

PODCASTS IN EDUCATION: WHAT, WHY AND HOW?

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ABSTRACT

Podcasting is one of the newest uses of Internet technology. The term “podcast” is a combination of the words iPod and broadcast, with “iPod” being the name given to a family of portable MP3 players from Apple Inc. “MP3” is a common file format for electronic audio files. Audio files, or in particular, MP3 files, can contain verbal speech, music, or a combination of both. MP3 files can be played or listened to using MP3 players, which can be portable devices such as the Apple iPod or Microsoft Zune, or an MP3 player can simply be software that is installed and used on a computer. The basic concept of “broadcast” is the ability to send out, and in terms of podcasting, broadcasting is the ability to share MP3 files in such a way that the files are delivered to the user. Therefore, a podcast is simply an MP3 file that can be played on an MP3 player, and an MP3 player is a device that stores digital files (not unlike CDs) and plays them back for the listener. Students can therefore listen to MP3 files on their computers, but are not necessarily tied to them since MP3 files can be played or listened to using portable MP3 players as well.

The uses of podcasts from an educational perspective are limitless. Since creating podcasts is relatively easy and inexpensive, instructors can easily use them for distribution of supplemental information or review of previously covered material. Podcasts can also be used for acquiring new and supplemental knowledge from expert sources on the web. Listening to podcasts provides learners with alternative learning activities in addition to readings and lectures thus reaching a wider audience and supporting a broader range of learning styles. This paper will focus on the questions of what podcasts are, why they are useful in higher education, and, most importantly, how faculty and students can use podcasts to enhance learning experiences.

INTRODUCTION

Podcasting is one of the newest uses of internet technology. Through the use of audio files, instructors can create opportunities for distribution of supplemental information or review of previously covered material. A basic web search using the search term “educational podcast” produced over 47 million hits on one search engine. The implication is that there are many resources on the Internet that somehow involve podcasts with an educational focus (as opposed to entertainment). This paper provides an introduction to podcasting by explains what podcasts are, why they are useful in education, and how instructors and students can make podcasts for educational purposes.

WHAT ARE PODCASTS?

At their simplest, podcasts are digital audio files just as songs can be digital audio files, often in the MP3 format. The term “podcast” is a combination of the words iPod and broadcast, with “iPod” being the name given to a family of portable MP3 players from Apple Inc. Audio files, or in particular, MP3 files, can contain verbal speech, music, or a combination of both. MP3 files can be played or listened to using MP3 players, which can be portable devices such as the Apple iPod or Microsoft Zune, or an MP3 player can simply be software that is installed and used on a computer. The basic concept of “broadcast” is the ability to send out, and in terms of podcasting, broadcasting is the ability to share MP3 files in such a way that the files are delivered to the user. Therefore, a podcast is simply an MP3 file that can be played on an MP3 player, and an MP3 player is a device that stores digital files (not unlike CDs) and plays them back for the listener.

In contrast to streaming video or audio, entire podcasts and vodcasts (video podcasts) can be downloaded and transferred to computers or mobile storage devices just as entire songs can be downloaded. Students can therefore listen to files on their computers, but are not necessarily tied to them. Through the use of free software such as iTunes, subscribers sign up one time and then receive new podcasts as they are released. Udell (in Campbell 2005, p. 38) contends that the reason podcasting and other forms of “rich media authoring” have become so popular is that the Internet has become pervasive, and broadband access, along with fast personal computers, allow people to “consume large media objects.” Once downloaded, people place these objects on their MP3 players, which have become “the new transistor radio.” In fact, 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).

At a minimum level, finding podcasts that others have already created requires only an Internet connection and a web browser. As stated before, a basic web search for the term “podcast” resulted in numerous sites. Performing a basic web search, however, may provide a user with only limited search capabilities. Although 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, not all podcasts follow this organized system. Instructors can create podcasts relevant to class as needed or desired. Students may create one-time podcasts to demonstrate their learning of particular material.

However, the ability to systematically acquire podcasts is indeed an advantage of MP3 aggregator programs. An MP3 aggregator is a program that can facilitate the process of finding, subscribing to and downloading podcasts. A commonly known aggregator is Apple Inc.’s iTunes, which is a free program available as a download from apple.com. (While iTunes is common, keep in mind that it is not the only program of this type.) Using a program such as iTunes gives one the ability to search for and download podcasts based on many criteria including category, author, and title. Many podcasts are free, but others require payment. Instructors may also place podcasts for students on online course management systems such as Blackboard, WebCT, Angel, etc.

