WHY BOTHER WITH PODCASTING? A VIEW FROM THE POSTGRADUATE LEGAL PRACTICE COURSE

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Introduction

This paper is a reflection on the planning and experiences of podcasting as a teaching tool within the new style Legal Practice Course at the Plymouth Law School.

1 What are the Hallmarks of a 'Great Lecture'?

We will each of us have our own views but are there some common notions? Perhaps this is a group event which is educating and informing, thought -provoking, engaging and entertaining? Perhaps your ideal is that it conveys knowledge in an original fashion, or offers some explanation of a particular subject area not easily absorbed from published works, or that it deals with issues of topical relevance and interest.[1] What about the related issue of what makes a great lecturer? Is this someone who is knowledgeable, able to communicate to the particular audience in an easy and engaging fashion; perhaps s/he is charming, one who is enthusiastic, and able to inspire and to stimulate their audience? Some academics in Higher Education expressed surprise at the results of a recent survey offering the conclusion that students rate highly those lecturers who are able to *entertain*.[2] From this the term the '*edutainer*' has been coined.

[1] One recent small study reports three factors of value: high degree of student involvement, clear structure, a passionate and enthusiastic teacher: Revell et al,,'What makes lectures unmissable? Insights into teaching excellence and active learning,' (2009), 33 *Journal of Geography in Higher Education* 209-223.

[2] *Times Higher Education* 15 July 2010 – report of survey conducted by the University of Hertfordshire of 400 students. According to this survey the cocktail for the perfect tutor is a mix of: great teaching - 30.5%, generally positive attitude - 28.1%, influential - 11.5%, 'edutaining' - 8.1%, above and beyond - 7.4%, care of students - 5.1%, self awareness - 4.8% and assessment guidance /feedback - 4.2%. There were some expressions of surprise that assessment/feedback was apparently not rated more highly.

If these are all necessary ingredients, are they also sufficient for the complete cocktail mix of success? Does the audience have no part to play in this performance? What about the venue and timing: have they any part in the success? The average lecturer in Higher Education would include both of these in their basic requirements. For him to perform at his best he needs an informed and interested audience, attentive and able to participate when called upon to do so. The venue needs to be neither too large nor too small, that is, appropriate for the numbers envisaged; there needs to be good acoustics, lighting, comfortable temperature and little or no extraneous noise. The IT toolkit needs to be fully functioning and reliable and the lecturer needs to be comfortable in the use of that toolkit.

Although the 'great lecture' requires an attentive body of students, traditionally this has not meant that the student body is required to participate, or at least not in the sense of much active response to questions posed or tasks set, and certainly not in the fashion expected of them in small group sessions or seminars. The reasons for this are largely concerned with the lecturer's need to control the timing of the session and the difficulty of managing full participation by members of a group larger than, say, 25. The lecturer feels a pressure to control timing and content because subject coverage and syllabus is his responsibility. There are practical and prosaic pressures at work too: the venue is likely to be booked for a following session and his audience is timetabled to be elsewhere at the end of the allotted share of time. All of this tends to result in the lecturer exercising tight control over both content and timing, and serves as a discouragement to extend invitations to participate for anything more than a small proportion of the time. To add to these pressures there are the preconceptions of many audiences: a cohort of students may often be resistant to participation. After all, they have come to hear the expert views and to receive the guidance of the specialist lecturer not those of their ill-informed peers.

There is, however, a theory supported by research that students learn most when they are participative in the learning process: *active learning,* as it is sometimes termed, rather than *passive learning*. It is the former which is more likely to encourage *deep learning* (meaning the ability to evaluate, probe and integrate concepts*)* as distinct from *surface* or *shallow learning* (characterised by a tendency to rote learn and to reproduce information provided).[3] It seems

[3] There may also be a third type: *the strategic learner* who varies his approach depending on the value placed on the subject matter, and/or on how he views the nature of the assessment. These matters are of concern for all subject disciplines, see for example, Newble, D., and Entwistle, N.,, 'Learning styles and approaches: implications for medical education,' (1986) 20 *Medical Education* 162-175.

that a better understanding of a subject area is achieved when our learning is at the deeper levels. The abilities to apply, to synthesise information, and to problem-solve are the lecturer's goals for his students; these are sometimes referred to as the higher order cognitive abilities and are the major concern of universities.

