

# A tutor in your back pocket: reflections on the use of iPods and podcasting in an undergraduate popular music programme

**Steve Cooper, Crispin Dale and Steve Spencer**

School of Sport, Performing Arts and Leisure, University of Wolverhampton, Gorway Road, Walsall WS1 3BD, UK

steve.cooper@wlv.ac.uk, c.dale@wlv.ac.uk, s.spencer@wlv.ac.uk

*This article reports upon a research project undertaken at the University of Wolverhampton where iPods and podcasting were used as a delivery and assessment mechanism within an undergraduate Popular Music degree programme. A sample drawn from students studying the programme was interviewed to explore their engagement with the technology and the curriculum materials produced. Results found that although not a replacement for traditional lectures, iPods and podcasting are an effective means for supporting student learning. Benefits included motivating learners, enabling student interaction, offering time-shifted learning engagement and personalisation of learning. This article evaluates the pedagogical adoption of iPods and podcasting within a music education context and makes suggestions for future areas of research.*

## **Introduction**

The advent of iPods and podcasting has extended the way in which people engage with multimedia. Podcasting can be defined as the authoring of, and subscription to, audio and/or video multi-media files on the internet (Lim, 2005). These files can then be downloaded and played back on a range of mobile devices including laptops, mobile phones, PDAs, iPods and other MP3 players (Bausch & Han, 2006). The developments with podcasting, in particular, have enabled many to become amateur broadcasters publishing their creations on the internet via social networking websites such as MySpace, Facebook and YouTube. In addition, an increasing number of HE institutions, courses and individual lecturers are making material available as audio podcasts as an alternative means of knowledge dissemination. Launched by Apple Incorporated, the iPod emerged as a technology in late 2001 and has become a ‘must-have’ gadget amongst today’s youth who have been described as the ‘iPod generation’. Although the use of the iPod as a learning technology is still at a relatively embryonic stage, the use of podcasting has caught the imagination of many universities who see it as a means of delivering a blended learning approach (Deal, 2007).

Corresponding author: Crispin Dale

It should be acknowledged that iPods and podcasting are not co-dependent and that podcasts can be played on any mobile or PC device. However, the natural synergy between the two offers additional opportunities for exploring the effectiveness of iPods and podcasting for supporting student learning. Since September 2005, the Music Department at the University of Wolverhampton has been engaged in researching the use of iPods and podcasting as a supportive delivery mechanism for learning content in an undergraduate Popular Music degree course. Using a sample of students studying the course, the objective of the research project was to act as an initial investigation for understanding student engagement with podcasting and iPods. The article will also evaluate the way iPods and podcasting can be used to support programme delivery. The research is unique in that it explores the application of technologies that have not initially been conceived for the purposes of learning application. In addition, the file sizes that can be stored on iPod devices, along with the 'push' technologies of the Really Simple Syndication (RSS) subscription aspect of podcasting, offers a significant opportunity for music educators to explore their potential for video and music performance analysis.

### **iPods and podcasting**

In recent years research projects in the UK Higher Education sector and elsewhere have explored the use of mobile technologies to support the delivery of curriculum materials and communication with students (Kukulska-Hulme & Traxler, 2005). These projects have culminated in a number of case studies highlighting the potential of mobile technologies including, for example, mobile phones, personal digital assistants (PDAs) and laptops. The Joint Information and Systems Committee (JISC) note a number of key benefits when using mobile technologies in learning contexts, including their portability and flexibility, their immediacy in communication, their ability to promote learner empowerment and active learning experiences, and their any-time, any-place connectivity (JISC 2005). In addition, mobile and wireless technologies can engage students in learning-related activities in a diversity of locations, can enhance communication and collaborative learning, can engage reluctant learners and also raise self esteem and confidence levels (Liu *et al.*, 2003; Attewell, 2004; Naismith *et al.*, 2004). Kukulska-Hulme and Traxler (2005) further note that mobile learning can be informal, unobtrusive, ubiquitous and disruptive. The extent to which the iPod, as a mobile technology within music education, meets these criteria is worthy of further exploration.

