

## **The Value of Full-Lecture versus Summary Podcasts for Student Learning**

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### **Abstract**

Some educators have questioned the pedagogical soundness of podcasting the traditional lecture format, and recommend instead the use of short three to five minute podcasts. This paper explores the value of podcasting the traditional classroom lecture to distance and on-campus students by comparing download and course evaluation data of a series of short podcasts and a series of full-lecture podcasts produced for the same university marketing course. The findings show that students in fact value full-lecture podcasts as highly as they do the short summary podcasts, despite the fact that the full-lecture podcasts are downloaded to a markedly lesser degree. The reason behind this apparent anomaly appears to lie in the different ways students make use of the two types of podcast. The paper concludes by noting that both full-lecture and summary podcasts serve as useful tools for student learning.

Keywords: podcast, lecture, learning design, blackboard.

## The Value of Full-Lecture versus Summary Podcasts for Student Learning

### Introduction

Educational podcasting has become increasingly popular among educators worldwide. But as often happens with new technologies, knowledge and understanding of 'best practices' have lagged behind its use. Although audio has been around for many years, podcasting has taken audio learning to a higher level, with university students now having the ability to access audio 'on the move' when and where they like. As Mikat, Martinez and Jorstad (2007, p. 15) point out, 'podcasts are versatile, reusable, interesting and stimulating to the new generation of technology-savvy student'. For the distance student, podcasting has even greater potential through fostering a sense of inclusivity and belongingness to the learning community, and by reducing isolation-induced anxiety (Lee and Chan, 2007). On the other hand, some academics have expressed concern about the potential for falling lecture attendance by on-campus students (Phillips *et al.*, 2007). Clearly, further research needs to be undertaken to investigate the pedagogical issues surrounding the use of educational podcasting.

Essentially, educational podcasting is a low-cost technology based on Really Simple Syndication (RSS) that allows audio content from user-selected feeds to be automatically downloaded onto students' computers as it becomes available, and then onto mobile devices such as iPods and other MP3 playback devices for listening at a time and place of their choosing (Lee and Chan, 2007). This paper reports on the download behaviour and course evaluations of on-campus and distance students in relation to their use of a series of podcasts produced for a marketing course at an Australian university. The findings from this exploratory research will help educators make more informed decisions with regard to the nature and type of podcasting that may be relevant to their situation.

### Background and Method

Vogele and Gard (2006) have identified three kinds of podcasts used in the higher education sector: administrative podcasts (university information aimed primarily at new or future students); special lecture series podcasts (topical lectures or seminars); and the traditional classroom lecture podcast. Lee and Chan (2007) have experimented with a fourth type of podcast, a short three to five minute talkback-radio style podcast, and question the pedagogical soundness of podcasting the traditional lecture format. Wagstaff (2007, p. 3192) concurs, warning 'simply recording the audio component of a weekly lecture can potentially result in an experience for the listener that is boring, disconnected and difficult to follow'.

A number of authors have recommended educators refrain from podcasting lengthy lectures (Chan, Lee and McLoughlin, 2006; Fose and Mehl, 2007; Mikat, Martinez and Jorstad, 2007; Wagstaff, 2007). Van Zanten (2008), for example, reports a marked decline in download activity of successive lectures as a particular lecture series progressed over a semester, so much so that some of the later lectures were not downloaded at all. Although these findings add some support to those who believe that the traditional lecture is too long a format to podcast effectively, several other explanations could be put forward for such behaviour such as student fatigue, lecturer's delivery style, nature of study material, student study patterns, and so on.

Should lecture podcasts therefore be discarded in favour of shorter podcasts? Would students value shorter-style podcasts more highly than the traditional lecture format? To answer these research questions, a series of short summary-style podcasts were produced for a university marketing course in addition to podcasting the normal lecture series. Students actively enrolled in a marketing course (*International Marketing*, n=52) were the subjects for this exploratory research. The course was delivered both internally and externally in the second semester of 2008, the two course versions being identical in content. The internal student population was 35, external 17. The gender balance across both student cohorts was similar (approximately 50% male: 50% female) although the external cohort was slightly older.