To reflect these theories and research, some 20 years or so ago those lecturers engaged with the Legal Practice Course and many other programmes were asked to re-fashion their lectures into what became known as *large group sessions*. This model is something of a compromise designed to balance the inherently incompatible aims of delivering tuition to a large group of students at a single occasion with active participation by all of those students during each session. The intention was to signal a break from sessions where the audience is largely passive in favour of a group event during which one or more student-centred activities occur. Although led by the lecturer, these activities are designed to be conducted by students working in small sub-groups or teams. These sessions have the same demands as the 'great lecture' in terms of suitable venue and timing but more is required of the lecturer, and certainly far more is required of students.

To be successful such large group participative sessions need to have controlled and realistic expectations; perhaps it is fair to say, that there will be limited expectations in terms of subject coverage: less of the syllabus will be covered in these sessions assuming no extra timetabling is available. However, the theory is that a deeper level of understanding will be gained simply because students are permitted, indeed are required, to discuss topics and to carry out directed tasks, perhaps in a problem-solving fashion. To be successful these sessions require careful planning by the lecturer who has the role of *facilitator* of learning rather than merely delivering material to an assumed interested audience. For large group participative sessions to work well the group of students need to be of comparable levels of ability and aptitude, or at least are able and willing to work together to support one another in a collaborative fashion. These large group sessions also expect a greater level of preparation on the part of the student participants. At its best this model will enable the average student to advance his understanding in ways which will be memorable for her. At worst students do not engage with the material, are ill-prepared and thus not able to advance their learning. Resentment on the part of those who are well-prepared against those 'freeloading' may blight these sessions, as may be the case with small group or workshop sessions.

There is much that can go wrong with both modes of teaching and learning. Both lectures and large group sessions naturally depend on the human participants and so these sessions are inherently vulnerable to our failings. Once timetabled there is a real pressure on both the lecturer and on the student to attend at the designated time and place although this may not be the ideal time for minds to work at their best, his head hurts, her train is late, or perhaps a loved-one is ill which distracts him or prevents her attendance. Arriving at the session she discovers that there is some failing in the IT toolkit, the lighting, the ventilation and/or heating. The room is hot and stuffy at one extreme or mind-numbingly cold at the other; perhaps the preceding session has overrun its allotted time. Little can be done in the amount of time available without disruption to the timing and the lecturer's careful planning may unravel before his eyes.

2 Educational Conservatism: Meeting the Needs of the Individual Learner?

If there is so much that may go awry why is it that we are seemingly wedded to such forms of delivery by which a group is called together at pre-determined time and place? Why is it that the lecture or indeed its more modern replacement, the large group session, is far from the norm at all other levels of education?[4] The reasons are, it is submitted, less about the learning process and more about convenience and expectations. First, lectures are traditional;[5] they fulfil the preconceptions and meet the expectations of the institution, and the human participants - both lecturer and student. Indeed for the lecturer it is his very job title, possibly it is also the way he regards himself and his role within the learning process. Lectures also meet our expectations as students: we expect to receive specialist guidance from those employed by the institution. This is the basic deal, and is likely to become a growing factor in the minds of students as tuition fees increase. Secondly, from the perspective of the institution lectures or large group sessions form one of the most convenient and efficient ways in which tuition, possibly to a very large number of students at any one time, may be delivered in a structured and organised fashion. Lectures

[4] The debates on this are long-standing; see, for example, Costin, F., 'Lecturing versus other methods of teaching,' (1972) 3 *British Journal of Educational Technology* 4-31; Bligh D., '*What's the Use of Lectures?*' (1998: Intellect); Fitzgerald, P., 'The lecture: an arts view,' in Layton, D., (ed.).*University Teaching in Transition* (1968: Robert Cunningham and Sons) 11-17; Gibbs, G., and Habeshaw, S., *Problems with Large Group Classes: making the best of a bad job* (1992: Technical and Education *Services); Gibbs*, G., and Habeshaw, S., 'Improving student learning during lectures,' (1987) *9 Medical Teacher* 11-20; McLaughlin, K., and Mandin, H., *'*A schematic approach to diagnosing and resolving *lecturalgia'* (a painful lecture),' (2001) 35 *Medical Education*, 1135-1142.

