

### **3. Video and audio podcasting on a large under graduate final year module -Case study**

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#### **Abstract**

This paper considers the increased use of podcasting (over a five year period) on a large (370 plus students) under-graduate final year module. Online questionnaire's were undertaken in each of the last four years of the study to ascertain the student's perception of the podcasting on their learning experience. The results show that in all of the four years most students believed their learning experience had been enhanced by the podcasting. Although the study investigated student results (coursework and examination) it is argued that attempting to correlate student results with podcasting is problematic. Given some universities are attempting to increase the amount of distance/blended learning they undertake (including initiatives such as iTunes U), given the announcement of a three fold rise in tuition fees for UK students and given universities desire to enhance the student learning experience, this paper argues that more module's/universities should be using podcasting.

**Keywords:** videocast, audio podcast, podcast, learning and media, blended learning, increased fees, universities, students.

#### **1. Introduction**

For a number of years individual students have been audio recording lectures for their own personal use. The audio recording concept is relatively new to education (in the sense of a lecturer recording his /her lecture and then posting the recording on a VLE). In some ways the video concept has a longer history through the Open University. Over a five year period (on a large final year under-graduate strategic management module with over 300 students on it) podcasting was increasingly used by the module leader to aid the student learning experience. Podcasting (in terms of how it is used in this paper) can be defined as a recording of a lecture /presentation that is then loaded onto a website for the attention of students. Students can access the recording at anytime. Blended learning (in terms of how it is used in this paper) is learning that utilizes technology and face-to-face tutor and student interaction.

At the end of each of the last four of these years a survey was undertaken asking students what they felt about the educational usefulness of the podcasts. In all four years the results showed the students believed the podcasting was beneficial to their learning experience.

The objectives of this paper are to explore the effect on the student experience of the increased use of podcasting over a four year period that saw the increased use of podcasting. This paper argues that more modules/universities should be embracing podcasting. Further, the paper calls for research to be undertaken on how the various new educational technologies are being used and perceived by students and why more modules and universities are not using podcasting.

#### **2. Literature Review**

## **2.1 Podcasting and Blended Learning**

There are a number of definitions of blended learning. Garrison and Vaughan (2008: 5) argue it is a "thoughtful fusion" of technology and face-to-face teaching. Campbell (2005) argues academics should achieve basic skills in "rich media" because increasingly students are coming into education with those skills. He suggests that "rich media" is a language that students understand and use. Harris and Park (2007) stated that increasingly podcasting in UK universities has become a "two way communication" eg law related news for students that updates any notes/lecture with the latest legal changes (their study is for period 2006-7). It could be said that we have a new type of student in Higher Education (Prensky, 2005). These new students are not always as motivated as past students were. Prensky (2005) calls these new types of students "digital natives" and it is important to find new ways to motivate them. They are digitally minded with the use of digital techniques and other online interactive media. Furthermore, Jenkins (2006) talks of a new "participatory culture" in education and emphasizes the importance of teaching digital skills to enable everyone to participate in education. However, the above view is questioned by Oliver and Trigwell (2005). They point out that talk of a "generation gap" has always been apparent in education. That, there is no evidence that the current generation of students is any different from previous generations in terms of how they learn. Nevertheless, many universities are embracing blended learning and seeking to be involved in the likes of iTunes U. iTunes U is a specialised and focused Apple iTunes store that enables Higher Education institutions around the world to share audio, video and other visual content for subscription and downloads. Some universities are explicitly setting targets and plans for blended and distance learning using new web technologies. As the current web 3.0 provides "semantic" tools as a term to describe computers programmes/techniques that will turn unstructured data on the web into meaningful information. There is some talk of web 4.0. This concept will see attempts to link individuals through their interests. The web 4.0 concept sees rich media use as the norm for some people and sees individuals dealing with computers almost in the same manner as earlier generations dealt with other humans ( Enzano, 2010).

