Podcasting, student learning and expectations

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This paper presents preliminary results of a trial of podcasting in six law units involving 1244 students during semester 1, 2006. The data revealed a rapid uptake and acceptance of podcasting with few difficulties. The vast majority of students perceived podcasting as having excellent value, particularly lectures and to a lesser extent, tutorials. Podcasting altered study habits, with students spending more time reading primary materials, and a minority of students spending time transcribing podcasts. Podcasts did not reduce participation on WebCT discussion forums. Podcasts were expected by students to be delivered within three days, with students prepared to accept lengthier downloads for improved quality. The paper discusses the main advantages and disadvantages of podcasting as revealed by student users. There is no doubt that audio podcasting has now become an essential requirement for teaching tertiary students within the law units. The challenge will be for UNE to create workflows to meet the expectations of students as to quality and service delivery.

Keywords: podcast, online learning, mLearning

Introduction

This paper presents preliminary results of a trial of podcasting in six law subjects involving 1244 tertiary law and business students during semester 1, 2006. Law subjects were chosen due to the tradition of oral delivery being the primary teaching method. The study is significant in its examination of student expectations as to delivery of podcasts and how podcasting impacts on student learning and study patterns. Podcasting is discussed in the theoretical context of digital natives engaged in mLearning. A qualitative mixed-method design was implemented to document, in the first instance, student experiences with podcasting as a guide for curriculum designers interested in implementing podcasting.

Background to the study

Laurillard (2002) stated in her seminal work *Rethinking University Teaching,* that it has long been recognized by academics that "students do not transfer their knowledge across different settings, that they often find it difficult to relate the theory to practice, that knowledge does seem to be context-dependent" (p.13). She goes further to point out that:

> if academic learning is not just about imparting knowledge, is it really different from the acquisition of everyday knowledge? We learn a great deal about the world very successfully without academic institutions, and with no help from any didactic process (Laurillard, 2002, p.12).

This discussion has at its focus the value represented by podcasting with a large cohort of students. The intrinsic case that is described highlights the need to understand fully how new technologies such as podcasting are able to assist students in their studies. The questions raised by the authors in this consideration are directly related to Laurillard's (2002) discussion of everyday knowledge and how learning occurs for students. If this argument is taken a step further and we locate learning within the world of the student, then ignoring the opportunities for mLearning (mobile learning) will be to the detriment of current university teaching and learning practices. This wild claim is a brave attempt to negotiate the world that our students inhabit in what Prensky (2001) claims is "the arrival and rapid dissemination of digital technology in the last decades of the 20TH century" (p.1). Further that:

> Today's students – K through college – represent the first generations to grow up with this new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age. Today's average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives (Prensky, 2001, p.1).

This presents for the teacher both an extraordinary challenge but also fortuitous opportunities. This generation have been tagged by Prensky (2001) as 'digital natives', as they "are all 'native speakers' of the digital language of computers, video games and the Internet" (p.1). His argument is persuasive, as he notes that these students are different from those of the previous generations, perhaps even our own, as they are used to instantaneity and "they've been networked most or all of their lives. They have little patience for lectures, step-by-step logic and "tell-test" instruction" (p.2). For the teacher this presents a dilemma in how to assist these students in their learning, and requires a reassessment of the methodology and content of what is learned. As Bull (2005) states:

> MP3 players such as the Apple iPod have become the mechanism for distribution of music for today's youth just as the CD and vinyl records filled this role for previous generations. Educational uses of podcasting build on the foundation of this cultural phenomenon (p.25).

If we return to the opening of this paragraph this presents both challenge and opportunity. Further, if we highlight Laurillard's observation of everyday knowledge, there seems to be some congruency in taking stock of the context of our learners in order to best meet learning opportunities.

Podcasting

Essentially podcasting is a method of distributing multimedia files that is distinguished by its ability for them "to be downloaded automatically using software capable of reading RSS or Atom feeds" (http://en.wikipedia.org/wiki/podcasting). Podcasting is just one strategy identified amongst a range of m-Learning strategies as identified by Stead (2005):

> SMS (text messaging) as a skills check, or for collecting feedback, Audio-based learning (iPod, MP3 players, podcasting), Java quizzes to download to colour screen phones, Focused learning modules on a PDA, Media collection using a camera phone, Online publishing or blogging using SMS, MMS (picture and audio messages), Cameras, email and the web (p.4).

In Wikipedia, M-Learning is defined as a different form eLearning, as it takes the learner away from a fixed point and "respects that a user would like to interact with educational resources whilst away from a normal place of learning-classroom or computer" (http://en.wikipedia.org/wiki/Mobile_learning).

