

## Short Communication

### What makes the best learning experience?

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Since its inception, the UK Higher Education Academy has had as its core focus on the “deliver[y of] the best possible learning experience for all students” (see [www.heacademy.ac.uk](http://www.heacademy.ac.uk)). As part of this commitment, the Centre for Bioscience ran a competition, open to all UK undergraduates studying for a degree in pure or applied biological sciences, for which they were invited to write an essay of 500 to 1000 words on the subject “What makes the best learning experience for you?” This article summarises the key themes emerging from the responses and goes on to develop some broader reflections on how we as bioscientists can enhance the learning experience of our students.

In total, thirty-one entries were received from seventeen institutions. All short-listed essays are available on the Centre for Bioscience website (see [www.bioscience.heacademy.ac.uk/publications/essay.htm](http://www.bioscience.heacademy.ac.uk/publications/essay.htm)). The winning contribution was submitted by Jessica Haglington, a second year Biologist at the University of Exeter. The judges felt that she had made a useful synopsis of key features in the learning process and had constructed them effectively in a “recipe for success” format.

What were the main points raised by the students? Several concerned what we might consider as “the attributes of the lecturer”. Foremost amongst these was **enthusiasm**, sometimes identified as “passion” or “excitement”. When it is present, the effect can be positive; as Haglington put it “If a lecturer is truly passionate about their subject it becomes infectious, and can spread through a class faster than MRSA through the NHS!” Conversely, an apparent absence of interest in one’s own subject leaves the class demotivated; how can students be inspired, argues Gemma Cook, in another short-listed entry, if lecturers do not seem to be inspired themselves? “Anyone scared of being labelled a geek will certainly not want to look further into a topic that even the lecturer appears to find boring” added Rebecca Nesbit.

Hot on the heels of enthusiasm, students warm to judicious use of **humour**. This is not to say that all lecturers should be as versed in the skills of the stand-up comic as they are in, say, the central dogma of molecular biology, but a timely pun or aside reminds the students that their teachers are, in fact, human too. This brings us to a third attribute identified by the contributors, **approachability**. A smile in the corridor that marks the fact that you recognise someone as being in your class, even if you cannot name them; taking time in the practical class to talk to the students rather than the other demonstrators; a willingness to help when asked, without giving the clear impression that you had several thousand more pressing engagements – all

of these can serve to help students maintain their interest in the process of learning. “When lecturers are friendly and approachable and make sincere efforts to make themselves available for queries and problems, despite their pressing schedule, my appreciation for what they teach tends to grow” commented Nataly Petrou.

Fourthly, essay writers put the spotlight on the **organisation** by academics of their lectures and lecture materials. Included here were issues of punctuality and of reliability, as well as logical flow. Symon Russell highlighted the value in giving students a clear vision of where the session is heading; “every journey is easier when you know where you are going” he said. The issue is, in part, effective communication of content, but also, as we saw earlier regarding enthusiasm, there is the importance of staff as role models – if we are overtly sloppy, tardy and/or under-prepared, then we should not be surprised if this is mirrored in the students’ lack of application to their own studies.

The competition also elicited a resounding endorsement for the importance of class **practicals and fieldwork** in the learning process. Students value these activities as much for their role in illuminating and reinforcing biological theory as for the opportunity to learn the ‘tools of the trade’. As Nesbit comments in her essay, “Immunoprecipitation and the polymerase chain reaction actually make sense when you have performed the experiments”.

Practical classes can also be one of the places where students are confronted by **challenging circumstances**, by being ‘outside their comfort zone’. Situations that start out appearing to be threatening can turn out to be great motivators for learning. For some students, this may be the fact that they are thrown together with peers who are outside their usual circle of friends; as Sara Haines puts it “some of the most valuable learning in my education has come from projects that began as nasty group assignments”.

Additionally, the importance of **contextualisation** was raised in many essays, with students stressing the need to relate what was being taught to ‘real life’. Certain fields of biology clearly connect more readily with stories reported in the popular media, but regardless of the specific topic, it is important that we regularly help our undergraduates to appreciate how their studies engage with broader issues for society.