Given the above there is a need to consider to what extent students on a large under graduate final year module view podcasting as a positive aspect of their learning experience. The research undertaken has sought (over a four year period) to monitor the effect on the student experience when blended learning techniques (such as podcasting) are used on a module.

## **2.1 Audio recording in Higher Education**

The exact extent and use of audio recording in higher education is unknown. Edirisingha and Salmon (2007) comment on the IMPALA project (Informal Mobile Podcasting and Learning Adaptation) that considered the use of audio podcasting in five UK universities. iTunes U is being used by some universities. The University of Hertfordshire (where this research was undertaken) launched on iTunes U site in early September 2010. Some of the podcasts that this research concerns, were chosen to be included in the launch. After the first week of the launch the video interview with a visiting Professor of Management was in the top 10 video downloads on the university site (Itunesu.herts.ac.uk). Further, the University of Hertfordshire has as part of its current five year plan (2010) a key aspiration to extend distance learning to 25 % of its learning and teaching (from the current 3%). This suggests audio and video recording of lectures will increase in the university.

## **2.2 Impact of recording lectures in students' experience**

There is evidence that podcasting by a lecturer removes the anxiety levels of students (Lee and Chan 2007). There can be technical and accessibility issues re podcasting (particularly video podcasting) and not all the literature is positive. Some literature shows that some overseas students had particular difficulty in accessing and downloading video podcasts. Oliver (2010) argues that there can be negatives for students regarding podcasting (Taylor, 2008). These can include hostility, issues of control and how to police collaborative/blended learning.

Given the above, the research attempts to test the hypothesis that increased use of podcasting on a large under graduate module enhances the student satisfaction of their educational experience.

### **3. Research Methodology**

To understand student's views on podcasting, the questionnaire has been used as primary method to collect the data. In addition of getting further insights, continuous discussions have been made with the individual and groups of students that participated in the survey. The discussion with students took place after lectures, presentations, group work and contact hours with their lecturers.

#### **3.1 Sample Selection**

The sample selection for the primary research started in 2007 (towards the end of academic year 2006/7 and continued to year 2010/11 on a large final year under-graduate module covering over 370 students). These large groups of students were selected in order to get a range of opinions about the recording of lectures and podcasting. No survey was undertaken at the end of 2006/7; however, some students did make comments on podcasting in the module student feedback questionnaire. In the last four years of this study all students on the module were informed they were being requested to partake in the questionnaire where the likert system of questioning was used. This request was published on the module website.

#### **3.2 Research Theme and Context.**

Having piloted a few live lecture audio podcasts in the last few weeks of the 2006/7 academic year on the final year under graduate module Strategic Management, it was decided to audio podcast "live" all the lectures for 2007-8 year on the module. The initial decision to start the podcasting in the 2006/7 academic year had occurred due to a number of students requesting the podcasting. Also, the institution where we worked (University of Hertfordshire) was an institution that embraced blended learning. Consequently, it seemed natural to introduce and use podcasting.

In academic year 2007/8 the module had 320 students enrolled on it. The module is a compulsory double module for a number of degree programmes in the Business School at the University of Hertfordshire. The University of Hertfordshire Student Feedback Questionnaire (SFQ) for this module for 2006/7 did not have specific questions on the audio podcasts that had been piloted. However, the SFQ did allow for students to make hand written comments under Section C entitled "Looking back on the experience, are there any positive or negative aspects you would like to highlight?" The written feedback saw some students give positive feedback on the "live" lecture audio podcasting and a suggestion was made that videos could be made especially for assignments. In the light of this feedback, video podcasts were made for the 2007-8 year. Also, an introductory video podcast was made which introduced the key features of the module, a video podcast to introduce the first assignment and four video podcasts that summarized the key elements in the preceding five lectures. The introductory video podcast was placed on StudyNet before the course commenced as was the assignment video podcast. The module guide instructed students to access the two videos as did a StudyNet module news item written just before the course commenced. After the fifth, tenth, fifteenth and twentieth lectures a video podcast was put on StudyNet (UH intranet platform). After each of the twenty lectures (and after the 21<sup>st</sup> lecture-a revision lecture) the audio recording of the live lecture was placed on StudyNet.

