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PODCASTING 101

Top tips on educational podcasting

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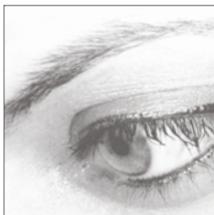www.ajalali.com

INTRODUCTION

Medical education has seen significant progress and innovation over the last decade.

TIP 1

TIP 2

Today's students utilize a variety of contemporary devices that have replaced the good old pencil and pen. During pre-clinical years, the students carry around tablet-PCs instead of notebooks to access the web-based curriculum. In their clinical years, personal digital assistants (PDA) have largely replaced reference books.

As much as the teaching methods have revolutionized in medical education, one reality remains constant: during their first two years of study, medical students need to absorb a tremendous volume of information. Students are further challenged by a lack of study time prior to writing summative examinations.

Podcasting is a method for distributing multimedia audio and video files over the Internet using the RSS format; these can be played back on mobile devices and personal computers (Frydenberg, 2006). RSS (Really Simple Syndication) is a Web feed format used to publish frequently updated content on the web.

In implementing an educational podcasting project, the investigator recommends following the five steps of the Instructional Design Process: Define, Design, Develop,

Delivery and Demonstrate (Cennamo, 2005). The following tips are intended to help the reader with design, production and publication of a successful educational podcast.

DEFINE THE LEARNERS' CHARACTERISTICS AND PERCEIVED NEEDS.

TIP 1: KNOW YOUR AUDIENCE

You need to know your audience and their needs. Medical students are adult learners with severe time constraints. The investigator's lectures were perceived to be too complex by students. As the same students have restrictive time to study, a short podcast was chosen as an asynchronous teaching method to supplement the complex lectures. It's good idea to survey your audience to see what they want included in the podcast before starting.

DESIGN YOUR PODCAST: CONTENT ANALYSIS

TIP 2: HAVE CLEAR VISION ON HOW THE PODCAST WILL FIT INTO YOUR CURRICULUM

Do you want to use the podcast as a supplement to a lecture, as a self-learning module that replaces a lecture or as an exam review tool? If the podcast is used as a supplement, then podcasting a complete recording of the lecture may not be the best choice. A short review or a FAQs session is a much better alternative.

TIP 3: CHOOSE YOUR PODCAST TYPE CAREFULLY: AUDIO VS. ENHANCED VS. VIDEO

Three types of podcasts are mainly used in education: Audio podcast: This podcast contains only Audio files (MP3). This podcast has the smallest file size which makes it possible for download at any internet speed and is the easiest way to get your message to the maximum number of listeners. The investigator believes audio podcasting is the best starting method for the novice educator as it is relatively simple to master in a short period of time.

ENHANCED PODCAST: This podcast allows the listener to view images and listen to audio at the same time (MPEG-4). Enhanced podcast is divided into chapters, so the listener can listen to a particular section without having to go through the whole podcast. This is a great way to podcast PowerPoint presentations, as the audience can then navigate between different slides. Unfortunately, Enhanced podcast is limited to Apple Mac and iTunes platforms, so they can't be recorded on a PC. Moreover, the viewer needs to use iTunes and/or iPod. In addition, the associated images are very small, making them practically illegible. Finally, the size of the MPEG-4 files is larger than MP3; a high speed internet connection for the podcaster and the listener thus becomes a necessity.

VODCAST: This podcast format allows you to upload videos as a podcast. No chaptering is possible and the massive file size can cause problems with uploading and downloading.

TIP 4: HAVE A SCRIPT OR AN OUTLINE

Before beginning to record your audio podcast, write a script and know what you're going to say. A script will help with timing of your podcast and making sure that no important concept is left out. Another advantage of having an outline is that it will make for a smoother recording, and less time will be spent editing later.

TIP 5: K.I.S.S: KEEP IT SHORT AND SIMPLE

To keep your podcast interesting and useful, you should always try to keep it short and simple. Try to explain the main points, as simply as you can, in a short period of time. A podcast should not exceed 20-30 minutes. Most adult learners - whether medical students, residents or physicians - have time constraints, so keeping the podcast short and simple will help them to learn the most in the shortest period of time.

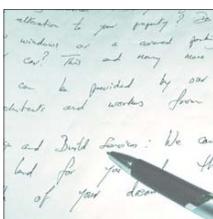## DEVELOPMENT: RECORDING AND EDITING OF THE PODCAST

TIP 6: THE EQUIPMENT: A COMPUTER AND A MICROPHONE IS ALL YOU NEED

The equipment needed for podcasting is not complex. The audio recording can be done with any computer using a microphone. Plug a microphone into your PC or Apple-Mac® soundcard and you're ready to record. Be aware that you'll need a USB or Apple® microphone for a Mac® computer. Use a good quality microphone as you want a highquality sound podcast. A headset with microphone is a fine choice, as it allows monitoring of sound quality as you record.