[5] It seems that the practice in Europe began during the medieval period when books were rare and highly expensive.

suit the organisational and operational needs of the institution. Thirdly, the institution and its academic staff bear the responsibility of ensuring subject coverage; the delivering of sessions at pre-determined dates and times has traditionally been the easiest way of evidencing this coverage.

The focus of a lecture is upon the collection of students, most commonly in excess of 50, and so is necessarily upon the group as a distinct entity rather than upon the individual members of that group. Yet the crowd is a different entity from the individual. Each of us resembles the next human being in a general way but we are apt to forget that as individuals there are differences in outlook and approach. As with music, art, food and a whole range of human experiences or pleasures learning preferences are largely a matter of personal taste. Even if our preferred learning style is similar to that of our neighbour the two of us, being individuals, are unlikely to share the same preference as to pace. This supposedly minor difference is hugely significant in terms of our individual learning. For many of us there will be real variations in the process as there are variations, subtle or otherwise, in our thinking. Indeed our individual learning process will be the result of years of schooling as well as a reflection of our individual psychological make-up. Take some very simple examples, some of us are at our most alert early in the morning but our concentration will wane with the afternoon light; for others this pattern would be a purgatory and the reverse timetable is sought to match different biorhythms. Yet both groups of individuals will need to cope with any sessions timetabled for their least preferred times.

Some of us learn best by considering visual cues or prompts, for example, maps, diagrams and charts (other than powerpoint text-based slides); these individuals are sometimes labelled *visual learners*. Some of us prefer to listen and so we have a preference for information heard (labelled for convenience as *aural learners*). Some of us think that we learn best by reading and/ or writing (we tend to be labelled *read/write learners*). Others like to work through problems alone or in groups of peers (sometimes termed *kinetic or kinesthetic learners*).[6] These models tell us something about our preferences for the ways in which we learn but they have nothing to say about our individual strengths and weaknesses. Very few of us will have a single preference although we may have a strong preference for one mode. These are, of course, simple

[6] This is sometimes known as VARK- visual, aural, read/write and kinetic a model devised by Fleming and Mills in 1992. If you would like to learn about your own learning preferences you may like to visit the website www.vark-learn.com.

constructs and the reality is that we all learn using a mix of skills and approaches depending in part on the task in hand; indeed, there is some evidence that we learn best when we do so.

What we all tend to have in common is our limited capacity to multi- task, although even that level of skill will vary one from another. The researches of various educational psychologists reveal a number of matters which may seem intuitively obvious to us. First, the body of evidence is that the process of listening to what is being expressed in a lecture is a challenging task for most of us. To do this successfully we need to listen, and to select and encode information into a verbal format which we are then able to transcribe onto paper. To do this the information has to be held in our short-term or working verbal memory before it is lost to us. In addition, our note-taking has to take place at the same time as maintenance of the continuity of the lecture but this maintenance task also consumes some of our verbal working memory. In short, working memory may easily become over-loaded and we 'lose the plot' of the lecture with obvious adverse impact on the quality of our notes. Secondly, expertise in note-taking is related to three key variables: transcription fluency (meaning how well and quickly we are able to write), working memory capacity, and the higher level processes of thought which help us to identify key information. The most important of these three appears to be the transcription fluency but, of course, all are significant.[7]

In a lecture most of us can only aspire to the acquisition of a reasonably complete set of notes and this may be at the expense of what is sometimes termed *active listening*: we are apt to be more absorbed in the process of note-taking than in thinking about what is being said, and it is unlikely that we will be able to give thought to the possible links between what is being discussed and any prior knowledge. Even so, at best and unless we have shorthand skills, the result is most likely to be a set of notes which record little more than 50% of that which has been delivered, assuming the lecturer is not proceeding at dictation speed. There is some research

[7] Academic debate about note- taking in lectures has, as you may imagine, something of a long history commencing in the 1920s but gathering a pace with research over the past 40 years: Kiewra, K., and Benton, S., 'The relationship between information processing ability and notetaking,' (1988) 13 *Contemporary Educational Psychology* 33-34; Kiewra, K.,, Benton, S., and Lewis, L., 'Qualitative aspects of notetaking and their relationship with information-processing ability and academic achievement,' 14 *Journal of Instructional Psychology* 110-117; Kobayashi, K., 'What limits the encoding effect of note-taking? A meta-analytical examination,' (2005) 30 *Contemporary Educational Psychology* 242-262; Peverly, S., 'The importance of handwriting speed in adult writing,' (2006) 29 *Developmental Neuropsychology* 197-216; Piolat, A., 'Cognitive effort during notetaking,' (2005) 19 *Applied Cognitive Psychology* 291-312; Peverly et al 'What predicts skill in lecture note taking?' (2007) 99 *Journal of Educational Psychology* 167-180.

