

doing, raise standards? Could such a journal be helpful for professionals in selecting candidates for job or PhD positions?

A separate initiative could be to develop interactions between Universities to teach students how to peer review articles from undergraduates at different institutions studying the same programme.

There is also a clear opportunity for adaptation to cover postgraduate training but a major hurdle encountered here is that of copyright in publishing research. This concern is real, but with discussion I believe there will be a route through the issues to enable postgraduates to benefit from this project as well.

I would be happy to hear your comments on any of these future plans and would be pleased to arrange for a wider discussion of these issues through the LTSN.

Finally, I am extremely grateful to David Taverner who put the site together and for his enthusiasm for the project.

Celia Knight
University of Leeds
c.d.knight@leeds.ac.uk

THE LANGUAGE OF BIOSCIENCE

WHenever two or three academics are gathered together, conversation soon turns to student literacy. "They just don't know how to write these days" can be an idle moan, perhaps born of the tedium of marking, or a genuinely felt complaint about perceived changes in standards.

How should one respond? It is easy to join in a negative but cathartic spiral of reactionism, blaming student inadequacy on the school system, the internet, text messaging, tabloid journalism or any other suitable social phenomenon which comes to mind. A more measured response avoids blame and says that a professional educator works with the material available: I shall teach my subject but also provide my students with whatever tools they need to express it. The latter position takes more effort, in debate with colleagues and as a teaching strategy, but is somewhat less depressing.

The language of Bioscience has two layers: the outer layer is that of specialist communication; we lead our students to a deep understanding of their subject and concurrently provide them with the precise and comprehensive technical lexicon needed to express it. Most of us take pride in this work and view it as legitimate employment for our professional skills.

The inner layer is more cryptic and less obviously our responsibility. This is communication, but using the non-specialist words and constructions of ordinary language. It provides a substructure for the outer layer and has the

curious characteristic that the more it is hidden, the more effective it is. Students need to learn how to support their specialist discourse on a bedrock of natural fluency which goes unnoticed by the reader or listener. They must learn to communicate the message, not the means of expression.

I have found a way of illustrating this to our first year students. During an introductory session called *Communicating Biology*; I play them some music. I deliberately choose something unfamiliar, such as a Haydn string quartet, and ask them to listen very carefully for a few minutes. I then ask what they have noticed.

Typical responses are that the music is old-fashioned, lively, repetitive, interesting, boring. Someone might suggest that it is baroque (!), played by an orchestra, or the sort of thing you hear in lifts. Very occasionally, someone will know what kind of music it really is.

No one ever observes that the instruments were playing in tune with one another. When this is pointed out, there may be groans from the back of the lecture room but no one tries to contradict. Of course, the fact is, they did not notice. And that is my message about communication: good writing or fluent speech are imperceptible and allow the conveyance of meaning, just as fine tuning allows music to be heard without distraction (or pain). If spelling, grammar or syntax are wrong, the reader or listener is distracted and communication fails.

How and when do students learn to use the inner layer of language? Should we expect them to arrive in our classes already able to write and speak with skill, accuracy and precision? Or should we be prepared to coax and coach, providing remedies for deficient technique? More generally, by what point in their educational experience should they have achieved fluency and whose responsibility is/was it to ensure that they have done so?

Since blame is pernicious, we must conclude that the responsibility now lies with us. Words are extraordinarily powerful and, like all powerful things, from antibiotics and motorbikes to armies and democracies, they need careful handling. People who exploit the power of words can achieve action at a distance, influencing the behaviour of others through physical space and over time (sometimes over vast time). As teachers of Bioscience, it is our job to train students to use and control this power. The emerging practitioners of our subject must be able to speak its language fluently and lucidly, knowing not only which words to use but also how to deploy them imperceptibly to best effect.

Most importantly, the guidance we give must be tailored to individual need. Professional integrity is lost if we abandon those who stumble over small rocks simply because the hills ahead afford a better view.

Martin Luck
University of Nottingham
Martin.Luck@nottingham.ac.uk