



What's the use of lectures?

It is a cliché to say that lectures are not a very efficient way of helping students to learn. I bought (and read) my first book on the subject in 1972 [1], after only 4 years practising as a lecturer. Twenty-nine years later I still give 50-minute lectures, despite having read several more books, all of which repeat the lesson that I am probably wasting my time – and, more importantly, my students' time. Let me quickly review the main features of the lecture and then consider whether there are any realistic alternatives.

Bligh summarised the aspirations of the lecture as helping students to acquire knowledge, to think and to change their attitude to some issue. The evidence he cited indicates that lectures are, on average, no better or worse than any other way of acquiring knowledge but that they are hopeless at making students think or at changing their attitudes. I would add another lecture aspiration – that of providing inspiration to further interest in the subject – and a further pragmatic consideration: Many students regard the set of lectures associated with a course or module as the definition of the syllabus (or, as we phrase it nowadays, the 'intended learning outcomes'). Learning outcomes are very important, as are assessment techniques, and both should be defined before the teaching methods for a module are even considered. However I want to jump the gun and consider teaching first.

If we accept the analysis above, and I have seen nothing to contradict it, what should we do about our teaching? I note that University teaching is trying to react to two quite different pressures at the moment: there is an educational drive towards 'student-centred-learning' and we are encouraged to develop this approach in our graduates; at the same time there is a concern by at least two stakeholders (the QAA and those paying fees) that universities should force their students to attend and to learn. Margaret Hodge, the newly-appointed minister for higher education, was widely quoted as saying that she was allowed to get away with doing too little at LSE and she should have been **made** to do more work. Not much encouragement for student-centred learning there!

Consider the alternatives to the lecture that are **currently** available to a university student, at least for the primary purpose of acquiring knowledge:

- Books
- Software
- The internet
- Peers (other student in the same or higher years of the course)
- Tutorials
- Asking staff

If lectures are **no better** than these alternatives would it not be more useful if academic staff spent their time teaching students how to get the best benefit from these learning resources, most of which will still be accessible after graduation (in contrast to lectures, which usually are not)? The most frequent objections to this approach are twofold: students expect lectures, and; lectures are a very efficient use of scarce academic staff time. The first is easy to dismiss. Students expect lectures because they have always been offered lectures (indeed are often forced to sign in) and because they usually do indeed define the syllabus. All that is needed to change this expectation is an agreed policy for a course, which is communicated enthusiastically and positively to the students before they start it.

The second objection appears to carry more weight, since – particularly in Materials, where staff numbers are small – staff do appear to be heavily loaded. However it is worth looking more closely. I estimate that, leaving aside laboratory class supervision, the average Materials academic spends about 6-7 hours per week during term time with a class, and more time in preparation, of course, making perhaps two days per week in total. This seems

reasonable in value-for-money terms in a research-led university where we might expect 30-40% of time to be spent on teaching, 30-40% on research and the remainder on administration. We can approach this from another viewpoint: Student-staff ratios vary across the sector, but let us assume that a department is operating at an SSR of 20. This means that to justify his/her salary, each member of staff has to look after approximately 20 students. Would it not be sensible for each academic to take responsibility for the learning of 20 students, and to devote one whole day per week in term time to this activity? This would take no more time than currently deployed by each member of staff.

What would the new style imply? The students would have no lectures, except for a few guest lectures by star performers purely for inspiration, not for knowledge transmission. They would have the undivided attention of a quality teacher for one day per week, and the job of this teacher would be to guide, stimulate and encourage these 20 students to make good use of their other four days per week. You could call this time a mixture of tutorials, brainstorming sessions, communication skills, what you will – the mix will depend on the individual academic. Its sole function would be to help our students to learn on their own initiative for the majority of their time – not unlike an arts undergraduate, come to think of it.

I tried this idea on the delegates at the recent symposium on Materials Education at the Singapore ICMAT 2001 conference. Half of them nodded agreement, while the other half (wilfully?) misunderstood and took me to mean that I was advocating the abolition of all staff-student contact. So let me outline a possible way in which I might use the two days per week, throughout the year, for which I am paid to teach, or in this case act as learning mentor to 20 students:

	During term	Between terms
Day 1	Class preparation, marking, responding to student emails	Course development
Day 2	8.30 – 9.30 Tutorial with 'my' 20 students, split up into small groups for some activities. Subject matter based on last week's computer self-assessment.	Course planning meetings, scholarship
	9.30 – 10.30 Student presentations – assessed by their peers. Two or three students present each week, to their group of 20.	
	10.30 – 11.30 Feedback clinic on last week's internet research	
	11.30 – 12.30 Tutorial on my specialism with 12 students (not my group) – requested in advance by their mentor.	
	12.30 – 13.30 Lunchtime brainstorming session with 5 or 6 project students or (some weeks) all students attend a 'star' lecture by a visitor.	
	13.30 – 14.30 Clinic with my students on who to consult about their specific (academic) problems.	
	14.30 – 15.30 Paper review session, in which 2 students criticise a recent paper selected last week.	
	15.30 – 16.00 Group tea meeting	
	16.00 – 18.00 Drop-in clinic for any student who wishes to ask me for help.	

There are some spin-off benefits to the approach I have outlined. Staff commitment on-campus could easily be focussed into one day per week. Student attendance, and hence building usage, could drop significantly since many of the alternative learning strategies do

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not need lecture or tutorial rooms. Students could be encouraged to take a deep approach to learning rather than be content with surface learning. Each member of staff should get to know 20 students quite well. Different student learning styles can easily be accommodated, as can differentiation of activities for students of different ability or motivation – without spoiling the experience for others.

It would certainly make sense to change the style of assessment as well (as I indicated at the beginning), but that is for another essay and another day.

1. Donald Bligh "What's the use of lectures?", Penguin 1972