TIP 3

TIP 4

TIP 5

K.I.S.S

TIP 6

TIP 7: USE A GOOD QUALITY AUDIO RECORDING PROGRAM

Choose an audio recording software which will allow you to record, edit and save in MP3 format. This investigator uses Audacity® which is a high-quality freeware, available for both Apple-Mac® and PC based computers. Mac® users may want to consider GarageBand® software which allows recording and editing of Enhanced Podcasts. A Radio Quality recording setting (Mono, 22khz) is sufficient as this generates a fair quality audio file of relatively low file size.

TIP 8: MAKE IT SOUND PROFESSIONAL

Try to eliminate ambient noise by considering the location, the time of day and use of noise canceling filters in the recording software. Always edit your podcast before formatting to MP3 and publishing it on the internet. Audacity® offers many editing options such as Noise Removal which is ideal for removing constant background noise such as room ventilation.

TIP 9: ALWAYS KEEP A BACK UP COPY OF YOUR RECORDING

As with any important file, saving only one copy of each episode on your computer is not a recommended practice. You may lose your recording if your computer crashes or is infected by a virus. Always keep an archive of your podcasts in its original recording format (Audacity ®) and MP3 on a DVD or an external hard drive so you can retrieve it.

DISTRIBUTION OF THE PODCAST OVER WORLD WIDE WEB

TIP 10: CHOOSE YOUR PODCAST

HOSTING SITE CAREFULLY

A domain site on the internet is needed to store the audio MP3 files for the listeners. The easiest way is to use a podcast hosting provider. You only have to upload your MP3 file to the podcast hosting site once. The host site will then store your audio and send it to different distributors (iTunes, Yahoo! Podcast, etc). The distributer will send a RSS (Really Simple Syndication) feed to your listeners. RSS feed enables listeners to subscribe to the podcast, so that their computer automatically downloads newly posted episodes.

Therefore, when you add content, subscribers will automatically download that content the next time their device (personal computer, MP3 Player, iPod, etc.) is synchronized with the server. You can put an MP3 file directly on a webpage for download but students reported that "the convenience of obtaining files via RSS increased the likelihood that they would use the recorded lecture for review" (Frydenberg, 2006).

Be advised that posting your podcast on a host server will make it available to everyone on the internet. You can podcast your audio to a more select audience by uploading it into a Blog, but this option has not yet been exploited by the investigator. When choosing a podcasting host you should always consider the following features:

FREE FOR BEGINNERS: Most podcast hosting providers will give you a basic service for free. This simple entry allows for the educator to upload a few podcasts to determine how you and your listeners like the host site, and begin to appreciate podcasting as an educational tool in general. As the number of podcasts and listening circle increases, most of

these sites will ask for a small monthly fee to cover the storage and bandwidth costs.

STORAGE: The host site should give you enough storage space for your MP3s, images and videos. The amount of storage you need for your files will depend on the length and quality of each show, and how often you post episodes.

BANDWIDTH: Bandwidth is the amount of data that the host allows to be transferred to and from the podcast site. The bandwidth usage will vary depending on the number of podcasts, the quality of audio file and the number of the listeners. Be sure that your host allows enough bandwidth to accommodate your needs.

STATISTICS: It is important to have full access to your podcast statistics, such as numbers of feed views, downloads and subscribers, as this is a great way to learn who your listeners are and where they come from.

TIP 11: REGISTER YOUR DOMAIN NAME: YOURPODCAST.COM

Your domain site is the first place where your audience will find your podcasts. Although most podcast hosting providers give you a web address, this is usually lengthy and not convenient to remember (ex: yourpodcast.host.com). For a small annual fee, you can buy a meaningful web address that is short and easy to remember (ex: yourpodcast.com). This will make it easier for listeners to recall your site and for new audience members to find it. Be sure to buy your domain name from a domain registrant that allows for free forwarding to your podcast site.

TIP 11

TIP 12

EVALUATE THE EFFECTIVENESS OF THE PODCASTS

TIP 12: EVALUATE YOUR PODCASTS

Like any innovative educational tool, the podcast need to be evaluated. After you have recorded and posted a few podcast episodes, survey your listeners. This will help you analyze different factors such as how your audience rates the quality of the podcasts, how they use this resource and how frequently. Also, the audience perspective on perceived benefits and room for improvement can be assessed.

By following the above tips, you'll be able to easily and rapidly record and publish your first podcast and use this exciting and cutting-edge teaching tool in your medical education venture.

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- Cennamo K, Kalk D. (2004) Real world instructional design.(Wadsworth Publishing.)
- Frydenberg M. (2006) Principles and Pedagogy: The Two P's of Podcasting in the Information Technology Classroom. Proc ISECON 2006, v23, 3354