

The lecture is broken: a manifesto for change

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Abstract

Let me start by saying that I love lecturing. I take pride in preparing high-quality slides and standing in front of the class imparting my knowledge to a captive audience who seem to appreciate it, on the whole. But if I'm honest, I'm just not convinced the lecture is fit for purpose. There is growing evidence that the traditional didactic lecture is past its use-by date. Students are now sophisticated IT-literate learners who demand a rich, multimedia experience from their studies. They have grown up on a diet of rich media (YouTube, iTunesU, podcasts, blogs, Facebook, Twitter, Wikipedia, Google, etc.) and are fully conversant in finding information quickly to satisfy their needs. Didactic lectures are often delivered in rooms that serve multiple purposes and fail to address the unique needs and desires of aural, visual and kinaesthetic learners with a single, blunt instrument (often a PowerPoint presentation). Attendance patterns in lectures exhibit some large variations and if the main tool in our arsenal is the lecture, there may be over 40 per cent of our students who may regularly missing (or avoiding) this mechanism. This paper highlights some of these problematic areas and propose some radical ideas for a future teaching environment in which the lecture takes a back seat in favour of a 'didactic mash-up' of engagement activities and exploitation of the full power of the Internet as a learning tool. This includes looking at how our IT facilities are used, how staff-student ratios can be better applied, how our future learning spaces should be constructed and how academic staff can guide students through the mass of online learning that is available 24 hours a day via the Internet.

Keywords

Social media; learning technology; lectures; digital natives; classroom delivery

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The lecture is broken

There is nothing quite like a good lecture – seeing your students grow their knowledge and apply new theories in front of your eyes. Or at least, that’s what I used to think. Increasingly, our digitally native students are learning in a more dynamic, faster-paced environment, using tools that give instant answers and gratification (rather than fostering deep learning) which has led me to believe that there is now truly nothing like a good lecture. In this article, I’ll illuminate some of the many ways in which modern students choose to learn their subject discipline and suggest ways in which the traditional didactic lecture needs to develop to help support these learners rather than disengage them.

Our job was arguably much easier before the Internet. In the pre-digital world, content was king. Whoever held the keys to content was the true gatekeeper. Academics wrote books and gathered information from far and wide to share on the blackboard or overhead projector. The university library was the fount of all knowledge, a special place to spend hours exploring and finding secrets from the trails the tutors had set. This set major time and space constraints on information access so a trip to the library was a well-planned expedition in some cases. Content came in the form of lectures, on an acetate sheet projected onto a screen, if you were lucky, but mostly via chalk and blackboard. This form of lecture, prior to the advent of PowerPoint, lent itself to text-heavy content with the odd diagram (if the tutor was artistic enough, or very odd diagram if they were not) and content was delivered live in one take. If the lecture was on acetate, there was a slim chance you could get a photocopy of the material from the tutor or the fall-back was to copy a friend’s notes instead and hope they captured all the salient points at the time. The focus was heavily on students taking

responsibility for acquiring information relevant to the subject.

With the advent of institutions such as The Open University, lecturing to the masses became a possibility for the first time. The once exclusive halls and lecture theatres of hallowed institutions were now replaced by eye-catching (at the time!) television programmes delivering lectures directly to the homes of students. With the introduction of home video recorders during the 1970s, the use of TV as the delivery medium was an inspired move that meant that learning content could be recorded and watched over and over again. With a production budget that allowed high-quality graphics and animations produced by specialists to be incorporated into lecture content and written materials produced by the programme team delivered to your door, this new model made traditional chalk-dusty rooms seem quite dated. Of course the downside of this approach was that library access was a little hit and miss to say the least – a small number of homes in the 1970s may have had an incomplete copy of *Encyclopaedia Britannica* bought under duress from a travelling door-to-door salesman but were nowhere near equipped to support the range and extent required for undergraduate study. Students studying via this distance mechanism had to make special journeys to partner libraries to undertake research and reading tasks which presented a major logistical challenge in some cases.

Contrast this with the opportunities presented to students today: YouTube, iTunesU, Khan Academy, MOOCs to name but a few. All these tools provide access to learning content on tap from a range of accessible devices whenever the learner feels it appropriate. Exciting new opportunities abound and the barriers to entry to learn new topics have all but disappeared. Yet despite these advances, universities still use the didactic lecture as their main pedagogic tool for content delivery.