Podcasts can be downloaded manually or a listener can “subscribe” to a podcast offered through an aggregator (such as iTunes). In the case of a subscription, the podcast will automatically and regularly be delivered the listener’s computer (providing the subscriber’s computer is connected

to the internet) when a new podcast in a given series is available, such as when a teacher posts a new podcast for a particular course. Once saved onto a computer, the podcast file can be listened to or transferred to a portable device to be listened to elsewhere. In this way, podcasts can provide students with audio material from both public sources (podcasts already available on the internet) and private sources (instructors and students who make podcasts for the class).

WHY USE PODCASTS?

Current students of traditional university age were born in the 1980s. They have been labeled the Net Generation or Digital Natives because these people, unlike previous generations, cannot remember a time when the Internet did not exist. They have grown up being both entertained and educated through the use of TV, video games, and the Internet (Prensky, 2001). In contrast, those of previous generations are categorized as Digital Immigrants. Regardless of whether they embrace new technology, they were not raised on it and have had to learn about it as it entered their lives. However, non-traditional students have been found to be as interested (or more so) in podcasts as younger students and to use them at least as much and even more than traditional aged students (Robinson, 2007b).

Podcasts have many uses in education. Informal learning can take place when a student listens to podcasts. Listening to or creating podcasts may be a formal class assignment providing new ways to interact with course material with the side benefit of exposing learners to new uses of technology. Short discussions of what is new in the field may appear as podcasts on the Internet, in particular on news and research sites. Students who learn best by listening can access material in a way that suits them better than using visual media such as books. Learners may take advantage of the portability of MP3 players to take learning on the road. Commuters as well as walkers and joggers are often seen listening to MP3 players. Although reading a book or watching a film is difficult and dangerous to do while driving (and not always easy when exercising or in other situations), listening to a podcast is as easy as listening to music. In addition, like songs, podcasts can be listened to repeatedly if desired.

Since creating podcasts is relatively easy and inexpensive, these files can be produced by students to review material or self-assess their ability to discuss topics. The uses of podcasts from an educational perspective are limitless. Drawing on personal experience in radio broadcasting, Campbell (2005, p. 44) states that podcasting is like radio in that it is like a hub and spokes. A central speaker talks to a single listener as “the connection is essentially one-to-one.” This individual-to-individual feeling can help instructors maintain a bond with students even when out of class. This can be especially beneficial in distance or hybrid courses with reduced face-to-face contact.

A common use of podcasts in education involves recording lectures as they are delivered in classroom settings. One concern in making such material available after class is that it may encourage students to rely solely on recordings rather than attending class. White (2009), however, reports that lecture podcasts are used by students as they prepare for upcoming lectures, review material immediately after a lecture, and/or prepare for exams. He found that students use lecture podcasts to solidify their understanding of material after a classroom lecture.

In response to student requests, 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. Most listened to the files while at home, in the gym or commuting. While others contend that audio is not a good method for conveying information because listeners cannot control the pace and must follow the speaker, Campbell (2005) believes learning to be a good listener is in itself a worthy exercise. Given the dental school students' preference for the audio-only format, listening is not a lost art.

HOW TO MAKE PODCASTS

As with most technology solutions, there are typically hardware and software requirements. The hardware for recording a podcast can vary, but the basics include a microphone and recording software. In a stationary setup, a microphone (including the headphone-type frequently used for online conference with, for example, Skype) can be connected to a desktop or laptop computer. Stand-alone audio recorders can also record podcasts and some MP3 players have built-in recorders, allowing podcasters to record material "in the field" rather than while connected to a computer. Free recording software is available for most computer platforms. An example of such software is Audacity, with which sound can be recorded and edited, and Lame, which converts the audio file to an MP3 file. Mikat, Martinez, and Jorstad (2007) provide an extensive summary of hardware and software options and specifications.

Recording a podcast with Audacity software is as simple as pressing "record," speaking into the microphone, and pressing "stop." The audio file is then easily edited by highlighting and cutting undesired file segments, such as coughs, misspoken words, long pauses, etc., because the audio is displayed visually. (With practice, "you know," "I mean," and other phrases that are often used repeatedly in conversation, but are not always desirable in a podcast, 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, 2007a). Both practice and recording a given podcast more than once can benefit the final product. Elements of the best versions can be edited together in a complete whole without noticeable breaks. 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.

While podcasts of lectures may be quite long, shorter, focused, podcasts of around five minutes tend to work well. Students can then more easily choose the podcasts in which they are most interested, especially when targeting review topics. Shorter podcasts are also practical in that they take less time to complete in both recording and editing (Robinson, 2007a). A review of the most popular podcasts 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 select podcasts for a given class in the future. Although the mix of topics 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.

Once completed, the 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. There may be times when a podcast is created for the sole use of the creator. But more often, a podcast is created with the intention of being shared and listened to by others, again returning to the concept of broadcasting.

CONCLUSION

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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