Previous research into the use of mobile technologies in music education has observed both positive benefits and challenges. PDAs for example have been used as a means of sharing music amongst students and were found to develop a sense of social bonding (Bassoli *et al.*, 2006). Polishook (2005) used PDAs to teach music composition which noted a number of benefits, including their portability and their role in encouraging students to think more creatively about their music. However, the small size of the screen was seen as a shortcoming for students, deterring them from fully engaging with the learning material, while the more widespread use of mobile technologies such as PDAs has been limited by their high cost and limited ownership among students, such that it is necessary to find funding that enables the provision of a PDA to them in order for such work to progress. Other issues of file size, formats and file compatibility continue to restrict the reach of these

developments (Trinder *et al.*, 2005). 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. However, it is clear that there is, at present, a renewed interest and level of activity in the development and delivery of teaching materials through multimedia techniques.

The birth of the iPod, in particular, has offered music educators innovative opportunities for engaging students in a multi-media learning experience. The iPod and other mobile listening devices have become an icon of popular culture (Sterne, 2006), to the extent where iPod users use their music players to control their time and space (Bull, 2005). O'Hara and Brown (2006) have commented on how the iPod has changed listening behaviour and 'affords the social value of the portable device as a projection of a person's musical identity'. The advantage of using the iPod as a learning technology with students is that, although difficult to define, the devices have managed to retain their 'coolness' in a market where an abundance of music players exists (Reppell *et al.*, 2006). Indeed, mobile technologies such as the iPod have had a major influence on society (Farnsworth & Austin, 2005) and become socially accepted devices (Clark & Walsh cited from Chan & Lee, 2005). Farnsworth and Austin (2005) recognise the iPod as 'miniaturised hybrid assemblages' incorporating a combination of audio, image and text technologies, enabling the enhanced flexibility of interaction with different media. Although iPod and MP3 devices are mainly used for leisure purposes, they generate great opportunities for flexible learning (Mellow, 2005). Many have acknowledged the contribution iPods can make to the process of lifelong learning (Pownell, 2004). Within a classroom environment, Slykhuis (2006) recognises that the iPod is useful for playing music, for use as a portable hard drive, for displaying pictures, and for recording audio. iPods have also be viewed as a 'disruptive technology' (Berry, 2006) challenging the conventional practices of educators. The iPod also has the potential to develop 'collective' listening behaviours (Bull, 2006) that offer further scope for the promotion of collaborative learning experiences within music education. American universities have been at the forefront of developments in the educational use of iPods and podcasting. The key characteristic of this landscape is the manner in which the institutions themselves have adopted the new technology and supported it with appropriate structures, staff and funding. The first to lead the sector was Duke University in North Carolina with a well-publicised project involving their entire first-year cohort (Duke University, 2005). The high profile and appeal of this undertaking encouraged other institutions to investigate the iPod and podcasting phenomenon (Blaisdell, 2006).

Chan and Lee (2005: 65) suggest that podcasting 'combines the broadcasting nature of radio with the flexibility, learner control and personalization afforded by recorded audio'. Huann and Thong (2006) note the 'bottom up' approach to podcasting where internet users have the potential to develop and publish podcasts to the net quickly and easily without having to know complicated HTML code. They convey this as a sequential process encompassing three phases; content creation, publication and subscription. Three types of podcast have been developed so far – 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. 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 since anything that you can see on television can be utilised in this format. 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 are viewable using iTunes on both PC and Mac 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. Podcasts are then published via a web-based subscription service, the RSS protocol, which 'pushes' the information out to listeners (subscribers) automatically rather than asking them to check the place where the podcast is being hosted, for example a website or on a virtual learning environment (VLE).

Previous research into podcasting within educational contexts has found a number of advantages. These include meeting the needs of students with different learning styles (Alexander, 2005), particularly those who like to learn 'on the go' and take a 'bite size' instrumentalist approach to learning (Dale & McCarthy, 2006). Furthermore, podcasting can promote flexibility in accessing learning materials (Chan & Lee, 2005; Levy, 2006), generate greater inclusivity (Cebeci & Tekdal, 2006), enhance student engagement and reflection (Baird & Fisher, 2006) and can develop communication, time management, problem-solving and critical-thinking skills (Hargis & Wilson, 2005; Huann & Thong, 2006). Research has also found that podcasting can alleviate student anxiety levels towards the subject matter (Chan & Lee, 2005), enable a better understanding of the taught material (Lane, 2006) and have a positive effect on exam performance (Abt & Barry, 2007).