that students tend to have poor note-taking skills but, moreover, that there is a direct correlation between the quantity of our notes and the quality of those notes in terms of accuracy and completeness.[8] In large group sessions, as distinct from lectures, note-taking may be reduced by the tasks set and so our ability to recall that which we have worked upon during the session may be enhanced; unfortunately this may reflect only a small portion of the syllabus and we may not have as deep a sense of the tasks carried out by others. Yet most of us feel that we need more than this for success on assessment even though this tends not to be what the lecturer has in mind. Indeed the lecturer is often more concerned that his audience is listening and thinking than in the fact that they are taking notes. The lecturer may even find the note-taking a tedious distraction from the discourse since his prime objective is with communicating an *approach* to a particular subject area rather than merely in the passing of factual information. The student, by contrast, may be more concerned with acquiring *factual information* which he believes will be relevant to him on assessment. It is thus common for the objectives of the lecturer and the student to be at odds.

Educational psychologists also tell us that note-taking in lectures serves two functions: encoding and storage. The encoding is the process by which we process what we hear into written format and it is this multi-tasking work which is so difficult to do in the session itself. The storage function enables us to review the notes at a later date, that is, as part of our revision and when we attempt to relate the information to other aspects of our knowledge.[9] There is some evidence that although both functions are important to our learning, it is the storage function which is most significant in terms of our assessment success (assuming that any following assessment is delayed and will not take place immediately at the end of the session). We learn by the process of encoding, but we learn most and/or retain this knowledge for longer and at a deeper level through the process of review.

All this may suggest that the average student (with poor note-taking skills and faced with the challenge of multi-tasking in the lecture/large group session) would gain more from the provision

[8] See, for example, a study of first year biology degree students at one of the UK universities as discussed by Huxham, M., 'The medium makes the message: effects of cues on students' lecture notes,' (2010) 11 *Active Learning in Higher Education* 179-188 following work by Baker, L., and Lombardi, B., 'Students' lecture notes and their relation to test performance,' (1985) 12 *Teaching of Psychology* 28-32.
[9] Di Vesta, F., and Gray, S., 'Listening and note taking,' (1972) 64 *Journal of Educational Psychology* 278-287.

of detailed tutors' notes. However, what evidence we have tends to suggest this is not so.[10] Our test scores on factual matters are likely to be improved by the provision of tutors' notes but it seems we are not assisted by these notes in attaining the higher cognitive abilities required at university level, most notably the abilities of analysis, application, synthesis of ideas and concepts, and of problem-solving. The evidence appears to support the view that reviewing one's own notes does assist us to reach these higher levels expected of us. It is thought that this is so because of the repetition factor inbuilt into the review process and because we have a better opportunity to make links between topics for ourselves. There is a clear case, however, for the provision by the tutor of outline or structural notes showing key points and an overview of the topic; these do, it seems, assist the average student but only so long as these do not replace our own effort. Care needs therefore to be taken to ensure that the detail of the notes provided does not result in a perverse undermining of our independence as learners. We may, it seems, too easily become dependent on external aids provided by those teaching us.

3 Podcasts: A New Tool for our Teaching Toolkit

Advances in technology have more recently brought us new teaching and learning tools. The podcast is a recent addition to our toolkit. If, like my own, your dictionary was published before 2004 there will be no entry and thus no definition or description of podcasting and so we need first to be clear about the meaning of this tool. The Oxford Dictionary of English (second edition, revised 2005) gives under 'podcast' the following entry:

> (noun) - a digital recording of a radio broadcast or similar programme, made available on the Internet[11] for downloading to a personal audio player. Derivatives –podcasting (noun). Origin early 21st century:[12] from iPod, a proprietary name for a personal audio player.

The broadcasting aspect of this method has a long history, that is, back to the 1930s when radio broadcasting emerged; it gathered pace in this country during and after the Second World War.

