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## **Podcasts: A Case Study of the use of Podcasting in Curriculum Delivery**

**Steve Spencer** (s.spencer@wlv.ac.uk)

**Steve Cooper**

School of Sport, Performing Arts & Leisure

### **Background and Rationale**

Over a number of years there have been research projects in the Higher Education Sector of the UK and elsewhere exploring the use of mobile computers - PDAs for curriculum materials, communication with students etc. A significant drawback with these undertakings was the high cost and limited ownership of PDAs among students – such that it was necessary to obtain funding that would enable research teams to provide students with a PDA - usually as a short-term loan, in order to facilitate the projects. Other issues of file size, formats and file compatibility continue to restrict the reach of these developments. With the launch of MP3 players and their appearance on campus in large numbers, an opportunity presented itself to revisit the use of audio files for curriculum delivery. Audio-visual materials have a long history of incorporation into course content and it is possible to find tape archives and video footage of lecturers who have experimented with these formats. It is clear, however, that there is at present a renewed interest and level of activity in the development and delivery of teaching materials through multimedia techniques.

### **What is a podcast?**

The defining features of a podcast depend to some degree on whether you are a user or an author. For the user, a podcast is a free, on-demand media file that can be viewed and listened to whenever *you* want and on whatever device *you* want – a desktop computer, laptop computer, mp3 player, PDA, mobile phone, CD or television. What defines the podcast from an authoring perspective is that the media file created is distributed via a web based subscription service, the RSS protocol, which ‘pushes’ the information out to listeners (subscribers) automatically rather than asking them to check a website or VLE manually.

### **Types of Podcast**

There are three types of podcast, audio, video and enhanced. The audio podcast is a speech only file, presented in an MP3 format. The majority of recorded lectures currently utilise this format. The video podcast is a full motion video file usually presented in a MPEG or MP4 format. There are few limits to what can be included in a video podcast, anything you see on television can be utilised in this format with the appropriate technical know how. The enhanced podcast is a speech only file but with the inclusion of more interactive elements such as images, hyperlinks and chapterisation. These files are presented in an .m4a format and can be viewed using iTunes on both PC and Apple platforms. The enhanced podcast is not as common as its audio and video counterparts

largely because the authoring of such files is currently, almost exclusively an Apple based activity. Although it is possible to add identical elements to an audio file in Windows, this is far from a simple process involving changing security settings within windows media player, and as a result those authoring podcasts on a PC have generally steered clear of the enhanced file type.

## **The Research**

The University of Wolverhampton has been actively involved in investigations into Technology Supported Learning (TSL), having launched its own Virtual Learning Environment (VLE) in the 1990s and developed an electronic presence for almost all of its courses. In an institutional context that continues to sponsor research into Mobile Learning and the use of mobile phone texting functions, it was a natural extension to create a team to explore the potential of mp3 players. Following initial investigations into various approaches it was decided that the package presented by the combination of Apple's iPod and the iTunes software provided the advantages of:

- wider ownership,
- seamless integration of mp3 player and computer,
- cross-platform availability and
- motivational characteristics accrued due to the iconography of the iPod.

The confidence that the iPod would receive regular updates and support from Apple was a positive benefit – but also a challenge: When the project began in July 2005 the iPod came with the capability to store and display colour photographs, was available in two sizes – 20Gb and 60GB and was accompanied by iTunes 4.9 that had included podcasting facilities for the first time. The release in late September 2005 of the iPod Video triggered a major change in the scope of activities that could be developed and broadened the areas of the curriculum that would be included in the project.

While there were several strands to the work undertaken as part of what became known as the Podogogy project, this paper concentrates on the work undertaken through a case study located in the Music Department of the University of Wolverhampton from September 2005 until June 2007. The cohort of students chosen to participate in the case study was the level two BA in Popular Music programme. This group consisted of 24 students and presented a mix of male and female students, young (18-21) and mature students and a diversity of economic and racial backgrounds.

### **Phase One**

The Study began with a phase designed to provide training in the operation of iTunes and iPod so that students would be able to download files successfully. Each student was equipped with the latest Video iPod to ensure equality of access to materials. During this period course tutors were able to develop skills in the creation and distribution of curriculum materials and to test the IT infrastructure of the University in order to ensure that it was able to handle the file sizes and types that were to be included.

