

A few years ago there was a car bumper sticker which said, 'If you can read this then thank a teacher'. The purpose was obviously to draw attention to the vital role that teachers play in the lives of virtually all of us as we grow up. Unfortunately, such slogans leave open the possibility of rather negative responses, such as that seen on one old car, 'If you can't read this be grateful you missed school'. Looking at the two phrases it is interesting to note that the first refers to the beneficial impact of an individual, while the latter implies the negative effects of institutions and/or the system. In some ways, this distinction captures some of the problems that we in education are facing today.

It is probably fair to say that, regardless of phase (primary, secondary, college or university), most of us came into teaching because we were enthusiastic about our subject and wanted to share it with young people in some way. In other words, we were attracted by the interaction with our pupils and students and the enthusiasm that can be generated through engaging in interesting activities and dialogue around a common interest. It is also probably not unreasonable to say that the thing which has caused much of the disillusionment in recent years is the system that we have found ourselves in. Indeed the Science and Technology Select Committee Report, *Science Education from 14-19*, emphasised this when it said, 'Teachers and students are frustrated by the lack of flexibility' and '...the approach to assessment at GCSE discourages good science from being taught in schools'.

The overall impact over several years has been a reduction in applications for teacher training in many subjects including physics, chemistry and maths, and an increase in the number of teachers leaving the profession. Yet despite all the pressures, we know there is still a vast number of good, enthusiastic teachers engaging pupils and students in their subject. This begs the question: can we reverse the trends and revitalise what happens in our schools (and for that matter in our universities) especially in science?

The response to the question depends on your own view point, but there is some evidence to suggest that the answer is 'Yes we can'. One of the grounds for optimism is the increase in accepted applicants starting PGCE courses in science subjects this year. Table 1 gives some figures from

the Graduate Teacher Training Register (GTTR) for the end of September. An increase of 21% in physics is particularly encouraging.

**Table 1 Accepted applicants for PGCE courses**

Subject	September 2001	September 2002	Percentage change
Secondary			
Biology	848	904	+6.6%
Chemistry	409	443	+8.3%
Physics	206	250	+21.4
Maths	1099	1321	+20.2%
Primary	6614	7774	+17.5%

Other aspects of initial teacher training also suggest the future might be brighter than it has been for some years. The various government incentives for science graduates (e.g. 'golden hellos', training salaries and payment of student loans) all help. Just as importantly, as Roger Lock and Tina Jarvis point out in their articles (page 8 and page 10), there are new opportunities in the training courses themselves. The revised requirements for initial teacher training programmes, with the reduction in the number of standards to be met, should encourage more reflection on teaching and learning without any reduction in quality. It is hoped that the initiatives outlined by Roger and Tina will help to give all new trainees an enriched experience as they come into the profession.

However we must remember that, just as pupils engage with good teachers, so do trainees with their mentors in schools and with tutors. Working together in partnership we can not only support the new entrants during their training but also, by sharing our enthusiasm for teaching science, we can ensure that they stay in the profession. Being realistic, we know that there are still many issues that need to be addressed. However, if we can attract new people on to training programmes and provide them with a good experience, then it is one step in the right direction towards ensuring high quality teaching and learning in science in the future.

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