In academic year 2008/9 the module had 331 students on it. The extent/type of the audio podcasting was identical to that used in the academic year before-all lecture's were live audio podcasted. However, the extent/type of video podcasting was enhanced and changed. An introduction to the module video podcast was produced. After every two lecture's a video podcast was undertaken that summarized the key elements in the two lecture's. Video podcasts were undertaken to introduce both courseworks. An examination technique /tips video podcast was produced. A guest speaker (a Professor of Management from Harz University, Germany) was video'd undertaking a leadership exercise/lecture with the students. This was followed by a video podcast interview with the professor in which the professor reflected on the exercise and he was asked a series of questions relating to

the exercise and to strategic management theory in general. One of the module lecture's was video'd in full.

In academic year 2009/10 the podcasting was taken a stage further. In addition to the above, the two weekly video summary was replaced with a weekly video summary. The weekly video summary was followed (on the same video clip) by a question and answer section. In this session the module leader reads out five questions he has been asked by students concerning topics covered in the lecture. The module leader then answers the questions.

Academic year 2010/11 saw the podcasting used in the same manner as in 2009/10 though the use of the blog was refined so that it was primary used to motivate student's to think about key issues/questions before the lecture. The lecture would then attempt to answer those key questions etc. Also, the blog was used to point out current real world examples that tied in with module theory/learning outcomes.

The overall research aim of the study was to explore audio/video recording and podcasting

The university intranet (StudyNet), get students to review this approach and send comments back to the lecturers. Therefore, online questionnaire method has been used to collect primary data and to get in-depth understanding of the effectiveness of the new media/podcasting at the Business School - University of Hertfordshire. Just before the end of the module in 2007/8 an online questionnaire was placed on the module web site. The questionnaire asked a number of questions that were not specifically related to podcasting. However, two specific questions were asked of students re the podcasting. Firstly, students were asked to comment on whether or not "Audio podcasts of lectures on this module are useful". Secondly, students were asked "The short video clips were useful and made the module more interesting". Thirdly, students were asked "E-learning facilities (e.g. StudyNet) contribute to my learning on this module ". Students were asked to comment on the scale "Definitely agree, Agree, neither agree nor disagree, Disagree or definitely disagree". At the end of the questionnaire students were asked if they wished to give written feedback to three questions. These were "the best thing about the module is...", "the worst thing about the module is..." and "I would like to suggest the following improvements to the module..."

#### 4. Findings

Of the 320 students on the module in 2007/8 academic year 76 students responded. The answer to the question on using audio podcasting (Have you found the audio podcasts of lectures useful?) showed 55.3% definitely agreed, 21.1% agreed, 15.8% said neither agree nor disagree, 7.9% disagreed, 0.0% definitely disagreed. The answer to the question on the video podcasts (Have you found the short video clips useful?) showed 35.5% definitely agree, 30.3% agree, 27.6% neither agree nor disagree, 6.6% disagree and 0.0% definitely disagree. The answer to the question on e-learning showed 53.9% definitely agree, 38.2% agree, 5.3% neither agree nor disagree, 2.6% disagree and 0.0% definitely disagree.

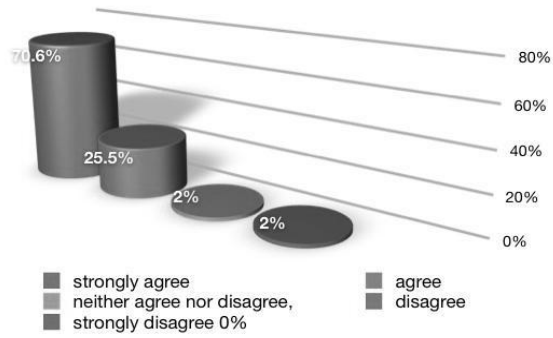
In April of academic year (2008/9) an online questionnaire was administered on the module. Like the previous year it was a Bristol online survey. Eight questions were asked: as in the previous year students were asked to comment on the scale strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. At the end of the questionnaire students were asked "Any general comments about the use of the new educational technologies on this module and any suggestions as to how technology could be used further?". (Optional). Of the 331 students on the module 51 completed the questionnaire