### Phase Two

During this period the tutor created and integrated teaching materials into module delivery that exploited the capabilities of the iPod and iTunes framework. The modules selected included the level two core modules *Popular Music Historical & Contextual Studies 2* and *Popular Music Performance 2*. For the latter, use was focussed on exploiting the video capabilities to encourage reflection and peer review of performances, while in the historical studies work the Enhanced podcasts format was explored for its capacity to explore images, video extracts, audio commentary and web links.

### Phase Three

The third phase involved the investigation of students' responses to the delivery of module content using podcasting techniques. This began during the module delivery in order to capture initial reaction and continued into the beginning of the next academic year.

The methods employed included:

- a) A questionnaire designed to discover the extent of engagement and mode of use that students had made of the materials provided
- b) A series of semi-structured interviews with students selected to represent a balance of age and gender and varying degrees of engagement.
- c) Finally, outcomes of module assessments were considered in the light of the alternative delivery methods employed.

Interviews were transcribed to facilitate analysis and the data codified in order to elicit 'themes and patterns' (Marshall & Rossman 1993 p144). These were used in order to retrieve, order, cluster and to categorise the data (Miles & Huberman 1994). The keywords that had the greatest prominence in student responses were:

- Replacment of lectures
- Motivation
- Enrichment
- Style
- Content
- Timeshifting
- Personal learning

## **The Outcomes**

### **Case Study Themes**

#### Podcasts – A Replacement for Lectures?

The idea of presenting a lecture in its entirety has become a popular way of developing a large podcast archive, particularly for U.S. institutions. In his book, 'The Perfect Thing', Steven Levy (2006) notes "*the prime use of edu-pods (as he calls the educational podcast) was in time-shifting, essentially allowing students to blow off a class (or relive it).*" Both of these points were strongly contradicted by my own students, who felt that their engagement was increased by 'extra' or complimentary content to support the

lecture, rather than a mere repetition of it. None of the students questioned, saw the podcast as a replacement for face-to-face, lecture time. For some, primarily those who had slower, modem-based internet connection, the process of loading iTunes and waiting for the episode to download was very time consuming. Some students' personal learning styles also favoured handouts and the option of providing an additional feed with the inclusion of a PDF file outlining the script and/ or exercises featured in the podcast may have been beneficial.

Quotes:

*"I think if it [the podcast] had been the same as the lecture then I don't think I would have listened to it. If you've got notes from the lecture then there wouldn't be much point."* (Students CB & LT)

*"It's good for recapping. In the lessons if something wouldn't sink in properly I'd have to go away and think about it but with the podcasts, it's like having a personal tutor."* (Student MW)

*"By the time you've gone to your computer, you've downloaded this, you've kind of listened to it, you've gone through a lot of processes when you could have read it; you could have had it."* (Student GL)

### Enrichment and Motivation

Students claimed that their sense of motivation and engagement was significantly increased as a result of using podcasting. Where more intense theory based material was present, students were able to re-listen to examples of the material covered in the lecture. Those students who were able to 'subscribe' to the RSS feed for the podcast series were significantly more engaged and were able to easily keep track of updates. The very fact that new episodes updated on their computers automatically, proved a motivating factor in itself. Following tutorial sessions, the facility for the tutor quickly to produce a short audio podcast for the class supplemented individual tutorials where the lecturer had found that many of the same problems and issues consistently reappeared. Those unable to attend individual appointments were able to benefit from the advice and support given.

*"I found it [using podcasts] loads easier and I really picked up on it, especially with the theory stuff and having examples to listen to."* (Student AL)

*"I've got my iTunes setup to automatically update so when there's a new one [podcast] I'll have a listen to it and because it's there, it makes you do it."* (Student CB)

*"I like the idea of the video material on iPod because you can actually see where you are going wrong"* (Student BC)

### Style & Content of Podcasts

Discussions with user-groups made clear the need for authors to reflect on the length and style of the podcasts since with increased familiarity with the technology came the temptation to cram in as much information as possible to each episode, concluding that this would add value. Even with the inclusion of chapterisation in enhanced podcast episodes, the relentless flow of information was found to have an adverse effect on student listening. The second quote here highlights a vital issue for consideration by educational podcasters. The RSS subscription provides a highly effective method for pushing information out to students and whilst it may be possible to monitor how many downloads are completed (such as in the iTunes Top Ten categories) it is not possible to determine with any accuracy how many episodes are only partially listened to, or not listened to at all.

