Podcasting to Support Students Using a Business Simulation

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Abstract: Audio or video podcasts can be a useful tool to supplement practical exercises such as business simulations. In this paper, we discuss a case study in which different types of podcast were utilised to support the delivery of a course in international business. The students work in groups and run a fictional company using business simulation software, which gives them the opportunity to evaluate their decision making skills. A number of podcasts were used as reusable learning objects for different student cohorts. Faculty members produced visually enhanced audio podcasts offering tutor discussions of key elements of the computer-assisted business simulation used by the students. The podcasts were made available via the virtual learning environment (Blackboard Vista), as well as for subscription by web browser-based RSS readers, such as Google and downloadable RSS readers, such as iTunes. Our evaluation of this approach to using podcasts takes into account pedagogic and technical issues. Firstly, faculty members involved in this case study were interviewed to obtain their views and experiences on the process of producing podcasts as well as the suitability of podcasts to support their teaching. Secondly, students were surveyed and interviewed about the value of the podcasts and the way in which they were used. This work is on-going and initial informal student feedback indicates that the podcasts engaged the students and supported their understanding of the international business module. This paper presents a snapshot of the current findings which generally support the value of this innovative way of using podcasting for learning and teaching.

Keywords: podcasting, reusable learning resources, e-learning, web 2.0, visually-enhanced audio, business simulation

1. Introduction

In this paper we present our findings from an on-going evaluation of a case study in which audio podcasts enhanced with visual media were used with students on Business courses to supplement practical group activities as part of a computer-based business simulation. We begin by outlining the rationale behind our use of podcasting in this context and the manner in which we designed them. We then discuss the case study in more detail before presenting our results and highlighting some observations for the use of podcasting based on our experience to this point.

2. Podcasting to support active group learning

It is generally accepted that the most effective educational interventions actively engage students in their learning (for example Biggs, 2003). Such engagement requires both action and thought on the part of students and is facilitated by guided group collaboration (Slavin, 1995). In line with these principles, students in Leeds Business School undertake a group-based interactive business simulation, as part of their module on Business Analysis and Practice. This is a complex and realistic activity, where student teams work in a 'live' market place consisting of all student companies, with other European Manufacturers acting as background 'competition' in the market. It was therefore felt that additional and flexible learning resources should be provided to support the activity. We anticipated that by offering such resources in form of podcasts, the students would be able to better understand the underlying principles of the business simulation and be able to make more informed business decisions.

Podcasts have a number of potential benefits in this situation (for a detailed discussion of the benefits of podcasting, see Salmon and Nie, 2008). They are continuously available and can be used flexibly by students, both via fixed and mobile technologies. Additionally the use of audio-visual and the novel presentation of material enhances both learning and motivation (Salmon and Nie, 2008). They can provide a realistic simulation of the activity, offering students a model from which to progress. Where the subject matter warrants, they can also be repackaged and reused as learning objects (Barritt and Alderman, 2004) for different modules. This is significant in our context, as the same case study is also used at Level 3 and postgraduate levels. Producing learning objects that are applicable to different levels of student is a recognised issue (e.g. Finlay et al., 2008) and podcasts are no

exception (Salmon, 2008). Podcasts can be produced at relatively low cost and there is, for example, open source freeware software available for producing audio recordings in mp3 format.

For these reasons we decided to develop a series of podcasts to support the team activity. There are a number of decisions to make in determining what type of podcast is most appropriate. We have applied the 10-factor design model of Edirisingha et al. (2008) to our scenario to help elaborate the design decisions made (see Table 1). Characterising the podcasts in this way is helpful to position them in relation to other work in the area.

Table 1: Interactive business simulation podcasts categorised according to Edirisingha et al.'s 10 factor design model

Edirisingha et al.'s 10 Factors	The interactive business simulation podcasts
1. The purpose or pedagogical rationale	Enhanced support for group-based active learning.
2. The medium used	Visually enhanced audio. Audio recording overlaid onto static visuals to illustrate team activity.
3. The convergence (integration with other (e)learning	Podcasts provide support to a face to face group-based interactive business simulation, alongside lectures and other sessions.
4. The authors and contributors of content	Podcasts produced by module leader and features role play by other members of course team. No contribution from students.
5. The structure of podcasting (frequency and timing)	The podcasts were offered in short episodes each covering a different element of the simulation exercise.
6. The reusability of content	The podcasts were designed to be reusable with different student groups across levels all using the same case study.
7. The length	Average length 8 minutes.
8. The style	Staff role-played the team activity students were to undertake. Presented as a group discussion.
9. The framework of content organisation	Each podcast focuses on one element of the team activity, which is introduced at the start of each episode.
10. The access system	Delivered via the virtual learning environment and also made available via an RSS feed for subscription.