[10] There is a great deal of published material; much of it emanates from the US: see, for example, Hartley, J., 'Note taking research: resetting the score board,' (1983) 36 *Bulletin of British Psychological Society* 13-14; Kiewra, K., 'Students' note-taking behaviors and the efficacy of providing the instructor's notes for review,' (1985) 10 *Contemporary Educational Psychology* 387-386; Kiewra, K., *'Providing the* instructor's notes: an effective addition to student note-taking,' (1985) 20(1) *Educational Psychologist* 33-39; Kiewra et al., 'Note taking functions and techniques,' (1991) 83 *Journal of Educational Psychology* 240-245; Katayama, A., and Crook, S., 'Efficacy of note taking online notes: differential effects of studying complete or partial graphically organised notes,' (2003) 71(4) *Journal of Experimental Education* 293-312.

[11] Nor does 'Google' feature at all other than in a wholly different context relating to a cricketing term.

[12] i.e.,within the last 10 years. Wikipedia dates podcasts and podcasting to around 2004 although the technical ability existed from around 1998.

The recent innovation, of course, is in terms of the Internet and with developments in IT hardware and software. It is the combination of these which gives us the ability to access the material on demand: in a practical sense podcast means for us 'personal on demand'. Podcasting is one other learning tool in our toolkit and like any other tool is unlikely to be a perfect form of teaching and learning to answer all our needs. Moreover, simply because the technology is available is not of itself a justification for its use; there needs to be clear educational rationale supported by some evidence base.

Podcasts share a number of the weaknesses suffered by other teaching tools, and they are vulnerable to human failings just as any other form of teaching. This is simply because the weakest links are also the potentially strongest elements: the human participants. This is as true for podcasts as it is for the lecture and the large group session. As with a lecture and the large group session the quality of the podcast is only as good as the skills and knowledge of the individual delivering the material (perhaps we should call him the *podcaster)*. A great podcast will only be truly great with the application of skill and knowledge of the podcaster; in turn he relies upon a similar level of IT support.[13] Careful preparation and design is required on the part of the podcaster; there needs, in particular, to be a 'good fit' between the material delivered by way of podcast and the use of it in timetabled sessions to follow. The podcaster needs to have a clear sense of how the material delivered will be put to use by students and how the tutor will assess, albeit in an informal manner, students' understanding typically through group-work in workshop settings of small groups or by multiple choice and similar self-assessment tools.[14] The material needs to be kept under review to ensure currency. Each podcast needs to be carefully aligned with any issued material; this is a particular consideration for programmes like the Legal Practice Course because most institutions issue commercially produced texts or

[13] There is some evidence that students' perception of the use of this kind of technology is directly related to the degree of technical difficulties experienced. It seems likely that any technical instabilities will dramatically reduce students' acceptance of e-learning programmes; see, for example, the study discussed by Nast et al 'Online lectures for students in dermatology: a replacement for traditional teaching or a valuable addition?'(2009) 23 *Journal of the European Academy of Dermatology and Venereology* 1039-1043. This paper reports on a pilot study with the tentative conclusion that this form of teaching provides a valuable addition to the traditional methods. The authors' view is that the efficacy of teaching is more closely associated with the quality of the content than with the method of delivery.

[14] It is possible, for example, to incorporate self-assessment within the running time of a podcast to enable the student to verify his understanding at regular stages. The technology enables forms of interactivity on the part of each individual student in a similar fashion to the 'red button' facility on modern TVs.

manuals to support all the assessed topics; there is, arguably, little point in covering the same material as that in the texts unless a different approach is taken.

