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Podcasting 101: Top Tips on Educational Podcasting

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ABSTRACT

Medical education has seen significant progress and innovation over the last decade. Today's students utilise 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, smartphones have largely replaced reference books. As much as the teaching methods have revolutionised 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 Really Simple Syndication (RSS) format; these can be played back on mobile devices and personal computers. RSS 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. The following tips are intended to help the reader with design, production and publication of a successful educational podcast.

Keywords: *Podcast, RSS, eLearning*

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INTRODUCTION

Podcasts are multimedia files distributed online using a standardised structure, or code, for information dissemination. This web programming code format is called RSS (Really Simple Syndication) feeds. Every time a new file is added to the feed, it is “pushed” to the feed's subscribers. Subscribers “catch” podcasts using various RSS readers such as iTunes. These files can be automatically downloaded to the subscribers' computers or mobile devices and can then be played, replayed, or transferred between devices (with or without

the help of media management software such as iTunes) for replay at an individual's convenience (1). Podcasts are one of many modalities that have become increasingly popular as an alternative medium for learning associated with the free open access medical education movement (2). Previous studies have shown that trainees may prefer podcasts to textbooks for learning (3–4).

Perceived advantages to having access to podcasts include reducing stress and anxiety, ability to engage in other activities while learning, and the ability to cater to students with varying study habits (5–6).

Furthermore, one recent study even suggests that when compared to reading a book chapter, podcasts may result in increased knowledge retention (7). This article offers some tips on how to use podcasts efficiently for medical education purposes.

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. During their preclinical years of study, they must absorb and comprehend a tremendous volume of basic scientific information pertaining to human anatomy, physiology, pathophysiology, and pharmacology (8–9). A short podcast is a good option as an asynchronous teaching method to supplement the complex lectures. It is a good idea to survey your audience on the material they would like to be included in the podcast before starting the recording process.

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 session covering frequently asked questions is a much better alternative. "Students do find the podcasts more useful than course notes", according to Copley (10). However, Evans (11) clarified that these students found podcasts more effective than textbooks, less effective

than personal notes, but more efficient than personal notes.

Tip 3: Choose Your Podcast Type Carefully: Audio vs. Video

Two types of podcasts are mainly used in education:

- (a) Audio podcast: This podcast contains only audio files (MP3). It has the smallest file size, which makes it easily downloadable at any Internet speed and is the easiest way to spread your message to the maximum number of listeners. Because timely posting of sessions is important (12–13) audio podcasting is the best starting method for the novice educator as it is relatively simple to master in a short period of time.
- (b) Video podcast (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 rehearse it. 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 allow a smoother recording, and less time will be spent editing later on.

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 simply explain the main points and be concise. A podcast should not exceed 15–20 minutes (1). Most adult learners (whether medical students, residents or physicians) have time constraints and keeping the podcast short and simple will maximise their learning 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 and a high-quality microphone to produce a podcast with a high-quality sound. Plug a microphone into your personal computer soundcard and you're ready to go. A headset with microphone is a good choice, as it allows monitoring of sound quality as you record.

Tip 7: Use a Good Quality Audio Recording Programme

Choose an audio recording software that will allow you to record, edit and save in MP3 format. 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 cancelling filters in the recording software. Always edit your podcast before formatting to MP3 and publishing on the Internet. Audacity® offers many editing options such as noise removal that 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 gets infected by a virus. Always keep an archive of your podcasts in its original recording format (Audacity®) and MP3 on an external hard drive to be able to retrieve it when needed.

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 distributor will send RSS feed to your listeners. RSS feed enables listeners to subscribe to the podcast, so that their computer automatically downloads newly posted episodes. Therefore, when new content is added, subscribers will be able to download it automatically as long as their device (personal computer, MP3 Player, iPod, etc.) is synchronised with the server. You can publish a MP3 file directly on a webpage for downloading but students reported that “the convenience of obtaining files via RSS increased the likelihood that they would use the recorded lecture for review” (1).

When choosing a podcast hosting service, you should always consider the following features:

- (a) Free for beginners: Most podcast hosting providers will give you a free basic service. This simple entry allows the educator to upload a few podcasts to determine how you and your listeners like the host site, and appreciate podcasting as an educational tool in general. As the number of podcasts and listening circle increases, most of these sites will charge a small monthly fee to cover the storage and bandwidth costs.
- (b) 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.

- (c) **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.
- (d) **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

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

EVALUATE THE EFFECTIVENESS OF THE PODCASTS

Tip 12: Evaluate Your Podcasts

Like any innovative educational tool, the podcast needs to be evaluated. After you have recorded and posted a few podcast episodes, survey your listeners. This will help you analyse different factors such as how your audience rates the quality of the podcasts, how they use this resource

and how often they use it. As well as the audience perspective on perceived benefits and their ideas on further improvement of the podcasts.

CONCLUSION

Podcasts' use is on the rise in education. They are suitable for the newer generations who like to study on the go, they complement in the class taught material and are suitable for students with particular needs. Listening is proven to have a longer-term memory effect on learner, moreover the material can be revisited as many times as needed. Following the above tips, will allow you to easily record and publish your first podcast and use this efficient and cutting-edge teaching tool in your medical education venture.

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