3. The business simulation case study

The case study we are considering aims to investigate the use of podcasts to support students in the Business School at Leeds Metropolitan University. We are primarily looking at the use of podcasting for students in their second year of study (Level 2), taking the module Business Analysis and Practice. The students taking this module study various courses in the Business School, such as BA (Hons) Business Studies and BA (Hons) Marketing. Additionally, the podcasts are used to supplement teaching materials for students of two other courses: Strategic Decision Making (Level 3) and for a Diploma in Management studies at postgraduate level. These podcasts are therefore used as reusable learning resources, as they are utilised for three student cohorts with approximately 700 students in total. It is possible to offer the podcasts to students studying at such a range of different levels, as the podcasts' main focus is to support the learner using a computer-based business simulation.

The students typically work in groups of five to run a fictional car manufacturing company using this computer-based simulation. The interactive business simulation is complex, as the student teams are working in a 'live' market place consisting of all student companies with other European Manufacturers (e.g. Volkswagen, Ford) acting as background competition in the market. The podcasts cover some of the issues and decisions that the student groups have to make when producing a business plan and using the simulation software. These issues include, for example, task specific issues, such as how to choose the "Mission, Vision and Objectives" for a company, and management issues, such as how to deal with missing team members in a student group.

4. Development and delivery of podcasts

In order to produce a series of podcasts, four members of the faculty conducted a role play in which they followed a semi-structured script to discuss some of key elements of the business simulation software. The role play was digitally audio recorded and stored as an hour long mp3 file. This file was then split into seven audio files, according to the subject under discussion. For editing the audio file we used Audacity, a free open source software package[1]. Visuals, such as screenshots of lecture slides and business objectives from actual companies, such as Microsoft, were then added to each of the files with help of screen video capture software[2] (see Figure 1 for an example of a podcast). In the finalised version of the podcast, the students could listen to their tutors' voices and view the still images relevant to the content discussed.
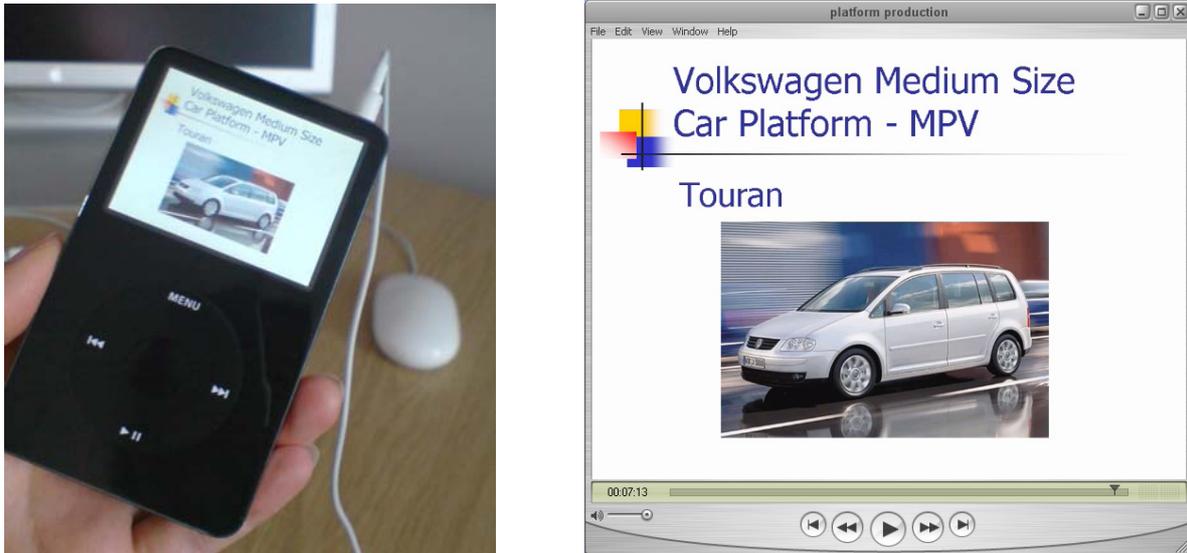

Figure 1: A podcast shown on an iPod (left image) and in the QuickTime media player on a PC (right)

Each of the podcasts was made available via the virtual learning environment (Blackboard Vista) and the podcast files could be viewed directly in an internet browser. In addition, the podcasts were offered to the students via RSS-based subscription. This meant that the students could 'subscribe' to the podcasts via web browser-based RSS readers, such as Google and downloadable RSS readers, such as iTunes. Once a student had subscribed to the podcast series, new 'episodes' of the podcasts would automatically download to the student's computer and if available to their portable music player or iPod.