The name *podcast* was coined in 2004 with the increased availability of portable audio and video players and particularly Apple's highly rated and best selling portable audio and video iPod. However, RSS has been available since 2001. It is considered a push technology in that a publish/subscribe model is promoted. Subscribers choose from feed channels, which means that files are automatically transferred from server to client.

Casting generally now encompasses a diverse set of terms and specific uses, such as autocasting, blogcasting, learncasting, MMS podcasting, mobilecast, narrowcast, peercasting, podstreaming, photofeed, soundseeing tour, vodcasting, voicecast, audio wikinews and phone casting. There is insufficient space here to describe all of these variations, but certainly, for the teacher using this form of mobile technology, they are each worth a good look. A cursory internet search readily supplies access to details. The speed at which these technologies have been taken up is a reminder that the digital native is certainly a defining phrase of our current generation. The Pew Internet and American Life Project (2005) states that approximately 6 million people (n = 22 million) who owned iPods or other MP3 players had downloaded podcasts in the USA.

In education settings podcasting has captured the imagination of possibilities. However, as Eash (2006) reminds us:

> the fact that the podcast is a new format isn't reason enough to use it in a school library. Instead, ask questions. Is it a portable audio format the best for this task? How does the podcast support my goals? How does podcast support student learning? (Eash, 2006, p.18)

Lee (2005) iterates that the novelty factor can influence teachers in how they use new technologies and it is necessary to think carefully about "whether or not this is actually going to result in meaningful learning" (p.19). He goes on to say that

> As learning and development professionals (we) need to make a conscious effort to evaluate both new as well as existing technologies and how we use them from a pedagogical point of view, taking into serious account both the cognitive as well as the affective and social factors that contribute to a successful learning experience (Lee, 2005, p.19).

This case attempts to understand fully how students use podcasts and whether how we as teachers have considered their use carefully.

Object of the research

The objective of the case presented here was to identify what experiences students had of using podcasts, whether using podcasts presented a significantly new learning opportunity, and whether podcasts impacted on study habits. The research presented here represents initial findings and is part of a larger study which includes qualitative data drawn from focus groups to explore more fully the uses and experiences of podcasts for enhancing learning outcomes. It is acknowledged by the researchers that this is a case in construction and as such unfinished. Staff perceptions of the value of podcasts remain to be incorporated; these can be drawn from the relative exam performance of the cohort involved in the use of the podcasts.

Methodology

This is a qualitative study that was designed to use a mixed-methods approach for collecting and analysing data. A case study strategy was chosen to frame students' experiences of the usefulness and impact on learning that podcasts had. As the case was undertaken by the authors to understand fully students' experiences within the Law School at the University of New England, it is what Stake (1994) also refers to as, an *intrinsic case study*. For the researchers it was important to know more about students' experiences and the effect of providing podcasts. A thorough literature review was conducted to inform the planning of the study and to assist in focusing the question. The topical question that emerged from this process was:

> Do students find podcasts useful in their learning experience?

During the first stage of the project a survey was developed to capture participants' experiences of using podcasts. The survey tool was only one method used to capture data for the case study and as such this study uses mixed methods in order to explore the phenomena fully. A survey was considered essential in order to be able to make comparisons systematically. The survey developed consisted of a broad range of questions based on a standard conceptual map. Participants answered questions that started quite generally and moved toward specific information relating to their knowledge, attitudes and behaviours in relation to the value of podcasts (Punch, 1998). These included questions about the participants, their uses of podcasts, characteristics and orientations of students in relation to podcasts, and the pedagogical place of podcasts as perceived by students' and their teachers. The questions were designed to be simple, specific and concrete.

Participants and context

The participants consist of 1244 tertiary law and business students during semester 1, 2006 who were studying in six law subjects. Law subjects were chosen due to the tradition of oral delivery being the primary teaching method. The participants represent the diversity expected within a blended mode delivery. For example, age, gender, ethnicity, international students, professionals, school leavers and mature age students. The University of New England delivers both on campus and by distance to students within the same cohort. Previously neither student cohorts had access to lectures via audio delivery, for their access anytime or from mobile or other technological devices. The School of Law at the University of New England decided to evaluate the blended approach for both internal and external students. While both cohorts have access to printed study guides and texts and uniformly designed WebCT sites, electronic reserve reading materials in pdf, it is intended to assess how students value the inclusion of podcasts of lectures. Internal students may also attend face-to-face lectures and seminars. External students may attend residential schools.