### **The research project**

The University of Wolverhampton has been actively involved in investigations into Technology Supported Learning (TSL), having launched its own VLE called the Wolverhampton Online Learning Framework (WOLF) 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 and text-based functions, it was a natural extension to create a team to explore the potential of mp3 players. Thus, since 2005, and with the support of the Institute for Learning Enhancement at the university, a team of performing arts tutors have been engaged in research into the broader use of iPod technologies promoting diverse approaches in teaching and learning. The broad project was entitled 'Podagogy' ([www.podagogy.co.uk](http://www.podagogy.co.uk)) which the team have broadly defined as the use of iPod technologies to develop pedagogical practices in learning and teaching. The Podagogy research was based around three projects in music, drama and dance, each of which took a different approach to using the iPod with their students. Within the context of this research the music project is the focus of the discussion.

Lecturers involved in the project were interested in exploring the reinvigoration of the use of audio and visual materials in a manner that exploited developments in technology. This is in line with current trends in HE that seek to engage learners through a blend of approaches to curriculum delivery (Hughes, 2007). More specifically, the broad research areas under investigation included; firstly, generating ideas on how iPod technologies can be applied to a popular music degree programme; secondly, examining how these technologies could be used to support curriculum delivery; and thirdly reflecting on the

Table 1 *Project Timeline*

|          | Phase 1 (Sept – Dec)   | Phase 2 (Jan – April)   | Phase 3 (May – June)  |
|----------|--|---|---|
| Staff    | Consideration of opportunities for using podcasts within module delivery<br>Up-skilling on podcast creation and supporting framework<br>Testing University IT network including the VLE, FTP, file sizes etc | Creation and publication of podcasts<br>Troubleshooting issues as they arise  | End of semester evaluation of student interaction with podcasts |
| Students | Understanding the supporting framework and aggregator software (e.g. iTunes)<br>Understanding how to download and use the podcasts<br>Training on iPod functionality   | Downloading of podcasts<br>Student engagement with learning activities in the podcasts<br>Student submit assessment in podcast format | Participation in podcast evaluation interviews                  |

experience of students in relation to their response to using iPod technologies to support their learning.

The research focused upon a cohort of Level Two students studying the BA (Hons) 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. Following initial investigations into various approaches it was decided that the package presented by the combination of Apple's iPod Video and the iTunes software provided the advantages of wider ownership, seamless integration of mp3 player and computer, cross-platform availability and as previously explained the motivational characteristics accrued due to the iconography of the iPod.

The project encompassed three phases which are outlined in Table 1.

#### *Phase one*

Phase one was designed to provide training in the operation of iTunes and iPods 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. Consultation with staff and

students led the team to make podcasts equally available by other means and taking steps to ensure equal access for students off campus who were using older PCs and only had access to slower connection speeds. Students were given the option to receive the podcast materials in an alternative format and to submit the student podcast assessment as a report. It should be noted, however, that none of the students decided to take this option.

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. Indeed, institutional issues including the compatibility of file formats (.m4v) and download times, where the VLE was being used to host the podcasts, placed initial challenges for the project team.

#### *Phase two*

During phase two, tutors created and integrated teaching materials into module delivery that exploited the capabilities of the iPod and iTunes framework. Three modules were selected for the process of evaluating the use of the iPod and podcasting with the sample cohort of music students. The modules from level two were entitled Songwriting, Historical and Contextual Studies and Popular Music Performance. These included audio podcasts, video podcasts and enhanced podcasts incorporating visual materials and supplementary resource weblinks with which students could interact. The chapterisation tool was used to enable students to move easily around the podcasts themselves without having to listen through them from the beginning. The podcasts were produced using either the AppleMac programme called Garageband or Camtasia on a Windows-based PC. Podcasts were then published on the University's VLE and on the tutors own website which included an RSS feed. (see <http://www.stevecooperband.co.uk/Songwriting/Podcast/Podcast.html>).