5. Evaluation of podcasts - views of students and faculty

Five interviews with faculty members have taken place to date. The module leader has been interviewed twice; once before the start of the project and then at a midway point. The other three faculty members, who were involved in the role play, were each interviewed several weeks into the project. All four members of staff were asked about their expectations, views and experiences on using podcasting for learning and teaching. They were encouraged to talk about what they perceived as benefits and possible negative aspects of podcasting for faculty and students.

In addition to capturing the views of faculty, students were also consulted. Surveys and interviews with the different student cohorts have been initiated,. An eight question survey was distributed to the large student cohort of the second year Business Analysis and Practice course via the virtual learning environment (Blackboard Vista), and the same survey was handed out in paper-based format to 16 students studying at postgraduate level. In addition, a focus group was conducted with 10 students on the International Business course taught at Level 3; all of these students were non-native English speakers.

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[1] Available from http://audacity.sourceforge.net/.
[2] We used Camtasia Studio (http://www.techsmith.com/camtasia.asp) but free open source software is also available, such as http://camstudio.org/

Finally, a second survey was handed out to the large Level 2 Business Analysis and Practice cohort of approximately 500 students in the last week of the academic year. This paper-based survey aimed to elicitate the students' views on the podcasts made available to them during the semester. This end of year survey received a much larger response rate, probably due to the fact that it was handed out in paper format during the assessment week. 177 out of 476 students filled in the survey which equals a response rate of 37.2%.

Results, based on views of faculty and students, confirm our expectations in terms of the benefits of student motivation and supporting learning styles, as well as flexibility. Mobility is perceived to be less important to students. In addition we found unexpected outcomes in the staff learning (development) that occurred through the process. An issue that arose was the perception that podcasts were perhaps less beneficial to weaker students, providing learning enhancement only to stronger, more motivated students. This is an issue that requires further research to address.

5.1 Learning enhancement and motivation

Findings from the first survey of Level 2 Business Analysis and Practice students provided an early indication of student views, with the majority of respondents perceiving the podcasts to be useful. Out of seventeen students who responded to the survey, two found the podcasts 'very useful', eleven 'somewhat useful', and four 'not useful at all'.

Faculty members identified supporting learning around specific issues and supplementing existing materials as some of the main benefits of the podcasts, as well as practical management of the role play activity.

> *"I thought it was really useful because although it was a role play, we had several learning points that we wanted to get over to students, so we made sure that we asked each other questions in the role play that we thought they were likely to ask. So it's … a bit like a "frequently asked questions" and also to show the students that even when the lecturers sit down to do something, they don't all agree and how they resolve a disagreement."*
>
> *(Staff 2, female)*

Initial findings from the postgraduate survey indicate that students also agreed on the benefits of being presented with information in different formats, including multi-media, though some still appreciated the 'traditional' paper-based format:

> *"I think it is a good idea to present information in as many different formats as possible"*
>
> *"A useful learning aid but: prefer to read and take notes"*
>
> *(Survey comments from postgraduate students)*

This is a reminder that we should avoid emphasising a single medium and ensure that all our resources take account of different learning styles and preferences.

This view was also supported by faculty. In the interviews, all faculty members considered the question of whether podcasts could replace lectures and tutorials but were sceptical about this, as they saw them as different media. This is confirmed by existing research which has argued that the use of podcasts does not discourage students' lecture attendance (Hatch and Burd, 2008). Instead, faculty perceived podcasts as means to enhance the student experience, to be

> *"part of that mix of blended learning. […] the students expect that when they go to X-stream [the virtual learning environment] and have a look at something … there's something other than PowerPoint slides."*
>
> *(Staff 3, male)*

Another member of faculty also mentioned student expectations and saw the primary benefits of podcasts in that they suited students' different learning styles.