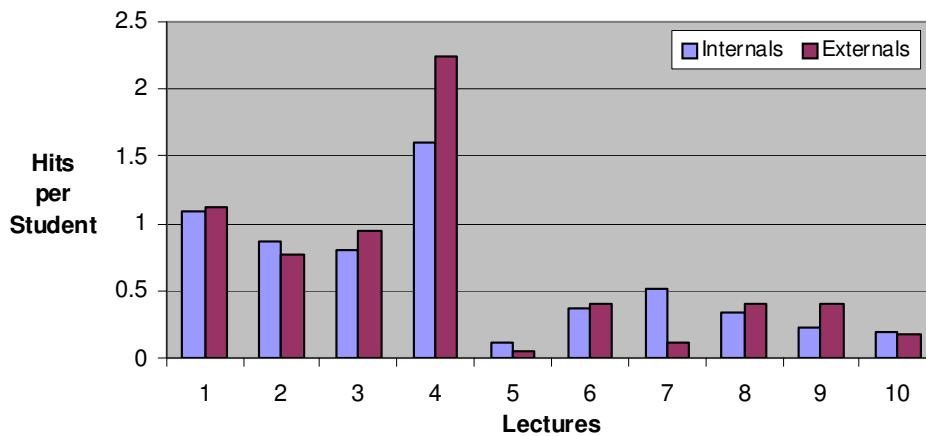
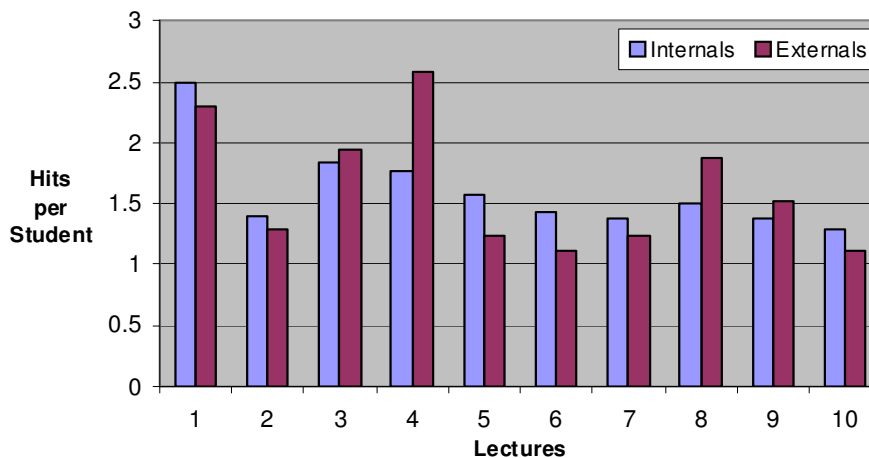
The lecture series of the course was audio recorded and posted (generally the day after the lecture was delivered) on the course management system 'Blackboard' for audio streaming as well as conversion to MP3 files. Not all lectures in the series were recorded. The internal and external cohorts had access to the same podcasts via their own course websites.

Concurrent with the lecture recordings, short five-minute 'summary' podcasts were also produced and posted onto the course websites. A total of 10 summary podcasts, and 10 full-lecture podcasts were made available for the course. The content of the summary podcasts generally highlighted the key points of that week's study material, provided hints and tips for the completion of assignments, outlined exam preparation strategies, etc. They were produced either in class after the completion of the lecture, or in the lecturer's office. Although students had access to PowerPoint lecture material via the course management system Blackboard for some time, the availability of podcasts was an entirely new experience for all students.

Students were reminded (by email) of the availability of the podcasts at the beginning of the semester, and once again mid-semester. Students' access to the podcasts was monitored via Blackboard's Statistics tool, and the download statistics for each podcast were collated at semester's end (i.e., after the examination). Students also completed a 'podcast' questionnaire as part of the university's normal SELT (Student Evaluation of Learning and Teaching) survey. Ten Likert-type questions (using a 7-point scale) were asked in relation to students' perceived value of the full-lecture podcasts and summary podcasts. In addition, four open-ended questions were asked: "What are the best aspects of the full-lecture [5-minute] podcasts, and why?" and "What changes should be made to the full-lecture [5-minute] podcasts, and why?" These data, together with the download data, form the basis of this paper.

## Results

Figure 1 shows the download statistics (hits per student) for the full-lecture podcasts, separated into the internal and external cohorts. It shows that the internal and external student cohorts downloaded a similar number of podcasts per student. More importantly however, it shows a generalised decline (apart from Week 4), in the download of subsequent lectures as the semester progressed, similar to the findings of Van Zanten (2008). It is unclear as to why the full-lecture downloads showed such a marked drop from week 4 to week 5. Figure 2 shows the download statistics (hits per student) for the summary-style podcasts, separated into the internal and external cohorts. Again, the internal and external student cohorts exhibited a similar level of download activity, but unlike the full-lecture situation, there was no marked decline in the download of each subsequent lecture as the semester progressed.

**Figure 1: Full-Lecture Podcast Downloads, International Marketing (n=52)****Figure 2: Summary-Style Podcast Downloads, International Marketing (n=52)****Table 1. Student Evaluations (Full-Lecture Podcasts)**

Rate the following statements using the scale 7 = Strongly Agree, 6 = Agree, 5 = Tend to Agree, 4 = Undecided, 3 = Tend to Disagree, 2 = Disagree, 1 = Strongly Disagree:	On-campus Students n=19 (54%)		Distance Students n=5 (30%)	
	Mean	Std Dev	Mean	Std Dev
The full-lecture podcasts are valuable for my understanding of the course.	6.0	1.3	6.5	1.0
Listening to the full-lecture podcasts makes me feel less anxious about the course	5.4	1.9	5.2	1.8
The availability of the full-lecture podcasts helps me do better in the course	5.9	1.4	6.0	1.0
Listening to the full-lecture podcasts makes good use of my time.	5.8	1.5	5.8	1.3
I would recommend other students undertaking this course listen to the full-lecture podcasts.	5.9	1.4	6.0	1.4

Tables 1 and 2 show the student evaluations of the full-lecture podcasts and the summary-style podcasts respectively. Table 3 shows the results of paired samples t-tests of on-campus (internal) student evaluations of lecture versus summary podcasts in relation to each of the five attitudinal questions asked. T-tests were not performed on the evaluations of distance students because of the small number of students involved. Finally, Table 4 shows the attendance record for the internal cohort. The attendance record indicates that there was no explicit change or decline in the number of students attending class that could be directly attributed to the students having access to podcasts.