There is much debate in pedagogic literature over learning styles and how students can preference kinaesthetic learning, auditory learning and visual learning in their approaches. The lecture, even when delivered exceptionally skilfully, often fails to fully address all of these styles adequately but a far more crucial point is this; how many academics can honestly say they know how each and every one of their students prefers to learn? I conducted a survey of my large first year undergraduate group (n=121) to determine exactly what they felt was the best approach for them. Although my approach was less than entirely scientific, it did yield some useful evidence. When asked if they felt that watching a 'traditional' lecture with a live lecturer was beneficial to their learning, 66 per cent agreed or strongly agreed. More surprisingly, 37 per cent of group agreed or strongly agreed that they thought they could learn more effectively solely using online materials – this despite the fact that they were actually in attendance at a traditional didactic lecture! Not so unsurprisingly (to me anyway – I've conducted the same survey over the last three years and the percentages have not changed dramatically) was that 87 per cent of the group agreed or strongly agreed that they learn best when they use a combination of traditional live teaching and online resources.

Students now regularly use electronic devices during lectures. A survey by Citrix¹ found that 76 per cent of students felt that they value technology in the classroom as it helps them achieve academic outcomes yet, bizarrely, 74 per cent said that their institutions bar the use of electronic devices in class! I have a theory that some academics are fearful of students bringing devices to access the Internet in case their outdated and irrelevant lecture notes are found to be deficient and challenged during the class. In practice I have found that when given the opportunity to engage connected students

during a class and undertake live research there and then, students will excel and amaze me with their deftness of acquisition and raw acceptance of information found therein. As a case in point, when teaching a first year group in a class on audio production, I threw in a line about the four members of The Beatles, John, Paul, Ringo and Dave, to be greeted with a hand up saying, "Google says there wasn't anyone called 'Dave' in The Beatles!" within five seconds. If anyone thinks their students aren't engaged in your class when they have technology in front of them, please think again!

The Internet, or rather Google as this is the predominant research tool used by students, presents massive opportunities for academic staff to engage with their students. You can be in no doubt that your students are already using this tool to support (or worse, replace) your teaching with video tutorials, online tests, crib sheets, FAQs and much more besides. If you don't accept this, your lecture slides will be relegated to just one of a hundred other digital files stored on their USB thumb drive. The challenge then for 21st century academics, is to embrace this way of working and bring it into the lecture theatre where it is accessible to those who depend on it. For example, rather than hoping your students will find a 'good' video online to support your lecture material, go and find one yourself (or better still, create your own!) and point your students to this directly. Google is a great tool for finding needles in haystacks, but it lacks the ability to discern high-quality content from popular, i.e. accessed a lot, content. Rather than hoping your students will carry out some meaningful research outside the class, make them use their smart, connected devices inside the class and discuss their findings as a group. This encourages deeper learning and helps students to discern good quality search hits from poor. Over time, they should become more adept at

¹ http://www.citrix.com/content/dam/citrix/en_us/images/infographics/infographic-student-mobile-workspaces.pdf

employing critical analysis of the content they retrieve just as we expect them to, but now this is driven by the academics and reinforced rather than passively observed.

The Chief Executive for the OCR Exam Board, Mark Dawe, caused a furore in 2015 when he said in an article in *The Telegraph*² that introducing tools like Google into examinations will help teachers assess the way students draw on information and apply it to their learning. He went on to point out, quite rightly, that everyone has Google available to them and students will only have a limited amount of time to conduct online searches; anyway so it would actually encourage students to understand Google as a research tool rather than a brute force device. Many of the detractors of this statement failed to realise that this is exactly the practice employed by students throughout their learning process already so removing it from the examination process could be seen as testing skills they have yet to develop.

So where am I leading you to? I've come to believe that in many situations, the lecture is now dead. Long live the *didactic mashup!* (OK, I need to work on the meme or this will never catch on!)

So what is the didactic mash-up? My vision is thus:

- Provide short 30-40 minute sessions of *compelling content* – compelling in nature (our students are not turned on by slide after slide of text, if you need words to explain your point, record your voice and make this available online).
- This engagement is not meant to solely impart information but to act as a stimulus for further active involvement during the session. If you want to impart information, do this via audio, video or pre-prepared written material in an easily digestible format.

- Provide pointers to content online or elsewhere – do your homework and separate the wheat from the chaff. Don't leave your students learning to fate at the hands of Google. Identify credible sources of content and discuss these with your students. Don't be afraid to find out if they have found anything useful online that helped them personally and then verify its efficacy for yourself before adding it to the list.
- Don't be afraid to provide content that exhibits transience – the Internet is a very transient animal. Content sometimes appears at the speed of thought and is gone within hours or days. The content that you are pointing to is not the information you want to impart, it solely provides reference foci for further exploration which shall be discussed in the class. Only by teaching students the value of information from reliable sources can they begin to use the Internet as a learning resource.
- Encourage independent learning – this goes without saying but it is important to give students the space to contribute to the learning process. Encourage them to bring their findings to the table and critique this as a group. Peer review is a powerful tool here with a view to creating your own group learning folksonomy of important and relevant topics.
- Accommodate all three learning styles where possible – our students are sometimes still subjected to 'death by PowerPoint' sessions that lack awareness of visual and auditory concepts. The live research and engagement tasks outlined above provide a link to kinaesthetic approaches, but be sure to direct your students to auditory and visual content to address their needs and provide balance.