Organisation by the student is also necessary, perhaps more so than with lectures/large group sessions; the organisation for lectures and large group sessions tends to be in terms of directed reading or other preparation and in attendance, but little more required than that may be expected. With podcasts the student determines when and how she will use the material and so she needs to apply her mind to those issues. Indeed the focus of the podcast is upon the individual student as the individual learner. It is she (and notably not the lecturer nor the majority of the group) who sets the pace, the time and the number of repetitions required of the material. Once downloaded the material is her own to do with as she wishes, to play and re-play as many times as she chooses. If she feels the need for a verbatim script then this is within her power to compile. She may fast-forward should the pace be irksome or the content too simple. Alternatively, she may pause and review as many times as she chooses. What research evidence we have supports the theory that this review will prove particularly valuable to her.
Significantly, she can divide each portion of study in accordance with her own individual preferences rather than by administratively convenient single hour blocks. The mental fatigue resulting from blocks of lectures timetabled back-to-back may be wholly eliminated. If the podcaster has been careful in his design process, each podcast will be divided into portions of time to make digestion of the material much easier for the student as compared with blocks of lecture sessions.[15] Furthermore, assuming that the podcast is available to be downloaded in good time, the student is able to plan her work well in advance. She thereby develops her skills of time-management; this is valuable in itself because it is these skills which will be in demand throughout her professional working life. None of this is, in any practical sense, ever available to us in a lecture or in most large group session formats.

Although in principle the average lecturer would claim that he positively invites questions from the student cohort and interaction with that cohort it is the fearless few who tend to be willing to display their own uncertainties before the group. In any event the lecturer is likely to be

[15] It is not just stage actors who have noticed a change in audience attention-spans over the last 20 years or so, and who complain about restless audiences and a reduction in general concentration levels. There is considerable research indicating that concentration levels fall after about 20 minutes and that there needs to a pause or a change in the activity at about this timing. Blocks of lectures/large group sessions timetabled for convenience tend to be unhelpful to the student.

conscious that his allotted time is soon to elapse and so is unlikely to encourage lengthy debates. It is not just the shy introverts among us who positively shrink from drawing attention to ourselves and, as most lecturers know, those keen to probe the lecturer may not be the ones who need further guidance; those in difficulty are far more likely to seek out the lecturer in some more private fashion which, of course, may be done regardless of the method of delivery. So, although, of course, podcasts do not involve face-to-face contact this does not necessarily result in any reduction of meaningful contact to be had by the student with his tutors. All of this depends on the overall design of the programme of study and how podcasting fits with the timetabled sessions.

Indeed there are advantages to be had from the perspective of timetabling and we have seen this to be so with the Legal Practice Course at Plymouth. From September 2009 Legal Practice Course providers were released from many of the contact hours previously required by the validating professional body, the Solicitors Regulation Authority. The market responded, in part to pressure from prospective students. The result at most Legal Practice Course institutions is a typical pattern of 2-3 days per week contact with tutors and lecturers. Indeed this pattern found favour with our own prospective students on survey, many of whom travel some distance to attend classes.[16] Our ideal model has been to retain the maximum amount of small group session time which is compatible with market pressures; this seems also to be attractive to our student body who rate highly the small group contact with specialist tutors. The result is small groups of an average of 10-12 students carrying out group activities and discussion; each session is typically timetabled for 2 hours. These sessions are timetabled over blocks of 2-3 days per week. We retain lectures and /or large group sessions (combined with small group sessions or workshops) for those subjects and skills of a practical nature and in respect to which students need personal attention from a specialist tutor; this is particularly so for the early weeks of the programme. We recognise too that podcasts can never hope to replace the small group sessions for any subject area; that indeed they are not suitable to be used in that fashion, and that such small group sessions are vital for the practice of skills, the application of law and procedure to case study and for working through practical problems. This balanced approach or blended learning model, as it is sometimes termed, enables us to deliver the bulk of the teaching in small group sessions, typically in groups far smaller than the larger Legal Practice Course providers can manage. Without podcasting in our toolkit we simply would not be able to

[16] Of our current cohort there are equal proportions of those travelling and those based in Plymouth.

provide as much teaching in the small group environment although we and our students value this so highly. [17]

A valuable side-effect of this model is in terms of avoiding the vulnerability posed to delivery of what is an intensive programme of study: the timetabled sessions are reduced and blocked to set days thereby reducing the risk of disruption to delivery caused by commonly experienced problems, most notably illness, poor weather and other travel difficulties, whether these befall the student or the lecturer/tutor. With a timetabled lecture the material once missed will be lost to the student with no hope of retrieval.[18] By contrast, with the podcast there is no date to be missed and the content is readily captured in a permanent format at any time at the student's choosing simply because of its personal 'on demand' feature. Control is thus firmly in the hands of the student.