Question	strongly agree	agree	neither agree nor disagree,	disagree	strongly disagree
Audio podcasts of the lecture on this module are useful?	70.6%	25.5%	2%	2%	0%
The video podcasts are	58%	29.4%	11.8%	0%	0%

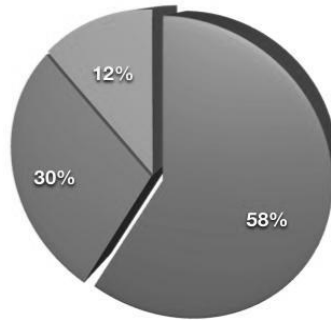
useful?					
The blog is useful?	45.1%	37.3%	15.7%	2%	0%
The live audio podcasting of lectures stops me from attending some lectures?	3.9%	11.8%	9.8%	25.5%	49%
If all lecture's were video podcasted I may not attend some lecture's?	7.8%	9.8%	11.8%	31.4%	39.2%
If the technical quality of the podcasts were improved I'd be more likely to use them?	27.5%	21.6%	45.1%	5.9%	0%
I think it would be beneficial if students were encouraged to produce video podcasts to assist their learning?	11.8%	31.4%	25.5%	19.6%	11.8%
E-learning facilities contribute to my learning on this module	72.5%	27.5%	0%	0%	0%

The following charts show the breakdown of the key results from the online questionnaire conducted:

**Audio podcasts of the lecture on this module are useful ?**

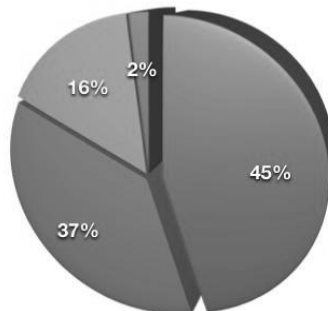


**The video podcasts are useful ?**



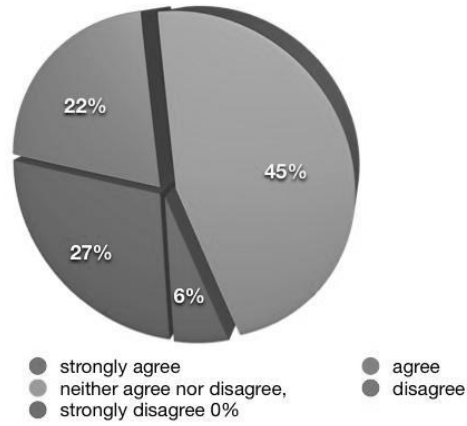
- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree 0%

**The blog is useful ?**

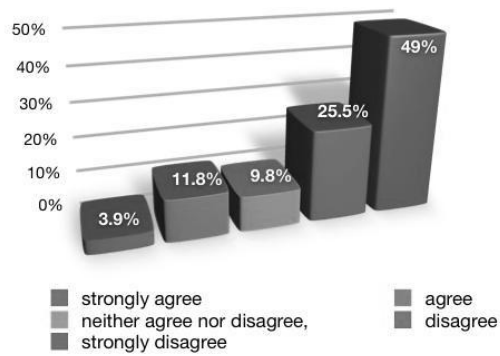


- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree 0%

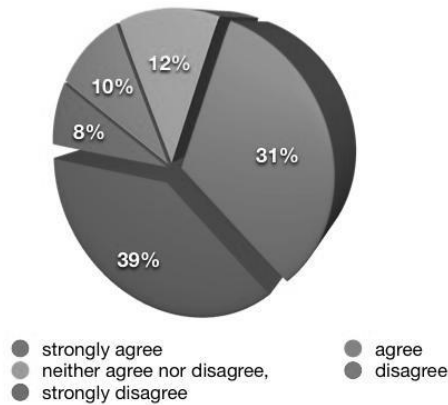
If the technical quality of the podcasts were improved I'd be more likely to use them ?



