

The fifteenth meeting of the Science Education Forum took place on 10th July 2008 at the AstraZeneca Corporate Office in London.

The Forum brings together the business and education communities in England with the policymakers in an attempt to build consensus around key science education policies and practices, and make policy recommendations based on high quality research and the findings of commissioned investigations.

The professional development audit tool

The audit tool is now available on the portal at the National Science Learning Centre. The aim is for it to be used widely by teachers.

Transition to teaching programme

The Forum received a presentation on the Transition to Teaching Programme:

- The programme attempts to create a vehicle for briefing employees interested in teaching and preparing them for what school is like. This provides an opportunity for people in later life to transfer from STEM careers into teaching.
- It is a tailored programme, with structured work placements.
- Those with prior experience can obtain qualified teacher status quite quickly (0-2 years).
- There is currently publicity to generate more employer interest.
- IBM's criteria for entry to the scheme included prior experience in the classroom and a demonstrable interest.
- No one has completed the scheme yet – IBM hope it will attract around 325 people per year for the next 7 years (a stretch target) – they currently have around 50 employees and 1500 other organisations that are supportive of the scheme.
- Nord Anglia has taken on this role of gaining interests from employers. However, companies in the city have been reluctant to enter into the programme as they do not want to associate Transition to Teaching with redundancies.
- Forum members will provide information about the project to local authorities.
- People are often surprised when they learn that there is this other alternative to the PGCE (which is difficult for those with mortgages and children).
- Forum members were supportive of the programme, but concern was expressed over the target being high. This is the target being aimed for, not something that would be achieved at all costs, and that quality was a primary objective. The companies involved are also prioritising quality to protect their reputations.

Scientists in schools evaluation

The Forum received a paper providing details on the interim evaluation for the Scientists in School's project:

- Scientists in Schools is a pilot scheme between AZSTT, AZ and the Brightside Trust – all participants in the pilot scheme are AstraZeneca employees.
- The pilot programme involved 2 days' training, 1 day in a school and feedback on the 4th day.
- Forum members commented that this represented a heavy commitment from both employers and employees.
- The vast majority of the scientists involved are Science Ambassadors.
- Sheffield Hallam University was involved as the trainers and Glasshead have produced some DVD's of the project
- Brightside have placed the material online and offer continuing online support for those in the pilot.
- The feedback received from the pilot included strong enthusiasm, good reactions from the students and positive feedback on the training.
- At the moment there is only an interim study of the pilot – the full report will be available in October.

Student attitudes to science survey

The Forum received a presentation on the updated findings from the student attitudes to science study:

- In the last 3 years the study has surveyed 800 year 9 pupils on their attitudes towards science. The results of the last 2 years are published and this year's results will be available in September (It is expected that they will confirm what has been seen in the previous 2 years).
- The brief summary so far is that children think that science is important but many don't want to become scientists.
- Forum members commented that the results could be interpreted in different ways some of which might create a positive message.
- The results of the survey will be published in science education journals and it is hoped it will promote media interest. It is intended that a press release will coincide with the final results
- There is a need to capitalise on what appears to be a positive story about science.
- The researchers have looked into doing follow up surveys but that practically this is not easy as there was a need to know this at the outset of the survey.
- The suggestion is to look at consistent factors in schools that do make a difference, and work with the Secondary National Strategy and use data from, in particular, the PISA study.
- It was noted that a survey conducted by the Secondary National Strategy raised interesting questions, including some A levels (i.e. physics) being a grade harder than others (i.e. psychology) – the Royal Society report on this can be viewed at:
<http://www.cemcentre.org/RenderPage.asp?LinkID=10011000>.
- The Secondary National Strategy has already been commissioned to go deeper in this area, so any additional work arising from the survey needs to be complementary to this.

14-19 Diploma in science – update

The Forum received a presentation providing an update on the 14 – 19 Diploma in Science

- The Diploma in Science qualification is a serious attempt to relate employment needs to science learning in schools.
- The qualification is skills focused, underpinned by scientific and mathematical knowledge, and the DCSF Ministers hope this will result in an increased take up of science, particularly post 16.
- Student's studying for the Diploma can go on to further study and higher education or towards vocational qualifications.
- It is possible to move across routes – students could add GCSE's, A levels or units from another diploma into it. Students will include in their studies English, Maths, and ICT. It is also possible to move from one level in one diploma to the next level up in another diploma.
- Under the 'extended diploma' students could take 2 A levels as well as the diploma – these could be in science or in languages etc. (i.e. breadth or depth).
- The first group of diplomas are going to be introduced this September. The science diploma will be introduced in September 2011, along with humanities and languages.
- The diploma will offer a different learning experience, with an emphasis on applied learning.
- The steering group currently includes people from Hull, Manchester Met, Oxford and Imperial College and key employers.
- Extensive preparation for teachers will be required.
- It was important to note that GLA (Guided Learning Hours) was not the same as contact time. A new definition of GLH will be published soon.
- There is still a lot to be developed, but this will be helped by the line of learning statements which will be completed by February 2009 and the line of learning criteria which will be developed from them.

