March 17th 2006 saw the culmination of the launch period for the network of Science Learning Centres, with the official opening of the Wellcome Trust National Science Learning Centre by the Prime Minister. Mr Blair made a point of recognising the importance of inspired, enthusiastic teachers in education.

After getting first-hand experience of the exciting range of scientific experiments during his visit, the Prime Minister said, 'I’ve seen many good ways of teaching science today. This Centre shows a great vision of how science can be taught. At school we all knew that the one thing that made a difference was if the teacher felt personal enthusiasm for their subject, then it was communicated to their students.' He added that science was vital to provide future skills for the nation to compete in the global economy.

Science teachers face the challenge of training the next generation of scientists and also equipping non-specialists with the knowledge, understanding and skills they need to thrive in a technologically advanced society. They need to stay up to speed with a rapidly developing subject and maintain their enthusiasm so they can inspire their pupils.

The network of Science Learning Centres was set up in response to reports from the House of Lords Science and Technology Select Committee (2001) and the Council of Science and Technology (2000) that identified a need for subject specific continuing professional development for science teachers. The Wellcome Trust has provided £25 million to fund the National Science Learning Centre, and the Department for Education and Skills (DfES) has provided £26 million to fund the nine regional Centres.

At school we all knew that the one thing that made a difference was if the teacher felt personal enthusiasm for their subject'

Prime Minister Tony Blair

Access 100’s of ideas for 1000’s of lessons at www.sciencelearningcentres.org.uk
‘The Centre is about the future of science’, said Clare Matterson, Director of Wellcome Trust’s Medicine, Society & History Division, ‘It will help the UK to nurture promising young minds and inspire them to become scientists. But it will also improve science teaching for all young people who will grow up surrounded by science and technology. The initiative is designed to inspire their teachers to teach them the most interesting, relevant and thought-provoking science that will stay with them for the rest of their lives.’

John Holman, Director of the National Science Learning Centre, said, ‘The Science Learning Centres have been created with ambitious goals in mind; not least to help British teachers, technicians and classroom assistants to lead the world in science education by 2015. They offer a fantastic opportunity to reconnect science teachers to the frontiers of science as well as showing them new ways of teaching science in an engaging way. We hope that a visit to a Science Learning Centre will be a defining moment in the career of every attendee.’

What is it that sets the G&T student apart?

Defining the group by setting fixed levels of achievement in standard tests is somewhat artificial, but they all have one thing in common - a natural need to understand what’s going on around them.

It’s this need to know that is the greatest gift (and challenge) to science teachers. If we can capture and capitalise on this innate desire we can have a head start with G&T students.

Some suggestions for open-ended approaches that allow G&T students to be stretched beyond normal expectations might be:

> Let them set the questions – G&T students will often come up with simple, nutty problems that lend themselves to stimulating experiments
> Ask them to propose the hypotheses – discuss scientific method
> Get students to design and modify experiments
> Allow students time to carry out the investigation
> Discuss results, errors and modifications
> Involve a research scientist in the investigation
> It may be worthwhile contacting your local university to enquire whether they are running any schemes that link schools with scientists.

Dr George Forste
Science & Humanities Education

Investigating with G&T students

Science Learning Centres around the country are running a range of G&T courses. Visit www.sciencelearningcentres.org.uk to find out more.
Professional development to support the introduction of GCSE 2006

The How Science Works element of the new programme of study for Key Stage 4 helps show students how scientists work, and helps them evaluate scientific information in today’s media through an understanding of scientific literacy and contemporary science.

Three one-day workshops will prepare teachers for teaching How Science Works by drawing on the expertise of Science Learning Centres’ staff and their extensive links with the scientific community in universities and industry.

Details of all workshops are at www.sciencelearningcentres.org.uk. Click on “Courses and Events” and type the words “How Science Works” into the search engine.

The three workshops comprise an integrated course, but each is self-contained. They will be available across the network of Science Learning Centres from Summer 2006. Regional centres will also offer further courses on specific aspects related to GCSE 2006, and the National Science Learning Centre is offering a three-day residential course.

Congratulations to Joanne Smith of Pennine Way Junior School in Derbyshire. She was the 10,000th registrant on our Web Portal www.sciencelearningcentres.org.uk on 22nd March 2006, after attending a course at the Science Learning Centre East Midlands. She won a cheque for £250 for her school to spend on science equipment and a £20 M&S voucher to treat herself!

Hear is the news

Back in March 2001 a British tabloid ran the headline ‘Embryo pioneer says 70% of deaf may hear again’. However, here we are, five years later with no prospect of curing deafness with embryonic cells for another 15 years at the very least.

Matthew Holley asks, ‘Has the research failed and what was behind those headlines?’

‘It is not surprising that I recall this period as one of the most stressful, illuminating and memorable of my academic career. I was the ‘pioneer’ British scientist in this story, and as the full impact of hungry global press machines sank in, I learned a great deal about how the media reacts to scientific stories.

The story about deafness was far from accurate and contained some highly emotive words. No research had been done at that time. The details were taken from a conference organised by a hearing research charity to discuss ethical and scientific issues that may arise in treating hearing loss. They wanted publicity and the press wanted a great story, and the global coverage gave several research groups encouragement. We now have embryonic cells from the human ear and cells have been transplanted into animals. The public may perceive that progress is slow but in research terms it has been surprisingly fast.

In a recent course on Contemporary Science at the National Science Learning Centre I asked a group of teachers to read some newspaper articles and then to interview me to discover the facts behind the story. It showed that press reports provide classrooms with an astonishing wealth of material for teaching science, language, communication, ethics and even the mechanisms of government funding.

The Science Learning Centres can help teachers to identify and engage local scientists who will provide an insight into what lies behind the headlines, thus providing an exciting, topical exercise for contemporary science in the classroom.

Matthew Holley
The national network of Science Learning Centres is a joint initiative by the Department of Education and Skills and the Wellcome Trust.

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‘It has been a wonderful experience. It included far more than I imagined and gave me lots of practical ideas and resources for the classroom. The discussions with colleagues have been invaluable.’

Delegate, Primary Course, November 05

‘I was really worried about being out for 4 days but it has been well worth it.’

Delegate, New & Aspiring Heads of Science Course, November 05

Seriously brilliant. Brain aches, but belief in my own abilities increased immeasurably.

Technicians Course, December 05

The national network of Science Learning Centres is a joint initiative by the Department of Education and Skills and the Wellcome Trust.