**Table 2. Student Evaluations (Summary-Style Podcasts)**

Rate the following statements using the scale 7 = Strongly Agree, 6 = Agree, 5 = Tend to Agree, 4 = Undecided, 3 = Tend to Disagree, 2 = Disagree, 1 = Strongly Disagree:	On-campus Students n=21 (60%)		Distance Students n=5 (30%)	
	Mean	Std Dev	Mean	Std Dev
The 5-minute podcasts are valuable for my understanding of the course.	6.2	0.9	6.4	0.9
Listening to the 5-minute podcasts makes me feel less anxious about the course	5.3	1.9	5.0	2.3
The availability of the 5-minute podcasts helps me do better in the course.	6.0	0.9	5.8	1.6
Listening to the 5-minute podcasts makes good use of my time.	6.2	0.9	6.4	0.5
I would recommend other students undertaking this course listen to the 5-minute podcasts.	6.3	0.8	6.6	0.9

**Table 3. Paired Samples Test (Internal Cohort)**

	Mean	Std. Deviation	Std. Error Mean	95% Conf Interval		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 und1 - und2	.158	1.119	.257	-.381	.697	.615	18	.546
Pair 2 anx1 - anx2	-.105	1.410	.323	-.785	.574	-.325	18	.749
Pair 3 bett1 - bett2	.053	1.353	.310	-.599	.705	.170	18	.867
Pair 4 time1 - time2	.421	1.346	.309	-.228	1.070	1.363	18	.190
Pair 5 rec1 - rec2	.316	1.108	.254	-.218	.850	1.242	18	.230

**Table 4. Attendance Record (Internal Cohort)**

Lecture Week	1	2	3	4	5	6	7	8	9	10
Students Attended	23	31	34	32	32	27	not taken	25	27	28
Percent of Total Enrolment (n=35)	66%	89%	97%	91%	91%	77%	not taken	71%	77%	80%

## Discussion and Conclusions

The download results (Figure 1 and Figure 2) are largely as expected, with the short summary-style podcasts clearly showing a greater level of activity than the full-lecture podcasts. The download activity of the internal cohort for both types of podcast was relatively consistent with that of the external cohort. Although it is acknowledged that downloads do not necessarily reflect the degree to which students may have listened to the podcasts, the difference in activity between the summary-style and full-lecture podcasts is marked enough to suggest that students treat, (and by implication, view) them differently. Therefore, the results of the student podcast evaluations (Table 1 and Table 2) were highly surprising, as these showed that students nevertheless rated the full lecture podcasts as highly as they did the short podcasts. The results of the paired samples t-tests (Table 3) supports this observation, with significance levels indicating no difference in the evaluations of the full-lecture and summary-style podcasts on all five of the attitudinal questions asked.

How is it then that students say they value lecture podcasts but then don't download them to any extent? The resolution to this apparent anomaly may have something to do with the different ways students make use of the two types of podcast, as comments from the student podcast evaluations appear to attest. For example, in relation to the summary-style podcasts students commented: "*[they are] a good way to refresh the memory of the lecture and see if you need/want to go back and listen/review the whole lecture*" (internal student), and, "*[it is] helpful to know which full lecture podcasts contain the information I am looking for. The 5-minute podcasts act as a summary, or a contents page*" (external student).

In relation to the full-lecture podcasts students commented: "*it is great if you don't remember how [the lecturer] explained something so you can go back and listen to it. It is also useful if you couldn't make it to a lecture for any reason*" (internal student), and, "*having the ability to listen to someone talking about the material and to hear questions being asked, and being able to press rewind, so can go over that material, again and again*" (external student).

Perhaps the student response that best encapsulates the use of summary and lecture podcasts is this unsolicited email communication: "*Just thought I'd send you a quick email to let you know how useful the podcasts (both the full and 5 minute) have been during my exam revision. It has been so good to be able to go back and listen to a lecture when there were a few points I missed, or didn't write notes on, or couldn't remember how you explained them, and the 5 minute ones are a great overall revision to make sure I have covered all aspects*" (internal student).

It seems that the lecture podcasts are used mostly on an 'as needs' basis, whereas the summary-style podcasts are used more 'holistically'. But students want both types to be made available to them. Although some educators have questioned the pedagogical soundness of podcasting the traditional classroom lecture, this exploratory research has shown that the full-lecture podcast has indeed an important role to play in student learning. It should be noted however, that this research has been conducted with relatively small student numbers enrolled in one course. Further research could focus upon the pedagogical implications of podcasting full-lecture and shorter style podcasts according to the type of lecture material (for example, humanities or science), type of student (for example, local or international), or lecturing style (for example, interactive or one-way).

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