> *"[..] varying the mode of delivery is very good for keeping people's attention. I think that students these days, well young people these days, are more used to visual and verbal stimulus than reading. And because students have all got different learning styles some of them will learn a lot more from hearing than they will from reading for example."*

(Staff 2, female)

The focus groups with the international students also highlighted the motivational aspects of using new and novel technologies in their studies, and, again, the value of multimodal resources:

> *Female student 1: I haven't used podcasts very often in the past but I think, in general, it is a good idea. I'd like to use them …. <u>And the combination of audio and visuals, the combination of both is very good.</u>*

> *Female student 3: new technology I think, it's also a new thing to learn.*

> *(Focus group, International students, Level 3)*

The majority of the Level 2 Business Analysis and Practice students (149 out of 177) who responded to the end of year survey stated that they would like to see more podcasts to support their studies. Additional comments were "it's really appreciated how tutors put more work in to help us", "Keep podcasts!", "It appeals to a more interactive generation of students" and "It is a good idea, makes a change slides and sheet" which demonstrates the enthusiasm of the students for the use of multimedia files as supplementary learning materials.

5.2 Flexibility in learning

Flexibility was cited by both staff and students as a key benefit of podcasting. Faculty members mentioned that the students could replay the podcasts after the lecture to help their understanding and in preparation for exams:

> *"Benefits from the students' point of view is that they can …dip in whenever they like. And if they don't understand something, <u>they can replay</u>. Whereas you can't replay a lecture."*

> *(Staff 3, male)*

The focus groups with the international students also pointed to the benefits of being able to replay the podcasts:

> *Female student 2: … it's good that you can repeat it as often as you want.*

> *Female student 1: It is a very individual thing. And if you can't come to a lecture you can do it at home ….*

> *(Focus group, International students, Level 3)*

The postgraduate students made similar comments about being able to catch up with help of podcasts in case they had to miss a lecture.

> *"Useful as an overview or if you miss a lecture. Anything to help is appreciated!"*

> *(Survey comment from postgraduate student)*

In line with these findings, the end of year survey with the large Level 2 cohort confirmed that "being able to re-play the podcasts" was perceived to be the 'most useful' feature of the podcasts by 66 students (see Figure 2). This was followed by "study in own time" as the second 'most useful' characteristic of podcasts by 54 students. However, the respondents also indicated that they did not necessarily perceive the podcasts to be helpful for 'increasing their motivation and interest' in their studies, as only 15 students perceived this as 'most useful'.
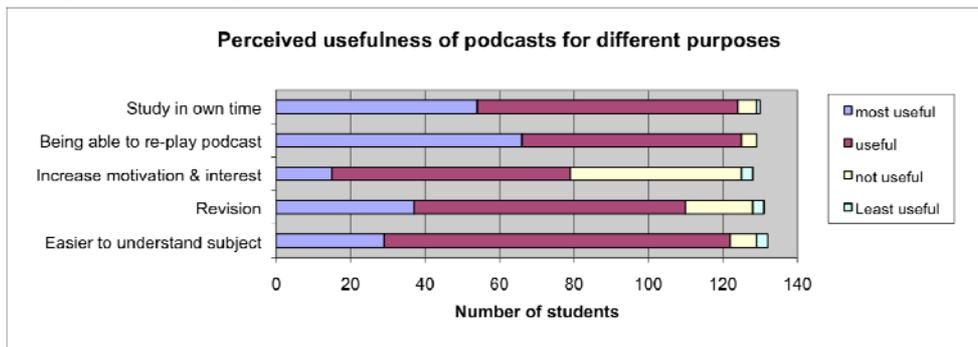

Figure 2: Responses to a survey questions by Level 2 Business Analysis and Practice students (N=177, multiple responses were possible)

5.3 Mobility

Our findings from both students and faculty data collections suggest that the learners preferred to access the podcasts via their laptops or PCs and not via portable multimedia players such as iPods.

For example, students of the large second year cohort indicated in the final survey that only 8 out of 177 watched the podcasts on an iPod or similar multimedia player. In contrast, 123 stated that they had viewed the video files on a laptop or PC. One possible reason for this may be the low ownership of multimedia players by the students. According to the students' responses, only 33 students out of the 177 owned a portable player, capable of playing video, while the majority (118 students) owned an audio only portable player.

This backs up our previous findings on using podcasts with another group of students (Finlay et al., 2008), and is supported by other studies. For example Wingkvist and Alexander (2007) suggest that the learners preferred to access the podcasts via their laptops or PCs. This casts some question over whether mobility is always a key perceived benefit of this type of resource.