Members' updates

IBM have participated in discussion on Transition to Teaching with the Brightside Project.

The Royal Society has just published a report entitled 'Exploring the relationship between socioeconomic status and participation and attainment in science education'. Copies are available by emailing education@royalsociety.org. They are producing their State of the Nation Report for 14-19 year olds in September. SCORE also has a position on the diploma on their website – www.score-education.org.uk.

The National Science Learning Centre reported that they are currently negotiating a contract for continuing the piece of work they were doing for the STEM Programme for another 3 years.

The Secondary National Strategy is publishing work on the future of scientists in schools progressing more pupils to level 6 (KS3) and beyond.

GlaxoSmithKline reported that Project ENTHUSE, supporting the National Science Learning Centre Network had been well received and looks to improve the teaching of science.

The British Association reported that science clubs were progressing, and the STEM directions were coming to fruition. The core work on the CREST awards was progressing and the initial phase of investigations are coming to an end. Most interesting is the UK Scientists and Engineer's Fair, which will be large and is being developed by a wide partnership and project managed by the ECB with help from other institutions. A large event will take place at the QE2 Centre on 4 and 5 March 2009. The National Science competition is a concept that will be launched in September 2008 – it will be a national competition and draw creative young people from many areas. It will showcase this talent, and encourage, nourish and support this activity. It will be difficult to set out the judging criteria as there will be so many areas involved.

The Association for Science Education reported that they were leading on the development of an accreditation scheme. Funding is committed and they are currently doing the practical work of finalising the report and the survey and discussing it with DCSF. In relation to primary education, they have launched a pilot scheme of a quality mark for schools in 14 schools, and another 150 schools are keen to get on board. They are also working with Sheffield Hallam University on upd8 wikid and the Evolve project. Over 100 schools are signed up to, and willing to pay for upd8 wikid.

QCA would keep the Forum updated on the review of the primary curriculum, with the consultation phase to start soon. They are also rolling out an assessment between day to day and 'transitional' learning at the end of a key stage/school year. They have rolled out 'The Guidelines' to primary schools. A programme is in place to map science in all the diploma lines of learning.

SETNET reported that STEMNET has completely re-tendered all of their regional contracts with organisations holding STEMPOINT or ambassador contracts. The documentation is available on their website. They are expanding SEAs (announced in April/May) to 27,000 volunteers. They have a new UK database for stem and enhancement enrichment and for the ambassadors. Finally, after school science and engineering clubs are growing – they aim to have one in every secondary school within 5 years and are appointing someone with a mandate to do this.

The website www.stemforum.org.uk had been re-launched in June.

The Wellcome Trust reported that project Enthuse was launched this week. In the field of primary education, and they are about to invite key writers to write some thoughts ('Perspectives') about hot topics that will be made available on their website. The first one will be on Primary Science and the next one will be on the transition from primary to secondary education. Darwin 200 continues and 'Darwin's Children' is being launched – it is a new Darwin inspired experiment that is to touch all children. They have a contract, via Kew Gardens, with primary schools and are also hoping to reach secondary schools.

The date of the next meeting is 15th January 2009

Membership of the Science Education Forum:

Mrs Jenny Baker, Curriculum and Communications Group, DfES

Mrs Yvonne Baker, Chief Executive of SETNET

Professor Derek Bell, Chief Executive, Association for Science Education

Mr Tony Cuthbert, General Teaching Council

Dr Justine Frain, Vice President, Global Community, GlaxoSmithKline

Diana Garnham, Chief Executive, Science Council

Pauline Hoyle, Programme Director, Science Secondary National Strategy

Mr Richard Hamer, Education Partnership Director, BAE Systems

Mr Bob Hanley, Laboratory Manager, IBM

Professor John Holman, Director of the National Science Learning Centre

Dr Martin Hollins – AZSTT Trustee

Sir Roland Jackson BT, Chief Executive, British Association

Dr Anil Kumar, Director, Education, Policy and Innovation, The Engineering and Technology Board

Professor Hugh Lawlor, Director of the AstraZeneca Science Teaching Trust and ex officio member of the Forum

Clare Matterson, Director, Medicine, Society & History, The Wellcome Trust

Ms Rebecca Edward, Programme Manager Curriculum Partnerships, QCA

Ms Ginny Page, Senior Education Manager, The Royal Society

Mr Pat Hughes, Strategic University Research, BT Group

Dr Mike Rance, Chairman AstraZeneca Science Teaching Trust and Chairman of the Science Education Forum

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