The Songwriting module, for example, used video podcasts – sometimes referred to as 'vodcasts' in order to demonstrate to students the use of Sibelius notation techniques. Students were able to play the vodcasts back on either their PC or iPod which became an instructional tool on how to use the software. Students also used their iPods for sharing original material to enable peer review and development in music performance. In the Popular Music Performance module students used the iPod and podcasting in a number of ways. Firstly, for distribution and the selection and sharing of songs for analysis, secondly for reflective practice in order to evaluate audio and visual aspects of live performance which they had recorded and could then play back on the iPod, and thirdly for improvisation and solo performance where backing tracks could be recorded and played back for individual rehearsal. In the Historical and Contextual Studies module, audio and enhanced podcasts were used to supplement the course material. In addition, the student assessment was based around a research project, the outcomes of which were presented as an audio podcast.

#### *Phase three*

The final 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. A

series of semi-structured interviews were conducted with six male and six female students selected to represent a balance of age and gender and varying degrees of engagement. 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, 1999). These were used in order to retrieve, order, cluster and to categorise the data (Miles & Huberman, 1994). The key words and phrases that had the greatest prominence in student responses were: motivation, enrichment, style, content, timeshifting, personal learning and the expression that podcasts were not a replacement of lectures. Each of these themes will be discussed in greater detail.

## **Findings and discussion**

### *Podcasts – a replacement for lectures?*

As suggested earlier, the idea of presenting a lecture in its entirety has become a popular way of developing a large podcast archive. However, the use of the podcast to replace the traditional lecture was strongly resisted by the students. Indeed, none of the students questioned saw the podcast as a replacement for face-to-face lecture time. Students felt that their engagement was increased by 'extra' or complimentary content to support the lecture rather than a mere repetition of it. 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 music exercises featured in the podcast was seen as beneficial to them.

I think it's a good consolidation for the actual lectures, I don't think you could substitute the lectures altogether. (Student AS)

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. (Student 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)

This particular aspect is useful when students are using the iPod and aural skills to develop their learning. The ability, for example, to play and replay chord sequences listened to on the podcasts enables a reinforcement of knowledge. This opportunity can sometimes be lost in a fixed classroom setting that takes place within a set time frame, although an acknowledged limitation is that students do not have the opportunity to respond and ask questions of the music lecturer, if they require further clarity.

For some, primarily those who had a slower, modem-based internet connection, the process of loading iTunes and waiting for the episode to download was very time consuming.

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. (Student GL)

It is apparent that music students express positive feelings towards the use of podcasting but only as a supplementary means of supporting learning and not as a replacement. This is an important consideration for music educators to take account of when considering using podcasting as part of a blended learning approach.

#### *Enrichment and motivation*

Students claimed that their sense of motivation and engagement was significantly increased as a result of using the podcasts. For example, the Historical and Contextual Studies podcasts incorporated genre band images and weblinks that enabled students to understand the interface between music and fashion at a particular point. Where more intense theory based material was present, students were able to re-listen to examples of the material covered in the lecture and test themselves via exercises featured in each podcast episode. The answers for each mini test were followed up in the next podcast to enable students to check their answers.

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)

Those students who were able to 'subscribe' to the RSS feed for the songwriting 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.

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)

The video podcasts were utilised to answer frequently asked questions about the Sibelius computer software that students were required to use in the preparation of their final assessment. Students were able to follow a 'click by click' video podcast with commentary demonstrating the most common errors and how to correct them in relation to the work they were submitting. This supplemented individual tutorials, where in previous semesters the lecturer had found that many of the same problems and issues consistently reappeared.

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

It was apparent that the use of podcasting and the iPod encouraged students to engage with the module content in a more interactive way. This interaction is a key motivating factor for music students to learn more deeply about the subject matter.

#### *Style and content*

Interview responses made clear the need for authors to reflect on the length and style of the podcasts. This came as a result of the increased familiarity with the technology and



the temptation to cram in as much information as possible into each podcast episode, erroneously concluding that this would add value. For the purposes of music analysis, enhanced podcasts were developed which embedded sound files and score extracts. This would enable the student to listen to analytical points that refer to the extracts being played. However, even with the inclusion of chapterisation in podcast episodes, the relentless flow of information can have an adverse effect on student listening.