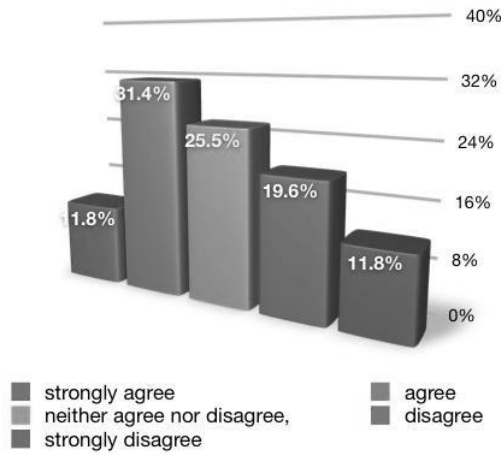
The live audio podcasting of lecture's stops me from attending some lecture's?



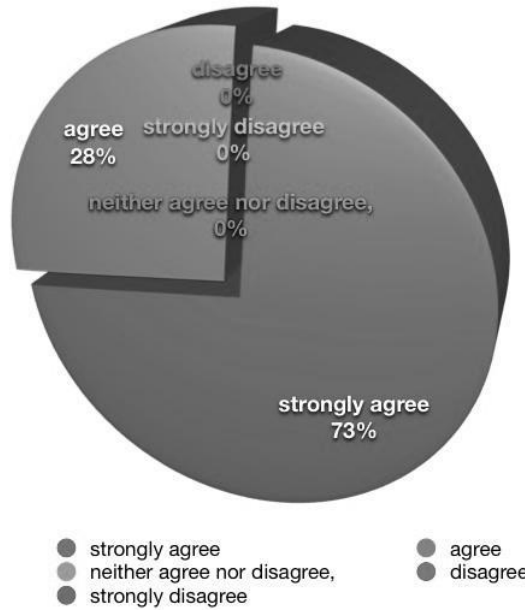
If all lecture's were video podcasted I may not attend some lecture's ?



I think it would be beneficial if students were encouraged to produce video podcasts to assist their learning ?



E-learning facilities contribute to my learning on this module





## 4.1 Analysis and Key Findings

Some of the highlights of the research feedback received provides some very insightful comments:

- “the best thing about the module is to be able to re-enforce the learning experience using podcasting”
- “It is a complex subject and it is useful having the podcasts so I can go over the lecture again”
- “podcasts which help during revision, being able to add to my notes etc”
- “the audio podcasts are invaluable help”
- “the use of podcasts and video casts..”

These valuable and positive comments were pleasing for the research and audio recording approach used at the University of Hertfordshire. However, it was also important for the lecturers to understand ways in which these approaches can be improved. Therefore, comments on improvements include:

- “I would like to suggest the following improvements to the module...”
- “Clearer audio podcasts, consider the video lecture as you may need to visualise again and again to understand some theories”.

## 4.2 Students Comments Reviews/key findings

The following are some of the comments taken from the questionnaire:

- “I believe the video podcasts are fantastic when revising as I can go back over areas I did not understand first time”
- “The video podcasts on the assignment were also really useful as you were able to keep referring back to them to check you had covered all the requirements”.
- “I think the audio and video podcasts are a brilliant idea that should be adopted by more modules. However, I do not believe they can replace the interaction of a lecture and the tacit knowledge subconsciously picked up during a lecture. Therefore, they should be used as a revision/refresher tool and not replace lecture’s. They work to complement each other.”
- “In relation to part D the live podcasts have provided the option to not attend the lecture when the coursework from other modules has been intense and extra time has been required. I think podcasting is a great idea.”
- “I think it is really useful when the lectures are podcasted... the only thing was you could not 100% follow which slide Keith was on all the time as obviously there was no visual. This would be useful if the lectures were video podcasted”.