*“I know with ... one [podcast], I was listening to it and the next minute, I’d kind of forgot what had just been said.. It can kind of pass by you quite easily”* (Student GL)

*“I’m not used to using it [the podcast] it was taking me a while to just go through each one. I thought I’ll leave it for now and come back to another time”* (Student BC)

### Time Shifted Engagement

Students approached listening to the podcasts in a variety of ways, reinforcing the personal nature of the experience and the ‘listen when and where you like’ philosophy. Of those interviewed, there was an even split between those students who chose to transfer the downloaded podcasts across to their portable devices, in this case, iPods, and those who preferred to listen via iTunes on their desktop. Whatever method was favoured (and this changed from episode to episode in some cases), students were utilising time when travelling, or in the gym to listen to their podcasts, increasing their engagement with learning materials in previously under-utilised time. Other students noted that they did not always listen to the material immediately, choosing to wait until they were ready to start an assignment task.

*“I listen on the train because I sit there and think right I’m going to do something productive”* (Student CB)

*“If I had a spare five minutes then I’d log onto iTunes to get the latest one [podcast] and then if I had to rush off somewhere else then I’d listen to it later on”* (Student JT)

*“I waited until I was ready to start [the assignment task] and then I watched the video podcast and it helped”* (Student JP)

### Personal Culture

The integration of podcasts in a blended approach to delivery provided a greater sense of personalised learning for students. Though the podcasts were the same for each

individual, the instant method of delivery of a bespoke podcast delivered by a recognisable voice was an appealing and individual experience and integrated itself seamlessly alongside students' other digital media.

The idea that downloading podcasts is a 'geeky' and a largely male dominated activity was also challenged. In this case study, female students were the ones to push the boundaries of what was possible with iTunes and the iPod, integrating the material alongside personal photos and videos and personalising their iPods with individual accessories. They also commented that they were also more likely to share that material with their family and friends:

*"It doesn't feel like work. I think having personal material on the iPod encourages you to listen to it [the podcast] because the iPod is your little thing and it's fun"* (Student LT)

*"I'm not really into gadgety stuff so I thought what do I do with this [the iPod]? But I really got into it"* (Student LH)

*"I was able to show my friends and family the work I'd been doing [in songwriting] and actually play them stuff. It was great, they were like 'that's amazing'."*(Student AL)

## Summary

1. Students had little desire to re-listen to an entire lecture but preferred to utilise the podcast to build on and revisit lecture concepts with relevant exercises and examples.
2. The blend of podcast material along with the lectures was an enriching and motivating experience.
3. Those student's who receive podcasts via RSS, demonstrated greater engagement with the material.
4. The podcast enables students to time shift their learning, choosing when, where and how they listen and re-listen to materials in order to meet personal need.
5. iPod culture is not bound by gender barriers and develops a combination of 'work' and 'fun'.
6. The challenge for the podcast creator is to consistently evaluate the balance of length, delivery style, tasks and degree of difficulty to ensure that whilst podcasts are downloaded, they are also listened to by their intended audience.

## Benefits and Evaluation

The research set out to explore the use of established mechanisms of audio-visual presentation through the use of new platforms and mechanisms of delivery. The advances in personal computing equipment has moved video from the TV to the computer and made the transfer and sharing of material a great deal easier and faster. This has made it possible to integrate video and audio teaching materials into learning objects that proved

useful and appealing to students and that would be re-useable by tutors in future iterations of modules. While most students reacted positively to the introduction of the podcasts, it should be noted that some preferred paper-based delivery and some had limited access to internet resources. These matters should always be taken into account in delivery of a programme that made no stipulation at the outset that computer access would be a requirement of study. The enhanced podcasts provided a mechanism for embedding a webquest activity into the file and this was particularly useful for extending and directing student activities in the period between lectures. The use made of the face-to-face sessions could then be developed to reflect the fact that students came to the session having assimilated certain basic information that would become the basis of discussion groups and seminar work. Of particular benefit to work with a strong visual element – performances, presentations, etc. is the ability to share students' work among a peer group, with friends and family-members, and by doing so, to encourage self-reflection and evaluation and enrich the assessment and feedback cycle.

## **Future Developments**

This research has provided an early examination of an emerging technology that continues to develop and expand in terms of its ubiquity and functionality. Latest models of iPods are equipped with screens that are larger and have a higher definition and now include Wi-Fi capability which enables access to internet resources and the potential for interactivity that was a restriction with former models. Future developments will explore these new facilities and extend the reach of the research project into areas of mobile, interactive and peer-to-peer collaborations.

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