Persistent technologies: Why can't we stop lecturing online?

Stephen Sheely
Usyd e-Learning
University of Sydney

There is much in the literature concerning teaching and learning online that advocates using the online environment to promote interaction and communication amongst students. Despite this much of what happens in practice in this area is focussed on preserving and translating lecture materials to the online environment. This paper explores possible historical reasons for the apparent resilience of lectures. It also examines some of the issues raised by the persistence of lectures and some possible ways to address these issues.

Keywords**:** technology change, theory in use, educational paradigms, lectures, history

Dissonance

Phillips (2005a) points out the dissonance in the design of online teaching learning environments between espoused theories and theories in use. This dissonance between the theories teachers claim to believe in and what they actually do has been noted many time in many contexts beginning with Argyris (1976). When it comes to teaching online I would like to extend the concept and suggest that the disjunct between espoused theory and theory in use is now evident across the field as a whole not just in the practice of individual academics or institutions.

An overwhelming majority of the literature in this field supports the view that that the key to effective teaching and learning online is interaction (Stephenson, 2001). Similarly a wealth of the cultural change literature in the field argues that the transition of teaching and learning to the online environment should be a transformation of existing practice rather than a mere translation (Petre et al., 2004; Fetherston, 2001). However in practice the vast majority of work going on in this field is concerned with preserving and translating existing teaching and learning formats, most notably the lecture to the online environment (Elgort, 2005; Collis et al., 2002). This focus on the lecture in effect undermines the potential for both transformation and increased interactivity in the transition to teaching and learning online.

Yet this focus on preserving and translating lectures and lecture materials has proved surprisingly resilient. It was first manifested as an approach to teaching online which consisted of posting large quantities of lecture notes on to web pages – a practice which continues despite frequent criticism. With the development of reliable streaming technologies the push has been to produce either audio or video recordings of lectures and make them available to students via the web; this has spawned an entire industry around products such as Lectopia. More recently podcasting has become the buzzword leading to a push for downloadable recordings of lectures.

This fixation with preserving the lecture format and its artefacts is doubly puzzling when you view it as a clash of technologies. Phillips (2005b) argues that there is nothing implicitly educational about the online environment, that it is merely a technology that will support various educational activities such as communication or information transmission to varying degrees. There is nothing unexpected in this claim and indeed nothing contentious, but the odd thing is the same analysis is rarely applied to the other side of the equation. There is nothing implicitly educational about lectures, they are merely a technology to support various educational activities and they are, in fact, a vastly more primitive and limited technology as they support very few educational activities beyond information transmission.

The question is why? Why are we in practice using more modern and versatile technologies to perpetuate old and limited technologies, particularly at a point when all our espoused theories would suggest that this is not a good idea? And why in the face of these espoused theories are lectures such a resilient and persistent technology? It is these questions I will make some small attempt to address in the rest of this paper.

History

As an indication of how persistent a technology lectures are, they have existed virtually unchanged for over 800 years; few technologies are able to claim a longer heritage. Exactly where and when lectures first emerge is hard to tell; they were certainly around by the 12th Century, turning up in Latin schools where they were both used and analysed under the rhetorical category *ars praedicandi* (the themed sermon), a category which reflects their religious antecedents. Not surprisingly, given the pre-eminence of theology in the early universities, they were rapidly incorporated as the technology of choice for teaching. Mallet (1924) notes that by the mid 12th Century in Oxford there were regular gatherings of clerks to hear men of learning teach. This emphasis on "hearing" learned men remained prevalent throughout the succeeding centuries. The statutes at the University of Vienna in the late 14th Century required students wishing to graduate in astronomy to "hear" the works of a number of great astronomers over the three years of their studies (Cren, 1983), likewise students of philosophy at Cambridge in the 15th Century were required to "read or hear" the works of Aristotle for a number of years before being granted their MA (Leader 1985).

Their purpose in these burgeoning educational institutions was to rapidly transmit knowledge to a large group of students in an era before the existence of the printing press and mass produced books. However, the arrival of the printing press (or any subsequent technologies) seems to have done little to diminish the importance of lectures and they have continued little changed ever since. Lectures in 14th Century Italy, with the expert at the front of an amphitheatre speaking to or at a large number of students in tiered seating, would be immediately recognisable to anyone who has studied at a modern university as would the style of lecture notes taken by students in 15th Century France (Grafton, 1981).

