

Twelve tips for using podcasts in medical education

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Abstract

There is increasing use of podcasts by young people, including medical students. Podcasts offer small packages of educational material that allow selective replay to consolidate learning, especially for exam revision. Podcasts can be provided in a variety of formats and played on a range of devices, both static and mobile. Maximum educational impact requires careful attention to production and editing.

Introduction

Podcasting is a process in which a digital recording, or podcast, is produced and then played on a digital media player. The digital recording is commonly in the form of an audio MP3 (MPEG-1 Audio Layer 3) file but it may also include other formats, including video. The downloaded digital media files can be played on a range of devices. These include a personal computer (PC) or laptop which has a media player, such as iTunes or Windows Media Player, installed. They can also be played on a wide range of portable devices which support the file format, including iPods, MP3 players of many different brands, an increasing number of mobile phones and portable digital assistants (PDAs).

The New Oxford American Dictionary chose 'podcasting' as Word of The Year in 2005 (Oxford University Press 2005). This reflects the worldwide increasing high use of this new media, especially by young people, with 12 per cent of all internet users downloading podcasts. The digital media files can cover a wide variety of topics, from music and radio broadcasts to audio books. A recent survey of 86 second year medical students at the University of Leeds identified that 75 per cent owned a portable digital media player and 90 per cent listened to podcasts on most days, mainly to music.

The use of podcasts is rapidly becoming an established phenomenon and it has also now started to be used in healthcare education (Boulos et al. 2006). In this article, I offer some practical tips on how to effectively use podcasts in medical education.

Tip 1. Be aware of the potential for using podcasts in medical education

The main attraction for the increasing number of podcast users is the wide variety of devices that allow the file to be played. Portable devices allow audio to be listened to, or videos to be watched, any time or any place. These same devices can also be used to play podcasts that contain educational material.

Practice points

- Podcasts are highly used by young people, including medical students.
- Podcasts allow selective replay to consolidate learning and are especially useful for exam revision.
- Podcasts can be provided in a variety of formats and played on a range of devices.
- Maximum educational impact requires careful production and editing.
- Podcasts are an emerging area of medical education and early evaluation of new schemes is essential.

Hearing is a powerful sensory channel and long term memory is greater when material is heard than read. Listening allows other tasks to be performed at the same time and this multi-tasking approach is typical of the activity of most young learners. Podcasts can help learners with different learning styles, including those who prefer to learn 'on the go', and promote greater inclusivity, such as those learners with specific learning difficulties or a first language that is not English.

Research has noted that podcasts can enable learners to further understand in-class taught material. This appears to be related to the opportunity to revisit material as many times as required and at a pace that is determined by the learner. Podcasts are mainly used for exam revision and selected parts are chosen instead of the whole podcast. A true personalised learning experience can be created.

Tip 2. Decide if you only want to provide simple podcasts

Most podcasts for undergraduate students are recordings of an entire lecture – often called a 'profcast'. However, the ease of production of simple audio podcasts offers the potential for

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wider use in medical education. Lecturers can provide shorter podcasts related to specific topics, learners can produce their own podcasts and patients and carers can describe their experiences. It is important to remember that permission and consent to record and widely distribute the podcast should be obtained. Simple audio podcasts are easy to record and very quickly a collection of podcasts can be made available as a valuable learning resource. Portable devices are inexpensive unless they have a high memory that is intended to store several thousand music files.

Tip 3. Decide if you want to provide enhanced podcasts

The most basic enhanced podcast incorporates static images, such as photographs, and reference material, including descriptive text and hyperlinks to web sites. It is expected that the addition of multimedia will result in more active engagement by learners. The content can also be divided into chapters to allow particular content to be easily found. The podcast files are relatively easy to produce but require appropriate editing software and a more expensive portable device that allows images to be viewed.

Tip 4. Decide if you want to provide podcasts that contain video

A more advanced enhanced podcast includes video, often called a 'vodcast'. These are more difficult to produce, require a fast broadband internet connection and also a more expensive portable device.