In May of 2009/10 a Bristol online questionnaire was undertaken. Nineteen out of 342 students on the module completed the questionnaire. The questionnaire asked five questions:

1. “The weekly video summarizes and the student question and answer section at the end of the video’s are useful?” .84.2% of students agreed, 5.3% disagreed and 10.5% answered “don’t know”.
2. “Live unedited audio podcasting of the lecture is useful?” 100% of students agreed.
3. “The blog is useful ?” . 83.3% of students agreed, 5.6% disagreed and 11.1% said “don’t know”.
4. “All lecture’s should be live unedited video podcasted ?” 47.4 agreed, 47.4 disagreed and 5.3% answered “don’t know”.
5. “Podcasting on the module sometimes leads me to decide to not attend a lecture”. 26.3% of students agreed,68.4% disagreed and 5.3% said “don’t know”.

In May 2011 (2010/11 academic year) a Bristol online survey was undertaken on the module. 21 of the 371 students answered the survey. Four questions were asked :

1 " The blog is useful ? 66.7% of student's agree the blog is useful..9.5% disagree.23.8% don't know.

2 "live unedited audio podcasting of the lecture useful ?" 76.2% agree.9.5% disagree.14.3% don't know.

3 "All lecture's should be live unedited video podcasted". 71.4% agree.9.5% disagree.19% don't know.

4 "Podcasting in the module sometimes leads me to decide to not attend a lecture".33.3% agree.57.1% disagree.9.5% don't know.

5 "The weekly video summarize's and the student question and answer section at the end of the video is useful". 85.7% agree.9.5% disagree.14.3% don't know.

## 5. Evaluation Summary

On the whole student feedback on the audio and video podcasts is positive. From the student perspective, they are a success. It may be relevant that student satisfaction with the audio podcasts is higher than with the video podcasts (or video possibilities) in three of the survey years. A comparison of examination and coursework results between 2006/7, 2007/8, 2009/10 and 2010/11 found that since the introduction of the podcasts, coursework results have risen and then fallen and then risen again. The examination results are down for five years in succession. The following are the examination average scores before refer/defer examinations. 2010/11 exam average was 48.06%, 2009/10 was 48.8%. 2007/8 was 51.06%, 2006/7 was 53.96%. Coursework results have gone up and down over the same period. In 2010/11 the coursework was up on 2009/10. The end of module score for a student is a weighted average of 70/30 (exam 70% and coursework worth 30%). The coursework results for the academic year (2008/9) were an average of 54.8%. Possible of significance is that the amount of first's in the examination of 2008/9 doubled, compared to the year before. The amount of fails doubled. When the coursework and examination results are combined the number of firsts compared to the previous academic year has risen by 50%. One interpretation could be that the introduction of the new technologies has helped the very best students but, for some reason, worked against the lesser able students ? It does have to be borne in mind that in 2008/9, for the first time at the University of Hertfordshire, students were able to substitute the results of their worst 30 credit points in year three for their best 30 credit points in year two of their studies. This makes analysis of the results problematic. Also, in 2006/7 academic year for the first time student's were allowed to take re-sits in final year undergraduate subjects. It may be changes such as these have impacted upon the motivation of some students on this module.

Using coursework/examination results to measure the success of podcasting is debatable. It could be argued better measures could be used to gauge the success of podcasting - SFQ results, attendance at lecture's and engagement (number of students downloading the audio and video podcasts)? Again

this is problematic. What can be said for certain is that a clear majority of students who answered the surveys have, in each of the four years, being positive about the use of podcasting by their lecturer.