Over the decades (and indeed centuries) some of the subsidiary technologies associated with lectures have changed, most notably presentation tools have moved through blackboards to whiteboards to OHPs to power point slides – though all of these technologies can still be found in some modern lecture theatres. However, the key element of the talking teacher providing information in real time to groups of listening students, who then transcribe this in varying degrees of detail, is remarkably constant throughout the history of lecturing, and indeed of university teaching.

Consequences

Why has lecturing lasted unchanged for so long? More importantly, why when challenged by new technologies does it seem that lectures are winning the battle?

The first point to address is the possibility that lectures have been so persistent because they are simply the best way to do things. This assertion would be extremely difficult to support: there is ample literature casting doubts on lectures as the best way to teach at the tertiary level (Ramsden, 1992; Laurillard, 2002). There are even doubts about lectures as the best way to transmit information (Andresen, 1988). Even those who champion lectures in some circumstances admit their limitations (Bligh, 1972).

So if they are not the best way to do things why do they persist? A number of reasons are possible:

1 *Most of the people currently lecturing were lectured to as undergraduates*.
It has only been in the last 20–30 years that attempts have been made to offer theory-based training to tertiary teachers. Previously the only real qualification for a teaching position at a university was disciplinary expertise. Consequently each new generation of university teachers replicated the teaching and learning experience they had as undergraduates, which invariably revolved around lectures. This undergraduate experience not only impacted on the practice of university teachers but also on the beliefs and values they acquired, often instilling a belief in a transmission model of teaching and learning, which promoted the view of the lecturer as the expert imparting knowledge and reinforced the role of the lecture as the appropriate vehicle to do this (Errington, 2001; Toohey, 1999).

2 *Many tertiary teachers inherit specific teaching and learning situations from their predecessors*.
It is not uncommon for a new university teacher to start work a relatively short time before their first encounter with students and, under such circumstances, it is not surprising that they rely heavily on

the materials and teaching patterns bequeathed to them by those who have taught those units of study before.

3 *Lectures appear easy to do.*
Walking into a room and talking seems at first glance simple, certainly simpler than any of the alternatives. Notably simpler than trying to make changes to a unit of study which as mentioned previously may have well established materials and teaching patterns.

4 *Students expect lectures.*
Most of the students who enrol in universities, particularly the more traditional ones, expect that their learning experience will involve being talked at by an expert. It is a very comfortable situation, allowing students a degree of anonymity and a degree of order in their studies; it also bears some resemblance to other learning situations they may have encountered, such as school.

5 *Lectures provide a very rigid environment allowing for a high degree of teacher control.*
This can be very comforting for both teachers and students as it allows little room for surprises and gives everyone a clear role to play (Laurillard, 2002).

6 *The physical and philosophical infrastructure of the institution has been built around lectures.*
As lectures have been such an integral part of the history and evolution of universities, a number of the core structures have grown up around them. In fact they are the basic assumption underlying campus building programs in which the construction of lecture theatres is a primary concern, timetabling which divides the day into lecture slots, workload formulas based on how many lectures people teach and unit descriptions predicated on how many lectures are in the unit and when and where they occur.

All of the above are reasons for lectures to persist in the traditional university environment but don't explain the apparent resistance of lectures to new technologies. The reason for that would seem to be more subtle, but consequently more powerful: it is a semantic issue stemming from the dominant place lectures have in the discourse surrounding university teaching. All of the reasons mentioned above contribute to and reflect the centrality of lectures in the institutional discourse, but it is that centrality itself which enables lectures to persist in the face of new technologies.

Evidence of this centrality is perhaps most obvious in the title we give university teachers: they are known almost universally as *lecturers*. It is both title and job description. It is embedded in the institutional consciousness and the very self image of teachers at university that they are lecturers. They are people who lecture.

Even authors such as Laurillard whose book "Rethinking University Teaching" (Laurillard, 2002) is predicated on the idea of lectures not being a suitable teaching technology for the future, nevertheless throughout the book uses the term lecturer interchangeably with teacher.

> Working through the procedure should lead the *lecturer* to a more thorough analysis of what their teaching has to do (p.183).
>
> What we believe to be of practical help to *lecturers* depends on how we define the aims of teaching (p.11).
>
> This will be an important part of planning if *lecturers* begin to spend less time on lectures and large classes, and more time on materials development and small group mentoring (p.229).

Similarly authors such as Andresen (1988) who have questioned the validity of lecturing still position it as a form of teaching (just not necessarily the best form of teaching for all circumstances) not as a technology that may support teaching and learning.