The surveys showed that all 17 Business Analysis and Practice students, as well as the 9 postgraduate students, who responded to the survey, had watched the podcasts via their PC or laptop and did not download them to iPods or similar. The focus group with the Level 3 explored these issues in more detail:

> *Female student 4: you use your iPod when you want to relax and not study.*
>
> *Female student 5: I don't think it makes sense to sit on the bus and listen to important stuff from school or university.*
>
> *Female student 4: I think you have to listen to it again when you are at home.*
>
> *Male student 2: because we have the lecture all day here and then on the bus we just want to relax.*
>
> *(Focus group, International students, Level 3)*

It does seem that both students and faculty were, at best, ambivalent about the value of the mobility aspect of podcasting. As one faculty member commented: *"but then it doesn't matter whether they put it on an iPod or not. But I think, everybody has got a laptop these days, so they don't need an iPod"* *(Staff 2, female).*

5.4 Learning benefits for staff

One of the aims of the module leader was for his staff to *"broaden their horizon away from 'this is what we do', you know very traditional approaches." (Staff 1, male)* and indeed this appears to have been achieved. All faculty members reported that they enjoyed taking part in the role play and felt it was useful to students. For some however it was more than simply enjoyable, but became a learning experience for them as well:

> *"Well, I found it interesting, me […] I've never done anything like this before. […] <u>I found it beneficial as a learning tool</u>. And it was good to listen to other lecturers play out their role. In fact, they were really getting into their roles. They others seem to have done this before but it was new for me."*
>
> *(Staff 4, male)*

This was not an outcome we expected and it may be simply a factor of the type of group podcast made by this team, but it reflects positively on the activity as a whole for all concerned.

5.5 Support for all students

Even though faculty believed that the students generally welcomed the podcasts "That role play really went down well, judging from the students I've talked to, they said they learned a lot from it." (Staff 4, male), they also made a distinction between the stronger, more motivated students and the weaker or less motivated ones, as the following comments show:

> *"The ones that are focused and they are there anyway, they don't need all this extra help.*
> *It's the ones that never turn up because they can't get out of bed or had too much the*

night before. <u>It's those that podcasts would be really beneficial [for] but the attenders and the focused students, they … embrace it</u>."

(Staff 4, male)

"I think <u>the better students will take advantage more than the weaker ones</u>. Because you can see when you are teaching say a group of 20, there are probably about 8 or so who are really keyed into what you are saying and so on. And those students I think would be the ones who make the most [use]."

(Staff 1, male)

This highlights the need to see the podcasts as an additional resource but also to make the podcasts easily accessible to students, as adding additional materials to the virtual learning environment *"requires the students to be more proactive" (Staff 2, female).*

One of the postgraduate students emphasised the need of easy access to the podcasts:

"Good idea- just need to make sure I know where and how to access them"

(Survey comment from postgraduate student)

6. Conclusion

This paper has presented preliminary findings from our on-going research into the use of podcasting to support teaching and learning in higher education. Faculty and students agree that the podcasts are beneficial in terms of appealing to students with different learning preferences and providing enhanced motivation to study. However, we have found that the students value flexibility of use over mobility. In other words, the learners perceive it as very beneficial to watch podcasts outside the lecture time, either because a class was missed or because they want to review the key concepts. However, initial findings show that learners are less interested in accessing podcasts 'on the move'. We will be exploring this further during the remainder of this research project.

We encountered some unexpected outcomes in terms of staff development, with the use of new technologies and joint production of (multi-media) lecture materials providing the scope for faculty peer-learning.

The other finding that we will explore further in this on-going research project is the question of how to ensure podcasts support all students, not just those who are already highly motivated. Offering additional materials in form of podcasts requires the students to be proactive and take action to view and download them, possibly therefore excluding weaker or less motivated students.

One suggestion from a student was to integrate the podcasts into the face to face contact time with tutors.

"Would have preferred to watch the podcast in lectures and then have a group discussion afterwards."

(Survey comment from postgraduate student)

It may therefore be beneficial not only to let the students make use of the podcasts in their own time but also to blend this medium into the face to face contact time in order to engage all students. We will be investigating this issue further.

In summary, from our early experience on this project, we have found visually enhanced audio podcasts to be very useful as a supplement to face to face interaction and other materials. The podcasts are perceived to provide valuable support for the case study activity and the use of a novel technology, with the flexibility it has, is motivating. However it is critical that students can access podcasts quickly and easily, and it may be helpful to integrate them into face to face class activities, to allow students to benefit more consistently from their use.

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