On the module in question it is noted that it was the lecturer himself who undertook all the podcasting. This raises some technical issues in terms of the delivery of the "live" audio podcast these might be improved by the lecturer saying which numbered lecture slide he/she is referring to? The nature of the strategic management subject means the lecturer needs to relate a number of topic areas within a lecture to his/her commentary. This means the lecturer cannot just read the lecture slides sequentially. However, if the lecturer says which slides he is referring to this might be taken by those who just attend the lecture, and never access the audio podcast, as time wasting! There is perhaps a dilemma between what is best practice for those who just attend a lecture and those who attend and then listen to the podcast or, possibly, only listen to the podcast. An alternative to this may be to introduce an additional non "live" audio lecture podcast to accompany the "live" audio lecture podcast. This additional audio podcast could put the lecture into "context" and clear up any confusions apparent in the lecture.

An obvious area of discussion is whether or not podcasting of lectures etc stops some students from attending the lecture? The data from the 2008/9 years survey shows a total of 15.9% of students either strongly agree or agree with the comment that "the live audio podcasting of lectures stops me from attending some lecture's". In 2009/10, 26.3% of students agree that "Podcasting on the module sometimes leads me to decide not to attend a module". In 2010/11 33% of student's agree that podcasting sometimes leads them to miss attending a lecture. However, a view could be taken that students have to prioritise their studies and listening to a podcast is as good as attending the lecture. There is, of course, an alternative view which argues that podcasting incentivizes non-attendance at lecture/class.

## **6. Conclusions**

The introduction of podcasts is certainly a success if measured by student feedback. Although not a part of the questionnaire's, there is the issue of accessibility. Podcasting presumably aids the visual or hearing impaired. However, it cannot be conclusively shown to have enhanced student performance in coursework and examinations. Indeed, overall results are, on average, down since the introduction (though there were more first's in one particular year). There is, and always has been, a debate in education concerning how much assistance should students receive from lecturers. Is podcasting "spoon feeding"? If so, is that a matter for concern? One possible interpretation is that the podcasting allows some lesser motivated students to find an excuse for not learning on a daily/weekly basis. Possible these type of students see podcasting as a reason to persuade themselves to study "later" in the course, possible nearer the examination? Alternatively, it might be that the top end of highly motivated students use the additional assistance fully and on an ongoing basis? Given, though, that four consecutive cohorts of students have shown they are positive about podcasting, our conclusion is that more modules and universities should be embracing podcasting as it enhances the student experience. Indeed, given the recent announcement of a three fold rise in tuition fees for UK student's from the UK Government it may well be that student "satisfaction"/perception of module's/courses will have to be taken more seriously by universities. Podcasting/new media could be seen as evidence that a university is offering a significant "package" to student's for their fee's.

## **7. Reflections**

### **7.1 Practical Implications**

The feeling experienced upon reflection is that the way podcasting was used on this module has just "scratched the surface" of some key educational issues. Although there has been "live" audio podcasting of lectures this begs the question why are they not all video podcasted as well? Should a "context" podcast be recorded after the lecture to deal with any "confusions" in the lecture? Should one of the seminars be recorded each week? (if lectures are recorded, why are seminars not recorded?). It could be argued that seminars involve students in debate and could, potentially, embarrass those students if their comments are put on StudyNet. There may be privacy and data protection issues with the podcasting of seminars. However, the lecture's do involve some student interaction and there have been no complaints from students about this.

## **7.2 Future Research**

The feeling is left that the online questionnaire should have asked some more specific questions. For example, does a student feel visual learning is more effective for them than audio learning? There are, it seems, a whole number of debates that need further analysis. Given the positive feedback from students and given how universities such as the University of Hertfordshire are planning for more blended learning/using iTunes U, more research is needed as to why podcasting is not more widespread than it is in UK universities. Also, more research is needed, beyond podcasting, to ascertain how the use of the new educational technologies is being perceived by students.

## Appendix A: Questionnaire Sample

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Keith Seed is a Senior Lecturer in Strategic Management at the University of Hertfordshire. He has over thirty year's teaching experience in schools,further education colleges ,further/ higher education colleges and university. He has held three one year teaching appointments outside the United Kingdom (in Australia,Canada and Spain). His research interest is in the effect of the new educational technologies on student learning and experience