I would argue that it is this positioning of lecturing as central to the discourse surrounding educational activities at the university, including using it as a defining element of the self image of university

teachers, that makes it so persistent. The consistent alignment between lecturing and teaching in the institutional dialogue has rendered them virtually synonymous. For many practitioners embedded in this discourse, moving teaching and learning online means moving lectures online, as they are to all intents and purposes the same thing.

Ramifications

So does it matter? Is a semantic squabble over how we define lectures really that important? I would argue that it is. Our continued characterisation of lectures as teaching not technology has major ramifications for our attempts to construct effective teaching and learning environments online.

Technologies are the "how" of what we do. As long as we focus on lectures we focus on the how not the "what" and "why" of teaching and learning. Focussing on lectures drives us to attempt to create experiences online that are equal to the experience of the lecture theatre, not equivalent to it. We concentrate on reproducing an accurate reflection of individual lecture artefacts such as the voice or image of the lecturer, and accompanying overheads or slides, rather than trying to achieve the same learning outcomes. To state the obvious, a focus on outcomes would serve us much better in planning, designing and delivering effective online learning experiences than a focus on artefacts.

Furthermore, it compartmentalises and fragments the teaching and learning experience, causing us to focus on translating individual lectures into the online environment as opposed to whole programs. Lectures create the illusion of learning in manageable, discrete, self contained bundles (Baly, 1961) which can be moved one at a time to the online environment. When we have moved enough of these bundles we can claim to have moved an entire course/unit/program online but a program of study is more than just a sequence of lectures. It would be much more effective when converting to teaching and learning online to take a wholistic programmatic approach than a reductionistic lecture-by-lecture approach. However, the semantic trap of equating lectures with teaching pushes us into finding ways to record and replay individual elements of a program; rather than coherently redesign the program.

Most notably, the focus on lectures obscures the dissonance between espoused theory and theory in use. As Phillips (2005a) points out this dissonance is problematic at both an individual and systemic level, yet it persists. I would argue that one of the reasons it persists is that perceiving lectures as teaching not technology hides how big a gap exists between what we believe and what we do. If lectures are teaching, then lecturing online is teaching online, and the dissonance remains to a large extent hidden. If lectures are a technology, then we are layering one technology on another and we should ask why? At this point the dissonance becomes much harder to ignore.

Conclusion

So what can we do to overcome this? The answer is very simple to say and very difficult to do: we need to change the discourse around lecturing, teaching, and teaching and learning online. Kirkpatrick et al. (1997) when discussing the various institutional constructions of flexible learning, identifies a number of ways discourse can be influenced within universities. These include overt practices such as support systems and policy documents, but also acknowledges that there maybe institutional practices such as resource allocation, workload formulas and promotion processes whose impact on institutional discourse, though less direct, are equally important. Interestingly Cummings et al. (2005) identify a middle management strata within institutions as a crucial group to effect institutional change through "middle out" (as opposed to top down or bottom up) strategies. This group would also appear to be well placed to influence the institutional discourse as they often contribute to both the formulation and implementation of policy. This positions them to have input into both the overt statements that frame institutional discourse (such as policy documents) as well as the institutional practices that influence discourse in a more subtle but equally important fashion. If they can ensure that the message, both overt and subtle, is consistent, then the impact on the institutional discourse will be considerable.

But what should this consistent message be? Crucially we need to remind ourselves and others that when we talk about changing technologies we never start from a neutral base. Change in technologies always involves going from one technology to another. In conversations about teaching and learning online we invariably talk about the "to" – we are moving "to" the online environment, but we rarely talk about the

"from". When we do, we talk about moving "from" the classroom or "from" face-to-face teaching, but these are the physical environments we are moving from; the technology we are moving from is the lecture.

The other thing we need to consider in addressing this issue is another dissonance between espoused theory and theory in practice. Our espoused position regarding cultural and technological change in university teaching is that we should focus on education and that the technology is secondary. Yet when we invoke Rogers (1995) and others like him in discussing cultural change we almost always talk about pioneers, early adopters, early and late majority etc in terms of technology uptake. Perhaps it is time to refocus our energies to promote and support pioneers and early adopters of teaching innovations, and invest as much in encouraging the early and late majority to adopt teaching innovations as we do in encouraging them to take up technological innovations. Maybe then we would see more alternative technologies to the lecture in the classroom as well as online.

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Author contact details

Stephen Sheely, e-Learning Administrator, Engineering Link Building (J13), University of Sydney, NSW 2006, Australia. Email: ssheely@mail.usyd.edu.au.

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