The case presented here is unique, as little research has been conducted into how podcasts are represented in learning, and while the case does not claim generalisability others may find it provides insights that ring true.

Methods

Data were collected using a survey tool and online focus groups. The decision to survey students was due to the large numbers of students and the need to collect background information to assist in understanding the phenomena fully. Online focus groups are a second stage and students have been asked to indicate their willingness to take part in these. Students have been sorted into random groups and are currently being conducted. Only the preliminary survey results of the survey are presented in this paper.

Data presented here were collected by an exploratory survey which consisted of 39 questions organized into i) demographic information, ii) podcast experience, iii) study habits, iv) UNE delivery method, v) conclusions. Data were collected from a sample from 1244 unique students enrolled in six Units (Table 1).

Table 1: Units involved in the survey

Unit	No of students enrolled†	Male	Female	No of respondents
LS 100 Introduction to Legal Systems and Methods	350	147	203	83
LS 151/251 Introduction to Business Law	148	68	80	42
LS 220 Constitutional Law	396	189	207	92
LS231 Law of Torts 1	288	122	166	75
LS281 Property Law 1	211	111	100	50
LS240 equity and Trusts	241	109	132	47
Total students	1634	746	888	389

Note. †Some students were enrolled on more than one course.

The sample was self-selected by those students who responded to notices placed on the unit WebCT sites. There were 565 unique males and 679 unique females in the population, a total of 1244. 389 students responded (a response rate of 31.27).

Data were analysed based on a range of question types. The questions required students to answer in some cases yes/no, or on a 5 point Likert scale and further by selecting specific statements. Ethical clearance was sought and approved.

Indicative results

In order to explore participants' experiences, students were asked questions under the following headings. There is insufficient space here to detail all of the results and the authors have drawn out some of the answers to provide indicative responses to the five categories.

Demographic information: Q 1–10

In answering these questions the participants detailed age, gender, EEO information, employment type, year of study, enrolment mode, number of units enrolled and in which Semester, type of modem and speed of connection and typical study habits.

The age demographics revealed the following pattern 18–24 (37.5%), 25–34 (33%), 35–44 (19.6%), 45–54 (8.4%), 55–64 (1.1%), and 65+ (4%). Females represented 63.2% and males 36.8% of the sample. External students represented 78.2% and internal students 22.1% of the sample. EEO demographics revealed .4% of Aboriginal or Torres Strait islander students, 9.1% of students whose first language was not English, and 2.5% of students with a disability. 48.8% of students were in full-time employment or volunteer. 78.2% of students were external. The distribution of enrolment was bimodal, 36.8% of students were enrolled in two units, 30.5% enrolled in four units in the semester examined. The majority of students were in the first (48.8%) or second year (24.6%) of their law or business course. The vast majority of students had broadband access: 56k (14.4%), 128K (17.5%), 512k (35.8%) and faster (18.6%). Typical study habits were split into three types: an hour or less several times a week for each unit enrolled (21.4%), a substantial session (2 hours or more) for each unit once a week (37.2%), and big bursts of activity every two weeks or so (27.7%).

Podcast experience: Q 11–20

In answering these questions the participants assessed their rate of knowledge of how to use podcasting, how many times they accessed podcasts, what they used to listen to the podcasts, overall value to studies, types of podcasts accessed, when they listened to podcasts, difficulties or issues in accessing podcasts and how they resolved such problems.

At the commencement of the semester podcasting knowledge consisted of no knowledge (46%), limited knowledge (22.8%), some knowledge (20.7%), considerable knowledge (8.1%), and expert user (2.5%). By the end of semester podcasting knowledge consisted of no knowledge (3.5%), limited knowledge (9.8%), some knowledge (31.2%), considerable knowledge (38.2%), and expert user (7.4%). There was a rapid uptake of podcasting with 84.6% of the sample accessing podcasts and thereby improving their knowledge of the technology. Students used their PC (72.3%), MP3 player or ipod (34%), and CD player (9.8%) to listen to the podcasts.

The value of the podcasts was evident in 67.7% rating them as excellent value, 14.4% rated as above average value. Podcasts were rated in order of participant's preference for internal lectures (75.8%), internal seminars (8.8%), and weekly summaries 2.8%.

In terms of importance students rated podcasts of lectures as very important (74%) or important (8.1%); podcasts of tutorials as very important (57.2%) or important (16.8%); podcasts addressing assessment preparation as very important (53.3%) or important (22.5%); and a quarterly podcast from the Head of School addressing activities in the school as very important (14%) or important (24.2%%) or neither unimportant or important (25.3%).