I know with the songwriting 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)

A vital issue for consideration by educational podcasters is that even though the RSS subscription provides a highly effective method for disseminating information to students, and 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'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)

The style and content of podcasts is an important factor for music educators to consider. Podcasts should be informative, but not to the extent where the content disengages learners. Though there was no specific feedback from the sample group on the preferred length of the podcasts, for music educators, interactive exercises and quizzes that test students on recorded extracts are useful techniques for ensuring the reinforcement of knowledge and understanding.

#### *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 podcast to podcast in some cases), students were utilising time when travelling, or on the 'treadmill', to listen to their podcasts, increasing their engagement with learning materials in previously under-utilised time.

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)

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

Podcasting was particularly useful in this sense for understanding orchestration. Sound and visual files of extracts in orchestral pieces were used in the podcasts to illustrate the range of individual instruments and their use in different orchestral textures. Being able to listen and reflect at a time and place of your own choosing is a crucial part of engaging music students in the learning process. Podcasting offers music educators the opportunity to maximise the learning of students, at times and in places, where it may not have traditionally taken place.

#### *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.

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)

The idea that downloading podcasts is a 'geeky' and a largely male-dominated activity was also challenged. In particular, 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 more likely to share that material with their family and friends.

I'm not really into gadgetry 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)

The large file sizes that the iPod is able to contain enable it to store a wealth of visual and audio information. In this respect, the containment of the students' own musical video performances on the iPod and the ability to playback, reflect and share with peers, friends and relatives 'on the go', is a unique feature of the technology and, as mentioned previously, can be a highly motivating factor.

#### **Conclusion and reflections**

The article has discussed the use of iPods and podcasting with a sample of students studying an undergraduate Popular Music degree. Overall, it can be concluded that the use of iPods and podcasting had a beneficial effect on the overall student experience. Although it is acknowledged that these benefits may not necessarily be exclusive to this technology, the portability, flexibility and active learning experiences that can be encountered through the use of the iPod confirms previous research into the use of other mobile learning technologies (JISC, 2005). Furthermore, the findings suggest that the iPod, as a mobile technology, is an informal, unobtrusive and ubiquitous device (Kukulska-Hulme & Traxler, 2005) that can make a significant contribution to learner engagement within music education. The research has, therefore, revealed a number of useful and informative findings that can be

summarised as follows: Firstly, students have little desire to relisten to an entire lecture but prefer to utilise podcasts to build on and revisit lecture concepts with relevant exercises and examples. Secondly, the blend of podcast material along with the lectures was an enriching and motivating experience. Thirdly, those students who receive podcasts via RSS demonstrated greater engagement with the material. Fourthly, the podcasts enable students to time shift their learning, choosing when, where and how they listen and relisten to materials in order to meet personal need. Fifthly, the iPod culture is not bound by gender barriers and develops a combination of 'work' and 'fun', confirming the thoughts of Prensky (2001) and the way in which the contemporary student learns. Finally, the challenge for the podcast creator is to evaluate consistently 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.

It should be acknowledged that a limitation of the research is the small-scale nature of the survey and therefore further research needs to be conducted with a wider sample of students involved in different programmes of study. Further research also needs to be conducted into the extent to which podcasting can meet the different learning styles of students and contribute effectively as part of a blended learning approach. Also, the use of collaborative podcasting as an assessment technique and its potential as a medium for offering assessment feedback could be more fully explored.

From the research a number of recommendations can also be proposed. Institutional frameworks need to be developed in order to support staff and assist them in the process of podcast production and publication. Podcasting as a delivery mechanism is more likely to continue and develop if institutions develop supportive frameworks. Indeed, as an increasing number of educators begin to use podcasting, peer pressure amongst students, (i.e. '... my other lecturer gives us podcasts ...') is likely to act as a catalyst to its further adoption as a supporting delivery mechanism. Policymakers need also to understand that podcasts can add to a diet of activities within a blended approach to delivery but should not act as a replacement for the traditional lecture/tutorial session.

### **Further information**

The following video podcast contains further details about the project.  
<http://home.wlv.ac.uk/~in8246>

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