There are, of course, real challenges to the use of podcasts. For the podcaster there is the need to acquire and to develop an entirely new set of skills, both in terms of technical skills and in terms of his communication skills which for podcasts, of course, are predominantly concerned with the voice, its tone and pace. Moreover, the permanent format creates a psychological pressure in terms of the quality of production and professional delivery. Once published, there is in principle little control over those able to access the material and the number of times it will be heard; the podcaster fears poor delivery and/or content will embarrass, if not haunt him, at some future time and in ways not experienced with any other form of teaching. He thus tends to spend far longer in preparation and in recording each podcast than he would on any comparable lecture simply because the podcast has a sense of permanence not shared by the lecture with its inherently transient lifespan: words spoken but not recorded are largely lost in that moment. Furthermore, the technology encourages the podcaster to do even more: editing tools, not available or necessary for the lecture and the large group session, are tools which he feels compelled to use. All of this takes considerable time in terms of the acquisition of any rudimentary or workable know-how and in terms of simply carrying out that which is entailed.

[17] No claim may be made that this model is unique in Higher Education. E-learning, to include the use of webcasts and podcasts is becoming widespread across the UK, US, Australia and much of Europe commonly in medicine, veterinary science, in law and in other social sciences as well as in business related programmes of study.

[18] The risk to workshop sessions is less great because of the fact that other groups of students will be timetabled to conduct the same tasks often on a following day or days so that a student missing one session may be able to attend the same session for another small group of his peers.

The burdens are increased too for the assessment-driven student, that is, the typical student. Her sights are set exclusively on the assessments to come and she tends to seek the comfort of a detailed set of notes. She is thus likely to spend far longer perfecting her notes from a podcast than she was ever able to do during a lecture. Such students are also most likely to press for the delivery of printed scripted notes, as prepared for them by the podcaster. These requests may be made simply because the student tends to equate success in the assessment with a detailed set of notes[19] and so naturally seeks the easiest way in which she may acquire these notes. This is entirely understandable but is curious nonetheless.

We would not expect that our lecturer would deliver his lecture and that in addition he would also provide a verbatim script, assuming that one has been prepared which is, of course, unlikely to be the case. However, technology has for some years enabled the lecturer to record his lecture and to produce a script at a later date but the provision of such scripts is not the norm other than to make reasonable adjustment for those with particular learning difficulties. On the basis of the research available to us it seems that our resistance to seek and to provide scripted notes is well justified: we will do better as students in terms of attaining the higher cognitive abilities if we resist any urge to request and to use tutors' scripts. There is a paucity of evidence about podcasts and their effect on study skills and on student learning;[20] debates about whether technological change in delivery of teaching alters the education process or only the method of delivery are only recently emerging.[21] Although the permanent form of the podcast and the technical ability to deliver a script, in the sense of a verbatim record, may prompt such requests. We need clear evidence that our learning process is in some way materially different from the traditional lecture mode of delivery; to date such evidence is lacking. As with the decision to use podcasts, so too with any decision to issue scripts: the fact that we have the technical resources to do so does not of itself justify the adoption of such a

[19] This is particularly so for those assessments which are conducted on an 'open note' basis, as is the case for the majority of Legal Practice Course assessments.

[20] The published research has tended to focus to date on students' perceptions and use of podcasts, and the impact on attendance at lectures offered in tandem: see the survey of research conducted in the UK, US and in Australia as noted by McGarr, O., 'A review of podcasting in higher education: its influence on the traditional lecture,' (2009) 25(3) *Australasian Journal of Educational Technology* 309-321; see also a report of a one-year pilot in one US- based course: Taylor, M., 'Podcast lectures as a primary teaching technology: results of a one-year trial,' (2009) *Journal of Political Science Education* 119-137.

[21] See, for example, Sappey, J., and Relf, S., 'Digital technology education and its impact on traditional academic roles and practice,' (2010) 7 *Journal of University Teaching and Learning Practice* (the Journal of the Wollongong University, NSW) 1.

practice. If the programme design views podcasts as replicating the teaching previously delivered in lecture format with little or no difference in terms of content we need to be concerned to avoid a practice which undermines the teaching and learning process. In short, we need to beware the law of the unintended consequence. As with the lecture, the provision of structural supporting notes is likely to assist the average student but if the podcasts merely deliver lecture content it is the student who needs to be active in the encoding and in the storage of the information delivered to him. The mode of delivery has changed but perhaps no more than that has altered.

