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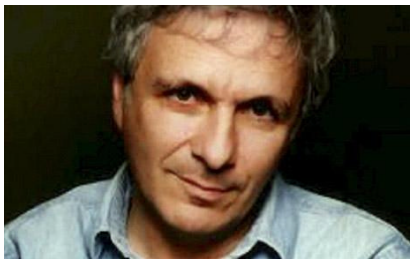
Japan Earthquake Relief Fund

Children bored by 'tedious' maths lessons

Graeme Paton



Thousands of children are being turned off maths and science at school because of "tedious" lessons, according to one of the world's top physicists.

Michael Green, Lucasian professor of mathematics at Cambridge University, said teachers failed to present the "glamorous" side of the subjects as classes often descended into "drudgery" and "boredom".

He called for a major overhaul of the curriculum and improved teacher training to stop teenagers deserting maths and science when they turn 16.

The comments come just days after a major study found that trainee teachers in England have worse standards of maths than those in other developed nations.

In an interview with the Times Educational Supplement, published today, Prof Green said primary school maths was often "tedious" and seen as "something you have to get through".

The academic, who took over as Lucasian professor from Stephen Hawking in 2009, said: "You can't imagine [maths'] beautiful elegance and way of describing the world at that stage. When [pupils] go to school and choose maths, they don't know enough about the subject and the way it developed. Some of them don't want to know.

"I never understand why anyone wants to do maths, having been exposed to it before the age of 10; the drudgery they are exposed to. It's difficult.

"I see it with maths, and there's a real problem with physics, to convince [pupils] that science isn't geeky, especially girls."

Prof Green, one of the pioneers of string theory, a complex theory of particle physics, added: "Teaching a whole course about basic things in maths without [the pupils] losing interest completely is a challenge. I'm finding that with my daughter."

The academic also criticised the existing GCSE and A-level system, which allows students to drop all but three or four subjects at the age of 16.

He said pupils should study a broader range of subjects beyond GCSE to keep their future career options open.

"One of the extraordinary things in the British system is that you can drop subjects almost as soon as you start," he said.

"We drop subjects en masse after GCSE. I have always felt that is absurd."

Taken from *The Daily Telegraph*

Carry on learning

James Noble-Rogers

It will have been difficult for those in the world of education not to have noticed the new Government's statements about raising the quality and status of teaching. Many people feel strongly that making teaching a master's level profession would help to achieve this goal. We know from research that master's level study is important not only for raising the status and professionalism of teaching but also in helping people to become better teachers.

Master's level teacher education, delivered in partnership between universities, schools and other partners, really does have a transformational impact on teachers, their colleagues and their schools. So it was disappointing to see that the Government has removed funding for new entrants to the Master's in Teaching and Learning (MTL). What the education community is now concerned about is the future of other master's programmes for teachers. The value that master's degrees bring must be recognised by policy-makers and school leaders, and teachers should be encouraged and supported in engaging in further study.

While initial teacher training provides teachers with the critical skills to succeed in the classroom, a master's degree builds on those by encouraging teachers to follow critical, reflective, inspirational and innovative approaches to education and to take risks.

A master's qualification allows teachers the space for in-depth investigation of their subject, which not only instils them with greater subject knowledge but with wider professional knowledge. Teachers with master's qualifications have a better understanding of pedagogy, allowing them to continually improve their own teaching techniques. The qualification empowers educators to try out new strategies and to evaluate their success on classroom performance, which can help to breathe new life into schools.

LATEST JOBS:

- **Globe Academy**
- **Mossbourne Com. Academy**
- **Morpeth School**
- **Westminster Academy**
- **Heathcote School**
- **Lady Margaret School**
- **Whitgift School**
- **Coombe Girls' School**
- **Bexleyheath School**

Key Dates:

04 APR:
Mid-point review
QTS Standards
Tutorials
05 APR:
Tutorials
School-based tasks
23 MAY:
MCWC deadline

Myths and misses

In the second of two articles examining the role of single-sex education *Janette Elwood* tackles clichés about gender differences and exam results

Differences in examination outcomes between boys and girls are a popular, yet contentious, area of research and debate. As a media story, gender differences in examinations are big business.