Podcasts were listened to on the way to and from work (20.7%), at work (13.7%) and at home (80%). Only 14% of students had difficulty in accessing or subscribing to podcasts. These problems were either ignored (4.6%) or resolved by the Internet (2.8%), friends (4.6%), university help desk (5.7%), or by the unit coordinator (1.8%).

Study habits: Q 21–29

In answering these questions the participants agreed or disagreed on a 5 point Likert scale on a variety of statements about their study habits, gave an indication of how much time they spent on various aspects of the course and provided extended comments about their study habits and how they were affected by podcasting.

In terms of the impact on the time they were spending studying primary material, 30.2 % of students agreed (22.5%) or strongly agreed (7.7%) they were spending more time on the study guide, 39.6% were ambivalent, 19.6% disagreed (11.9%) or strongly disagreed (7.7%). In relation to spending less time reading cases, 17.2 % of students agreed (14.4%) or strongly agreed (3.2%), 32.6% were ambivalent, 39.3% disagreed (21.4%) or strongly disagreed (17.9%). In terms of spending more time reading statutes 12.6 % of students agreed (9.8%) or strongly agreed (2.8%), 48.4% were ambivalent, 27.8% disagreed (20.4%) or strongly disagreed (7.4%). Finally in terms of spending more time reading articles and textbooks (34.1 %) of students agreed (23.9%) or strongly agreed (10.2%), 35.8% were ambivalent, 19.3% disagreed (14.4%) or strongly disagreed (4.9%). On balance, podcasting is reported with increased engagement with primary materials and study guides.

The vast majority of students considered that podcasting assisted their learning (17.9% agreed, 47.4% strongly agreed). Few students perceived podcasting as detrimental to their learning (2.8% agreed, 6% strongly agreed, 69.1% strongly disagreed, 5.3 disagreed). Students were specifically asked if podcasts of lectures were *not* useful to their studies – 79 % of students disagreed (9.5%) or strongly agreed (69.5%), 3.2% were ambivalent, 6.7% agreed (4.2%) or strongly disagreed (2.5%). It seems that the ability to replay podcast lectures was useful for their studies – 81.8 % of students agreed (1654%) or strongly agreed (65.3%), 3.5% were ambivalent, 3.5% disagreed (2.1%) or strongly disagreed (1.4%). Students agreed with the statement that the ability to pause a podcast, while checking other references, cases etc. – 81.8 % of students agreed (17.2%) or strongly agreed (64.6%), 3.9% were ambivalent, 2.5% disagreed (1.1%) or strongly disagreed (1.4%). Students tended to disagree with the expectation that podcasts would not have any impact on their final results for a subject – 70.4 % of students disagreed (27%) or strongly agreed (40.7%), 12.6% were ambivalent, 8.1% disagreed (5.6%) or strongly disagreed (2.5%).

One potential worry with podcasting is the time students devote to transcribing them. The jury is out on the costs and benefits associated with this approach. When asked whether they were spending time transcribing podcasts, 20. % of students agreed (12.3%) or strongly agreed (8.4%), 21.1% were ambivalent, 45.3% disagreed (13%) or strongly disagreed (32.3%).

In order to explore whether podcasting was associated with increased student interaction, students were asked whether they were spending time discussing podcasts with fellow students – 14 % of students agreed (10.5%) or strongly agreed (3.5%), 62.2% were ambivalent, 62.2% disagreed (30.9%) or strongly disagreed (30.9%). When asked if the availability of podcasts had decreased their participation on WebCT discussion forums, 9.9 % of students agreed (6%) or strongly agreed (3.9%), 15.8% were ambivalent, 62.1% disagreed (22.5%) or strongly disagreed (39.6%).

On one view the flexibility of podcasting can be perceived as beneficial to students who have to manage work, family and other competing time demands. When asked if podcasting gave more flexibility to manage competing claims upon their time, 65.3 % of students agreed (22.1%) or strongly agreed (43.2%), 15.4% were ambivalent, 6.7% disagreed (3.2%) or strongly disagreed (3.5%). One obvious connection with flexibility is the potential relationship with attrition. Students were asked whether the availability of podcasts had encouraged them to remain studying the unit – 63.2 % of students agreed (19.3%) or strongly agreed (43.9%), 15.4% were ambivalent, 9.5% disagreed (4.9%) or strongly disagreed (4.6%). These results have potentially significant implications for universities in dealing with student attrition.