Furthermore, there is a body of research[22] to the effect that as students our working memory may be overloaded by the provision of identical wording in two formats, that is, verbal information presented simultaneously in both visual format (e.g., by powerpoint slides or other multi-media tools) and in aural format (lecture/large group session delivery). The result of this cognitive overloading is that we will have greater difficulty digesting novel material if it is received in both visual and aural formats concurrently. We will find it easier to understand the subject matter if we receive the information in one mode of delivery only or in one mode at any given time.[23] This research has obvious ramifications for the use and content of powerpoint slides in lectures and in large group sessions. It is likely to have significance to any future debate about the provision of written scripts to accompany podcasts. This research will also have significance to debates about the timing of any such provision. In addition, from a management and institutional perspective the use of podcasts tends to increase the workload burden on lecturers as podcasters. To adopt a practice which requires those same academics to publish scripted notes will naturally increase still further their workload; a point will be reached when the extent of this additional burden undermines the academic support for the design and

[22] Kalyuga et al, 'When redundant on-screen text in multi-media technical instruction can interfere with learning,' (2004) 46 *Human Factors* 567-581 and prior research there noted; see too Mayer et al 'Cognitive constraints on multimedia learning: when presenting more material results in less understanding,' (2001) 93 *Journal of Educational Psychology* 187-198 and prior research there noted.

[23] This redundancy effect, as it is termed, does not result if the material is presented in visual diagrammatic format, e.g., a map, chart or diagram in addition to aural presentation; the reason appears to be because we process visual material using different parts of our working memory from material presented aurally. In short, learners integrate pictures and words more easily and so perhaps powerpoints should use more diagrams and pictures where this is possible given the subject matter. Conversely, when we need diagrammatic information with accompanying text information in order to make sense of the entire, e.g., a geometric diagram and associated text, then it seems we need to receive both forms concurrently; to receive these sequentially creates a split-attention effect which is unhelpful, that is, we have to store the first received material in short term memory before we can process the second received material.

perhaps too the quality of the resource itself, for example, in terms of delayed publication because of unmanageable expectations. As with all teaching tools adopted there needs to be broad consensus in the design of any programme of study with appropriate resources.

4 Next Steps

Accordingly, the next step in the evolution of this form of delivery and others like it is the need to gather reliable evidence from which we will be better able to judge the key roles played by podcasts in the learning process for a particular programme of study, and how these roles relate to the other design features of the particular programme.[24] Crucially, there is a need for evidence about how these roles differ, if at all, from that of the lecture and that of the large group session.[25] In the light of these findings we will then need to consider whether the provision of tutors' scripts would assist our students attain the higher levels of cognitive ability or whether they would in fact detract from that process, as appears to be the case for lectures. If access to scripts were to be considered advantageous to the average student we would also need to consider the most helpful timing of such access, and so we would need to consider whether there is a need to control that timing. Related to all this is the question whether there needs to be some form of compulsion on each student to access the podcasts (for example, as a precondition to his accessing scripted notes) or whether the use of podcasts is viewed as an optional aid, in much the same way we currently tend to view lectures.[26] If the tentative conclusion were to support some form of compulsion, most likely related to the issue of scripted notes, we would need to consider how any such requirement could be policed together with the practical consequences on non-compliance. Finally, if scripted tutors' notes were considered desirable for the average student's learning process then the management issues of staff workloads would also need careful planning as part of the consideration of resources and pricing for each programme of study.

[24] The role or roles may, of course, be programme- specific.
[25] This may also be programme-specific, dependent on the content of the podcasts and the broad aims for students as they listen to the podcasts.
[26] There is some limited research on programmes where podcasts are offered in addition to lectures to the effect that attendance at lectures tends not to be adversely affected; where this is the pattern of delivery students tend to use the podcasts as a form of revision aid rather than as replacing lectures. It does not, of course, follow that use of a podcast would not be adversely affected by the provision of a verbatim record in print format.

At its core this process of investigation concerns one fundamental question about the learning objectives for our podcasts: whether the provision of scripts would undermine this chosen method of delivery, specifically, whether the provision of scripts would undermine the learning objectives and thereby undermine our students' abilities to attain the higher level cognitive attributes. In formulating this question we would be asking ourselves the pertinent question: why bother with podcasting?