Of particular concern over the past decade has been the apparent under-achievement of boys relative to girls at the end of compulsory schooling. Girls' achievement levels at this important phase of education are well exceeding those of boys, and girls are leaving school better qualified.

While research suggests that girls' improved achievement at school is the result of the removal of barriers to girls' attainment, and changing expectations on the part of girls, their successes are still portrayed as achieved at the expense of boys, and girls are still being blamed for boys' failure. Such notions of boys' and girls' achievements are, in the main, simplistic and belie the complex factors that influence why boys and girls do differently in examinations. Looking at the patterns of examination results on any one series of examinations hides the shifting patterns of success that boys and girls experience at different stages of examining (For example, GCSE and A-level).

Let us consider result patterns of boys and girls at GCSE and A-level in the UK. If we look at the benchmark indicators of the proportion of students from each group achieving grades A*-C (at GCSE) and A-C (at A-level) we will see some very different results. In 2008, statistics from the Joint Council for Qualifications showed that slightly more girls than boys were entered for GCSE examinations (51 per cent) and girls obtained 7.2 per cent more GCSEs at grades A*-C compared to boys. More girls enter for A-level examinations and, overall, girls perform better than boys, achieving 5.3 per cent more A-C grades.

However, if we look behind these figures we start to get a different story. These aggregate statistics ignore the relative proportions of boys and girls not entered for examinations, the proportion of boys and girls who are entered but who do not complete their examinations, and the increase in the proportion of both boys and girls who obtain good pass grades at GCSE every year. What these figures also hide is a cross-over in performance between boys and girls at 16 and 18 in particular subjects that show the differences in top grades awarded to boys and girls reversed.

For example, in French in 2008, girls were 57 per cent of the entry at GCSE in this subject and obtained 10 per cent more A*-C grades than boys, whereas at A-level, while girls are still the biggest entry for the subject (at 69 per cent), boys obtained 0.5 per cent more A-C grades.

More realistic patterns of performance tell us different stories for boys and girls in relation to their achievements: that there is more overlap in performances between boys and girls and bigger differences within these groups (attributable to the interaction of gender, ethnicity and levels of poverty).

We must stop positioning girls' achievement relative to that of boys' and vice-versa

We need to stop positioning girls' achievement relative to that of boys' and vice-versa. A less relational positioning would enable girls' successes to be viewed in context and acknowledge that not all girls are achieving at similar levels. Boys' perceived underachievement would then not be regarded as a universal problem for all boys but only as a problem for certain boys at certain stages of schooling.

Such a position may go some way to highlighting the most important element of this debate – which boys, and indeed which girls, are underachieving, and at what stages and phases of education?

About the author

Professor Jannette Elwood is director of research clusters: contexts of teaching, learning and assessment at Queen's University Belfast, and deputy chair of the Research Committee at AQA

IOE Director welcomes greater special school input to teacher training

Responding to Sarah Teather's Green Paper on special educational needs, Chris Husbands, director of the Institute of Education, University of London, said: "A key test of any education system is how effectively it provides for children with additional needs.

"The government is right not to move towards specialist initial training in SEN which would create a division between those who work with children who have special needs and those who work with mainstream provision. The drive to draw special schools more closely into mainstream training could be exciting, and the plan to focus on teacher professional development is welcome.

"I am encouraged by the government's commitment to enhancing the quality of 'ordinary' learning, teaching and pupil support by rolling out the 'Achievement for All' initiative across the country. It is essential that all teachers are able to play their part in reducing the need for more specialist provision.

"A strength of the current system is the emphasis it places on the legal enforceability of statements, but the time taken to produce many statements is frustrating and unsatisfactory. If the Green Paper can find a way through the tensions between legal entitlement and time-consuming delay it will be welcomed. The challenges of joining up education, social care and health provision are enormous and quality assurance systems that focus on the results of such partnerships for children and young people with additional needs will be vital if proposals are to succeed."

PUZZLE –

On my last birthday, my friend said to me:
"In 15 years' time, your age will be the square of your age 15 years ago!"
How old am I?

ISSUE 7 SOLUTION:
24 Days

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