a portable audio format.

Two related questions to be answered before created podcasts to accompany university courses are, "What types of material should a single podcast cover?" and "How long should a single podcast be?" Instructors who also teach traditional classes may wish to create podcasts from their lectures, providing students an experience more resembling class attendance. While this requires little additional time, there are many drawbacks including the legal issue of student questions and comments being recorded and distributed, the need to provide written transcripts of verbal material as required in some states, and the difficulty of locating a particular topic within a long lecture if a student wishes to review a particular concept. At the Pennsylvania State University, materials created for students in blended learning format sections are also provided to students in the traditional sections. A common concern among instructors considering podcasting is the fear that students will stop attending class if podcasted lectures are available. White (2009) investigated this issue and found that students used lecture podcasts to solidify their understanding of material after a classroom lecture, rather than substituting for class attendance.

Short discrete "modules" are used at both the Pennsylvania State University and Buskerud University College. These 3-5 minute podcasts cover one particular topic or a few related concepts. The shorter format makes it easy to find and choose a given topic, and requires only a small amount of time to create and edit. A review of the most popular non-academic podcasts that are available on the internet shows that shorter podcasts that are released frequently (at least weekly) are becoming the accepted practice. From the instructor's point of view, shorter, focused podcasts can provide a library from which the instructor can mix and match select podcasts for a given class in the future. Although the exact mix of topics covered in an hour-long lecture may change from year to year, instructors can use the same shorter podcasts repeatedly by selecting the appropriate topics in the desired order.

However, shorter podcasts also presents a disadvantage for people who listen while driving or exercising. Unless the listener sets up the MP3 player so that a series of podcasts are played in order, listeners must stop, choose, and start a podcast every few minutes, analogous to choosing an individual song rather than an entire album or playlist. This can be difficult and even dangerous when driving, which was the most common time for listening to podcasts reported by adult learners in a previous study (Robinson, 2007).

Given the increasing ease with which videos can be made, some instructors create videos (vodcasts) as well as audio-only podcasts. At Buskerud University College, nursing students in a course using a blended learning format can learn procedures or view particular ailments such as skins sores by watching instructor-made videos online. The University of Michigan School of Dentistry experimented with a variety of media to capture and distribute class lectures (Brittain et al. 2006). Although video and slide presentations with the accompanying audio were made available online, the majority of students preferred simple audio podcasts because they listened to them in the gym or while commuting.

Because creating podcasts and vodcasts is relatively easy and inexpensive, students can create their own to share audio and video material with fellow students when they are not meeting face-to-face. Drawing on personal experience in radio broadcasting, Campbell (2005, p. 44) compares podcasting to radio, saying that "the connection is essentially one-to-one" as a central speaker talks to

distributed individuals. For students and instructors in a course using a blended learning format, this individual-to-individual feeling can help create and maintain a bond when out of class. At the same time, students who create podcasts or vodcasts for each other can also contribute to a feeling of community.

In courses at Buskerud University College, where the vast majority of students speak English as a second language, podcasts produced for classes offered in English allow students to learn course material while also practicing their language and listening skills. Some podcasts are posted on outside sites with links then placed on the online course management system, while others are available through cooperation with The Pennsylvania State University and iTunesU. Creating and distributing podcasts is thus very easy in most situations.

Podcasting Basics

The simple Internet search for "how to make podcasts" provides a number of sources, including YouTube videos and other tutorials (e.g. Dietz, 2009; Robinson & Ritzko, 2009; Stephens, 2007; VanOrden, 2009). However, a short introduction to the creation of podcasts will be presented here as an introduction using the software Audacity as an example. In general, the skills needed to create podcasts are no more complex than those needed to create text documents.

The hardware and software can vary, but the most basic equipment and programs will suffice. A computer and a basic microphone, either free-standing or in a headset (as it frequently used for online conferencing with, for example, Skype) are the essential ingredients. Some portable MP3 players can record audio and video, allowing the creator to go out "in the field" rather than being connected to a computer. Free software for recording and editing podcasts are readily available, although more professional programs can also be purchased. Two of the most commonly used programs are Audacity/Lame for PCs and GarageBand for Macs. Mikat, Martinez, and Jorstad (2007) provide an extensive summary of hardware and software options and specifications. Recording a podcast with Audacity simple and straightforward: 1) press "record"; 2) speak into the microphone; and 3) press "stop."

The audio file can then be used as-is, such as when an instructor records a lecture, easily edited to delete undesired file segments, such as coughs, misspoken words, long pauses, etc. A representation of the sounds is shown visually, making it easy to highlight segments and then delete or copy them. With practice, "uhhhhhh," "you know," "I mean," and other phrases that are often repeatedly in conversation, can be edited by visually recognizing the pattern in addition to hearing the phrases. While it may be more advantageous to distribute podcasts of lectures that were recorded live in the classroom in their unedited form, other podcasts are likely to benefit from editing. However, it should be noted that a "judicious" use of verbal place fillers ("you know," "I mean," "uh," etc.) can make the podcast seem more real and less "canned" (Robinson, 2007). Practicing and recording a given podcast more than once can be beneficial to the final product, but requires more time and can sometimes lead to an artificial feel. Instructors who are initially reluctant to record themselves may find that the ability to edit out undesired parts gives them confidence to continue making podcasts. This editing can also be performed by someone other than the speaker if desired, especially when time is an issue. As with editing a written document, editing an audio file is recommended, but can easily take more time than it took to originally record the podcast.

Once recording and editing is completed, the audio file is converted to MP3 format with Lame (which is an automatic process once connected to Audacity) and uploaded to a website for distribution. This is roughly the same as posting a document file. Podcasts can be stored on web servers and class management system websites and can also be shared via tools such as iTunes. A common area within iTunes is iTunesU, where educational institutions are able to host podcasts. The podcast is then downloaded either manually or automatically if the listener has subscribed to the podcast. Instructors may choose to restrict access to their own students or allow public access.

Conclusion

Blended learning provides a number of advantages over both traditional classes and online classes in balancing distance learning with face time. Listening to podcasts provides learners with another tool for acquiring and reviewing information in addition to readings and lectures thus reaching a wider audience with varying learning styles. Because of the portable nature of many MP3 players, listeners can take their learning with them "on the road," thus providing great opportunities for learning. Since podcast-creation is simple and inexpensive, podcasts are an ideal way to generate and disseminate knowledge. Given the increase in the number of MP3 players sold in the past few years, and, in addition, the trend of MP3 players being integrated into cell phones, it is likely that podcasting will also grow as the world becomes increasing digital and mobile.

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