There were, inevitably, a few disagreements between our contributors. Most striking amongst these was a difference in opinion over whether lecturers should or should not target **questions** directly at individual students during a lecture. For some, the fear of this event served to sharpen the mind and to focus their attention. For others, however, that very same fear was a distraction. Gemma Cook speaks of the ‘emotional safety’ of knowing that you will not be picked on to answer questions, of “not having to expose your lack of understanding to a hundred intellectuals”.

## Giving it some E

In truth, few of these observations will have come as a great surprise to any lecturer who takes their craft seriously. It was, however, interesting to note the frequency with which the same points were made. Overall, the contributions reinforce my view that effective learning is built upon five key Es, namely; enthusiasm, empathy, explanation, engagement, and evaluation.

**Enthusiasm:** this has been strongest message to come through from the essay writers, if we can't get excited by our subject, then why should they?

**Empathy:** this is a multi-dimensional concept, but at its core lies thinking about our subject, and our teaching of that subject, with a conscious attempt to see things from the students' perspective; with, as one of the other essays rather grandly put it, "an awareness of [the students'] position on the journey to greater enlightenment". This will include an appreciation of where they have come from in terms of the content of current A levels (and, indeed, that many students nowadays join our universities from non-traditional routes); an awareness of the content of the modules that have preceded our unit and those that will follow; and an acknowledgement that life for contemporary undergraduates *is* more complicated than it was in the past. Empathy involves thinking what it is like to be a nervous first year, to be an overworked and overdrawn finalist. If it is a long while since we were in these positions ourselves, it is all the more important that we actively interact with the current cohorts on issues beyond the narrow confines of our lecture material.

**Explanation:** we have all probably experienced the feeling at some point or other that we have been inadequately briefed for a particular task. This may be something as trivial as assembling flat-pack furniture, through to discovering at the point of delivery that "come and help" with an event actually meant, "come and give a 30 minute talk". We need, clearly, to draw a distinction between adequate briefing and spoon-feeding. I am reminded of the old saying "give a man a fish and he'll eat for a day, teach him how to fish and he'll eat for ever". However, just as teaching fishing involves more than pointing somebody to the local tackle shop, teaching pharmacology or phylogenetics involves more than directing someone to the library.

**Engagement:** if any key is to be picked out as the 'master' key, this is surely it. Unless someone is sufficiently 'gripped' by their studies, they will become, at best, a neglected chore or, worse, will be entirely abandoned. Each of the preceding Es contributes to the process of engagement, but the essays included a couple of striking examples that illustrate how engagement can look. James Pring began his essay with the image of a packet of fruit pastilles spinning over a class – you will have to read it to see why this was relevant – but, as a certified 'sweetie flinger' myself, this struck a chord. Surely the most vivid image, however, is Gemma Cook's description of a lecturer ("near retirement" we are told, to emphasise that this was not a foolishness of youth) lying on their back, on the front bench of the class, demonstrating the feeding mechanism of a barnacle. Don't you instantly want to sit in on that class in the coming academic year? I do.

**Evaluation:** this did not feature as prominently in the essays as we might have expected. One essay, which did not make the shortlist, did however comment on the need not only to give the work a mark, but to give some indication of why that mark was achieved, “most of us cannot tell what makes a good or bad piece of work: often the mark you get can feel like ‘luck of the draw’”. There are surely many issues here, but principally I would want to state that the feedback needs to go even beyond what was highlighted by this student – it needs not only to say why a certain mark was awarded but most importantly to point out ways in which improvements could be made for next time. I recall a number of years ago being struck by a comment made at a Writing Development in Higher Education conference that feedback is at its most effective when it is, in fact, *feedforward*, i.e. phrased in terms of the how a student might improve their next piece of work rather than bemoaning what was wrong with the previous task. To be of value, such advice clearly needs to reach them promptly and hence our response needs to be swift as well as meaningful.

Evaluation, of course, does not only relate to the students. We may well be in an age where colleagues are at risk of being appraised to death, however, it remains important that we do actively reflect on our academic practice to see if there are aspects which we can improve or whether, over time, we have taken for granted, and hence neglected, features of our teaching that were previously commendable.

As a result of reading the essays, I am going to take my teaching into the “well lecturer clinic” for a service over the long vacation – how about you?

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