UNE delivery method: Q 30–35

In answering these questions the participants provided evaluative information about how quickly they expected podcasts to be available and the quality of the podcast. Students expect podcasts to be delivered the same day (9.8%), the next day (26.6%) or the day after (24.6%). There is a clear expectation for swift delivery. While the majority of students rated the audio quality as good (47.7%) or excellent (11.9%),

many students would accept longer download times for higher quality: download time x 1.5 times (35.8%), x 2 times (31.2%), x 3 times (7.7%), more than x 3 times (10.5%). Given the high percentage of swift broadband users the extra time involved many not be long in any event. Most students (78.9%) thought it advantageous to capture questions and comments from internal students. Most students (81.4%) thought they would benefit from being able to receive podcasts of internal tutorial discussions.

Conclusions: Q 36–39

In answering these questions the participants detailed in longer responses what they considered to be the main advantages and disadvantages of podcasting.

The main advantages of podcasts were expressed to be increased flexibility to manage competing claims on time, reduced attrition, examination preparation, and the ability to replay lectures, and pause lectures while checking associated reference material. Other advantages included providing a "clear overview" and contextualisation of topics, "convenience", "break from reading", "indication of lecturer emphasis", community building in the sense of involvement with the subject, "focus and motivation, a feeling of being part of the class", "provides external students with the same opportunities as internal students", ability to catch up if you miss an important lecture, "hearing additional examples/explanations given in lectures makes it much easier to understand than the 'dry' textbook", "They bring subjects alive, allow a lecturer to bring in their own experiences and personality to make subjects more memorable, and bring more humanity to what can be fairly dry material. It can be soul destroying, reading rule upon rule, with no navigator to draw it all together and make it real".

The main disadvantages of podcasting were expressed to be the perceived cost of implementation, lack of a visual link to overheads, PowerPoints or writing on the board, "not being able to ask questions", equity access issues, "difficulty of capturing peripheral sound", "delays in availability" and "download times", "additional time needed to listen to podcasts", reduction in internal lecture attendance, "lecturers don't necessarily think to repeat inaudible questions", and the perceived need to transcribe.

Conclusions

Beyond usual technologies such as computers, the Internet and email, our students have embraced mobile technologies with relish. Almost every student has a mobile device of some kind, whether a phone, PDA, a digital camera, or digital audio player. The explosion for example of Apple iPods over the past few years is just one example. Stead (2005), a leading researcher and practitioner at the forefront of the use and uses of m-technologies states that "the question is no longer whether m-learning works for hard-to-reach learners, but rather how best to fit it into your blend!" (p.1). He promotes

> taking the lead from the learner, and defines m-learning as making use of whichever devices and technologies surround our learners, in an attempt to empower and enrich their learning, wherever and whoever they are (Stead, 2005, p.3).

The lessons that he points out to would be incorporators of m-technologies are numerous; he suggests that they are best used as part of blend where they are combined with other approaches to learning such as ICT, classroom, and print materials, for example.

The School of Law at the University of New England has adopted this blended approach for both internal and external students. Both cohorts have access to printed study guides and texts, uniformly designed WebCT sites, electronic reserve reading materials in pdf, and podcasts of lectures. Internal students may attend face-to-face lectures and seminars. External students may attend residential schools.

This paper has provided an overview of the results gathered from a survey in an attempt to develop an *intrinsic case* to explore the question *Do students find podcasts useful in their learning experience?* While data gathered from focus groups is not presented here, the preliminary survey data thus far demonstrates some worthwhile information about students' experiences.

The participants are clearly in favour of podcasting. They identified the ability to time shift and have control over the replay of auditory course material as major advantages. Of the students who completed

the survey, 20.7% confirmed our suspicions that podcasts were being transcribed. This is clearly a time consuming exercise compared with listening or note taking. An analysis of why this is the case, plus a cost benefit analysis of transcription has yet to be undertaken.

We were surprised that students (63.2%) placed such importance on podcasting as a support for studying subjects. This has important financial implications for universities struggling with student attrition. Anecdotally, unit coordinators of early core units suggest a 10% decline in attrition and a higher standard of answers in examinations, associated with the introduction of podcasting. This observation needs to be examined overtime and be considered with caution.

Unanswered questions that remain in our ongoing case study include the best method to support lecturers in preparing and delivering podcasts, including practical issues such as the speed of delivery, diction, the need to repeat student questions and comments. Administrative workflows need to be developed to streamline the recording process. Further questions also arise in relation to how students with a disability, in particular auditory deficits can benefit from podcasts.

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