

Essential Accuracy

Paul, a student of mine, gave us a talk the other day on the great Italian mathematician Fibonacci. His presentation was poised and entertaining, and he was ticking all the right boxes on my criteria sheet. As I listened, I idly wondered if Fibonacci's master work *Liber Abaci*, his great tome of number theory published in 1267, would get a mention. I was not disappointed.

'Fibonacci's most famous book,' said Peter confidently, 'Was called 'Liberace', and he had a PowerPoint slide to back this up. I stared at the screen, puzzled. Liberace's career as a flamboyant pianist had been a long one, I knew, but had his first biography really been published in the thirteenth century? My class were surprised when their teacher's shoulders started to shake.

When it comes to student howlers, I always seem to have an angel on one shoulder and a devil on the other. The angel looks solemn and says this;

'Isn't there something rather tyrannical about your desire to laugh at your students' errors? We all make mistakes, and we don't like to have our own ridiculed. If you are trying to promote a culture in your classroom where questions, any questions, are welcome, then to lampoon howlers publicly at the time or privately later is to say the least contradictory. If

you enjoy it when your students are idiots, then might they not become idiots just to please you?’

I nod sheepishly, and feel guilty. But then the devil on the other shoulder has a word:

‘My comrade’s speech contains some truth, but isn’t it a little severe?’

Teaching, as you know, can sometimes feel like the perpetual triumph of hope over experience. It can be disheartening to find that lessons that are beautiful in your own eyes have not created understanding of comparable beauty within your students. Sometimes the gap between what you hope your students have learnt and what their answers show that they have learnt is so great that you must either laugh or cry. If their answers do contain a grain of humour, then accept that gratefully, as a way of lessening the pain.’

It is worth remembering that teachers too can commit a howler from time to time. At the end of a long day recently, Louise asked me what λ stood for in the vector equation of a line.

‘Ah, yes, r equals a plus λb , yes, λ is a constant that varies,’ I said wearily.

Louise repeated this back to me slowly. ‘A constant that varies?’

After five minutes of delirious laughter, I amended this to ‘a scalar that varies.’ But I will not be surprised if my students repeat that to each

other at future get-togethers; 'Do you remember the day Jonny told us about 'the constant that varies'?'

The best mistakes are those that create appealing alternative vistas in your mind, fresh perspectives that it would be hard to arrive at any other way. So let me remember my three favourite howlers from the last term, all of which do this.

Number one: while marking some Numerical Methods coursework, I read; '*this method defiantly misses the root.*' I smile to picture Messrs Newton and Raphson shaking their fists at this elusive solution whilst shouting, 'We'll get you next time, just you wait and see!'

Secondly, I guess we've all seen it, but I find it somehow touching. '*The distribution peeks at 7...*' This summons up for me the vision of a party where Miss Seven, attractive and flirtatious, is being coyly admired by Mister Normal, a shy man with a symmetrical head on the other side of the room.

And finally, in a statistics lesson not long ago I asked; 'A parameter of a distribution, now, if I used that phrase, what might I be thinking of?'

I was hoping to hear, 'The mean?' or 'How about the variance?', but instead I heard, 'Would you be thinking of the distance round the outside?'