

From Rock Star to Superhero

Our only guest this Christmas is Ralph, my father-in-law. He's sitting contentedly on the sofa after lunch with the TV pages.

'Jonny, there's some maths on!' he calls out excitedly. 'It's the Royal Institution Christmas Lectures. Won't mean much to me, but right up your street.'

'Don't write yourself off too soon, Ralph,' I say as I walk through. 'You could find there's a mathematician lurking inside you that you know nothing about.'

The Royal Institution Christmas Lectures are a national treasure. The first one was in 1825, and the third was given by the great Michael Faraday, who was to present a total of seventeen such lecture series in the next forty years. They've run unbroken (apart from the World Wars) since then. I remember as a youngster sitting rapt in front of big names like David Attenborough, Carl Sagan and George Porter. Indeed, when I became a teacher, perhaps I subconsciously took this format as the apotheosis of great classroom teaching. Was that sensible?

'What's the probability of that!' The presenter is leaping around the stage, as willing kids explode balloons and play number games. Yet – the magic is not quite there for me as it was when I was twelve. Is this the cynicism of middle age? Or is it one professional maths educator evaluating another?

'You seem to be working ridiculously hard, Professor,' I admonish silently. 'A great deal harder than any of your pupils.' The luckiest of the young watchers are invited up for their rabbit-in-the-headlights moment, where they must not do anything off-script – they give the required answer and get off. There's a carefully-rehearsed joke or two, but little discernible improvisation.

There have been exploding balloons in my classroom, but generally they were ones I wasn't expecting. Indeed, my classroom is full of things I don't expect.

'Could I teach like this every day?' I wonder, as helpers wheel on a colourful set of huge wooden bridges spanning wide tin-foil rivers. 'As maths classrooms go, this must be the most teacher-centric of them all.'

My students need to talk to each other. They find it hard to listen to a teacher for a long period of time and the evidence suggests they don't learn much by being made to do so. The truth is, I couldn't lay on this all-singing, all-dancing act every lesson, and nor would that be desirable. I want the heart of my lesson to be less about me as a performer, and more about my students doing and enjoying maths for themselves.

My wife comes through. 'Presented by a mathematician so famous,' she laughs, 'that even I've heard of her.'

'She's great in this,' I say, defending my colleague. 'These kids have loved it.' And they have.

'What's the budget?' says Mrs G. 'They damn well should have loved it.'

Ralph is now breathing heavily, but then he snuffles into life. 'Ah, well, I was lost after five minutes,' he said. 'I had no chance with the rest.'

This strikes me as a sage comment. 'Is this lecture somewhat linear?' I wonder. 'A then B then C then D? Miss the point of B and you can forget about D. Should the maths in my classroom be rather more connectionist?'

I feel as though someone is wagging a finger at me. 'You're unfair to judge this event like this,' I hear, and I nod. This lecture was designed for an audience of millions, for those watching at home as much as for those there in the flesh. Arguing that good day-to-day classroom teaching should run along these lines is a nonsense.

And yet something still niggles. Later that evening, generalising wildly and probably unfairly, I draw up a rough table.

<i>Rock Star Maths</i>	<i>Day-to-day Maths</i>
The presenter is famous, in the limelight, highly-qualified, extraordinary	The teacher is hidden, out of the limelight, modestly-qualified, ordinary
Relationship with audience is short-lived	Relationships with students are long-term
Students do maths publicly in front of strangers, sticking to the script	Students do maths alongside their colleagues in groups and pairs, improvising
Generally higher-ability, well-behaved students	Range of ability and potential behaviour
Teacher-centric	Student-centric
A competitive world	A collaborative world
Rootless	Rooted
Global, anywhere, any time of day or night	Local, 9-5
Sprint	Marathon
Discipline not an issue	Could be tough class management
Linear	Connectionist
Short-term contracts, unpredictable pay	Long-term contract, steady employment
Mind-bogglingly brilliant IT	Low-key low-risk IT
No exam results to worry about	Exam results a constant pressure
Audience travel to special venue	Ordinary regular venue
High budget	Low budget
Off the syllabus, glamorous maths?	On the syllabus, humble maths
Gourmet meal, dauphinoise potatoes	Standard fare, mashed potato

I reflect that my working life touches on both sides of this table. ‘From time to time I give talks to popularise mathematics,’ I think. ‘I prepare well for the big maths performance, and I give it everything. Maybe I inspire my young audience to take the subject further. Who in their right mind would not welcome such a thing? I know when I’ve done this well, it’s been mightily worthwhile.’

I think back to the show that Ralph today pointed in my direction. ‘The Royal Institution lectures have changed the lives of unseen millions down the years,’ I say to myself. ‘They can be cherished as such.’

But then I think of my colleagues at college, each day returning to those lengthy mathematical relationships with students, coaxing, building, listening, winning over, achieving together, and I somehow feel that this, done well, is both harder to bring off and in the long run more profoundly rewarding for those involved. If you then add in the task of turning a class of disaffected

youngsters with no desire to study maths into a studious group who enjoy the subject and attain in it; now you are talking about superheros with special powers, teachers I can only regard with awe. To the maths teacher as global rock star, I say, 'Yes please, I will come to your event and be grateful to be inspired.' But to the maths teacher as humble, local superhero, I say, 'Yes please, and even more so. I tip my hat to you, my friend.'

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