Tip 5. Decide if you want to use existing podcasts

There is an increasing number of podcasts that can be easily obtained from the Web (Internet; World Wide Web). Many of the major medical journals and professional societies are already beginning to produce regular podcasts. There are specific podcast search engines, such as Podcast Alley (<http://podcastalley.com/>) or Digital Podcast (<http://www.digitalpodcast.com/>).

An excellent collection of links to a wide variety of podcasts can be found at the Dentistry Library at the University of Michigan (<http://www.lib.umich.edu/dentlib/resources/guides/podcast.html>). Usually there are no copyright restrictions when only providing links for potential users. It is good practice to notify the webmaster of the site if a lot of users are likely to access the site and download the podcasts to be used on personal devices. Copyright is likely to be infringed if the downloaded podcasts are permanently stored on another system or further distributed to a wider audience.

Tip 6. Decide if you want to encourage students to develop their own podcasts

Podcasts can be easily produced by a learner and this provides exciting opportunities for use as a learning artefact. The podcast can be uploaded onto an electronic portfolio or

shared with other learners. An audio or video podcast is an excellent aid for reflection.

Tip 7. Develop a storyboard for the podcast

It is essential that any podcast is able to engage the learner and keep the interest of the user. A first step is to decide on the key message that the provider wishes the podcast to convey. The second step requires a strategy to most effectively convey this message. Examples include the provision of images and music or the use of discussion and debate instead of a didactic lecture presentation. Research suggests that a podcast should be no longer than 15 minutes otherwise attention is lost.

A storyboard commits the provider to clearly specify each step by completing a structured template that describes each part of the podcast. For example, the first minute may include an audio clip of a patient and the next minute a clip of the comments made by a specialist. There is often a rush to get on with recording but a quick perusal of several podcasts will highlight the folly of this approach.

Tip 8. Use high quality recording equipment

Many podcasts have an amateur character with lots of extraneous noises or blurred images. This is annoying to the user and can usually be avoided by using higher quality microphones and digital cameras. Money spent on good equipment is well spent. Technical advice on suitable equipment can be obtained from the BBC Training and Development site (<http://www.bbctraining.com/onlineCourse.asp>) or from one of the many books on podcasting technique.

Tip 9. Editing podcasts to create the maximum educational impact

Once a podcast has been recorded it should be edited. In this process, raw audio, with or without, visual images or video is modified to ensure that it has maximum educational impact on the user. Audacity (<http://audacity.sourceforge.net/>) is a well known free software that allows music to be added and edited. For users of iTunes, Garage Band (<http://www.apple.com/ilife/garageband/>) is required to edit the files.

The technical aspects are beyond the remit of this article but can be obtained from one of the many books on podcasting technique

Tip 10. Decide on where to publish the podcasts

The final edited podcast has to be placed somewhere before it can be loaded onto a PC or portable device. This requires hosting on a specific web site or blog. Many institutional virtual learning environments (VLE) also have this ability.

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Tip 11. Decide if you wish to use RSS feeds

RSS (Really Simple Syndication) feeds provide a simple way of being notified when a new podcast is available. In podcasting, MP3 files can be automatically distributed to its subscribers via web syndication programs such as RSS 2.0 and Atom. Subscribers automatically receive updates by using feed readers, known as aggregators. Feed readers such as FeedReader (<http://www.feedreader.com/>) and Newsgator (<http://www.newsgator.com/>) automatically check the website of the podcast provider at defined intervals to see if there is a new podcast uploaded. Any newly uploaded digital media files which are tagged with an RSS feed can be easily detected and downloaded. Many institutional virtual learning environments (VLE) also have this function.

Tip 12. Be prepared to quickly evaluate and develop the use of podcasts in medical education

Podcasts are an emerging area of medical education and their true potential is unknown. There is little evidence to guide future development and important questions about their contribution to medical education, both undergraduate and postgraduate, have to be asked. Evaluation of what works, and most importantly what does not work, is an essential for the further development of podcasts in medical education.

Conclusion

It is easy for older medical educators to dismiss the use of podcasts as being another fashion trend. However, it is almost

certain that the podcast phenomenon will not disappear since there is enormous investment by major international media and technical providers. They will evolve and it is essential to embrace this new approach to medical information.

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Notes on contributor

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Further reading

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