²
<http://www.telegraph.co.uk/education/educationnews/11572349/Upils-should-be-allowed-to-Google-in-exams-says-exam-chief.html>

There are a growing number of easy to access and use tools to enable didactic mashups. Lecture capture tools (such as Panopto, Cam Studio and many more) are good ways of providing online access to 'traditional' lecture material in a format that allows easier consumption than sitting in a formal lecture theatre. Tutors should be aware that in recording their sessions, this then becomes a passive activity and doesn't capture the full interactive nuances of a physical lecture. If imparting information in a serial fashion is valuable to the learning process, this can serve your purpose well. It's also important at this stage that we dispel some myths about lecture recording. After completing a year-long observational study into this at my host institution, it was clear that there is no evidence of negative impact on attendance at lectures that are captured electronically and subsequently made available online. In fact, the students who physically attend lectures are most likely to watch the recorded versions more often than those who did not attend with the added bonus that those students who didn't attend first time around, still get the opportunity to see the recorded version.

Lecture capture becomes useful when it is used for bite-sized sections of learning, under five minutes or so. There is no point in subjecting students to a 90-minute video of a tutor talking as many will switch off quickly, or fast forward to try and find the juicy bits in much the same way as we have changed our TV viewing habits in the era of personal video recorders.

There is a growing archive of pre-recorded high-quality video material available online. YouTube, TED, iTunesU and more can provide easy entry for your class. If you require custom video to be produced, it is likely that you have a captive market of film or TV students in your institution who are crying out to make some relevant content for you that meets the criteria of assessment on their own courses. If it doesn't, work with your film school staff to make this happen!

Don't be precious about video production quality – our students have been brought up on a diet of homemade video bloggers making content on their smartphone before uploading to Facebook and YouTube so don't be afraid to follow suit. Remember - this can be transient information anyhow so don't overdo it.

'Digital natives' are now exposed regularly to graphics and animation which are ideal for presenting facts and statistics succinctly and accessibly in the form of infographics. There are many sites online that produce excellent infographics but they are not difficult to make yourself. Have a go!

Written text still plays an important part in conveying information. Make your words accessible - single sheets of A4 in PDF format are better than 100-page tomes that lack an index. Refer to open access journals to instil an element of rigour into the reading process.

Make use of the spoken word and audio capture – as humans we need to talk to each other. Capture your thoughts in short podcasts and make these available often. Lectures are great places to deliver little aural pearls of wisdom never to be heard again. Capture these and students can benefit from them time and time again.

Don't underestimate the role that social media can play in your learning. Your students are regularly engaging with each other and the wider community via Twitter, Flickr, Vine, Instagram and Facebook. Again, identify good sources of tweets, memes and threads and direct your students to these.

So a lot of what I am proposing is about changing expectations. Students should bring electronic devices to classes if *they* feel it supports their learning – this is not the call of the academic or their institution. Don't make the mistake of making electronic devices mandatory as this adversely affects the digital 'have-nots' who lack access to devices. I'm patiently awaiting the day when all universities

give a tablet device to freshers to make this a digitally inclusive activity but we are not there just yet! Classes should encourage live information access and investigation to foster discussion. This not only breaks the monotony of a didactic lecture but it engages the students using the devices that they want to use in a way that they want to use them. It is also important that we evaluate how our students are accessing our learning materials, when they are doing this and what devices they are using. Learner analytics is still in its infancy but is showing promise in this area and will definitely be your friend in the future to determine those mashup elements that work best for you and your class.

Of course, there are numerous barriers to overcome to enable this vision. We need to increase confidence in staff to develop high quality learning materials in this style – this is no mean feat but every university in the country has students with precisely these skills already who are keen to put them into practice so it may be possible to incorporate this into their learning? The IT infrastructure at most universities will need to be upgraded to support a growing digital environment. This is coming regardless of what I write here but it may need expediting. We should also be mindful of creating a digitally inclusive environment to ensure that all members of society and the learning community are supported. Our existing university buildings and estate may not be fit for purpose for this task just yet - IT suites will need to change and some outdated classrooms and lecture theatres will need improvements, access to power sockets for students would be a start!

So there you have it – a call to arms to make lectures different. Our students have changed, embrace it and liberate the lecture.

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