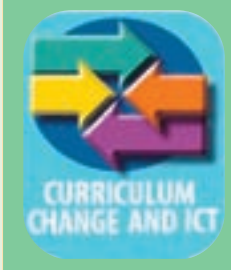

THOUGHTS ON CHANGES TO THE PRIMARY CURRICULUM

***Lynne Bianchi, Rosemary Feasey** and **Penny Thompson** from the Centre for Science Education, Sheffield Hallam University, explore their thinking on the current changes to the primary science curriculum for England in relation to the Rose review*

LB: Here we go again! More changes to the primary curriculum which will impact on primary science. Personally I think that there are three main challenges. First, there is the amalgamation of primary science with design and technology in 'Scientific and Technological Understanding'. The second is the move away from core subjects, which I think some teachers will see as a downgrading of primary science. The final challenge is the move towards a more cross-curricular approach with a stronger emphasis on the core skills and capabilities of literacy, numeracy and ICT, as well as including explicit acknowledgement of various personal skills and capabilities, making up the Essential Skills for Learning and Life. Perhaps we should add a fourth, in addition to the Rose Report: the removal of statutory end-of-key-stage-2 tests.

RF: If you have been in education as long as I have, you realise that 'what goes around comes around'. The cross-curricular approach was once the norm, at the beginning of the National Curriculum, and science and technology were more closely linked. For teachers of my generation, as the saying goes, *'Been there, done that, got the T-shirt ... even made the video!'* Seriously though, there is nothing new really in what has been proposed, but the context is different. Now we have a situation where schools are expected to be more creative with the curriculum, make appropriate links and maintain standards.

LB: It will be interesting to see how teachers manage to link science and technology. There are certainly benefits. For example, it will enable children to understand how innovation is driven by bringing together these two areas. The Rose review offers some suggestions, such as *'to investigate the effectiveness of different forces and how they can use these to move mechanical parts or objects in different ways'*, but I don't think that the report really marries the two subjects together. It is rather like two people standing at the altar and saying *'I do'*, yet walking away as two single beings linked only in name. Maybe, as in marriage, the true meaning of this joining will only become apparent over time, as teachers make sense of the opportunities.

PT: I am hoping that increased cross-curricular links will have the effect of providing additional time for primary science. The Rose review offers a green light to encouraging teacher creativity, flexibility and ownership. Some schools are already making science the

centre of many of their topics and finding that this provides excellent contexts for technology, maths, English and other curriculum areas such as history, geography and even drama and PSHE. In fact, a group of schools involved in AstraZeneca's Smarter Schools project have found this approach really liberating and exciting.

RF: For the first time in many years there are teachers who are feeling really energised by this freedom and it seems to remind them of why they came into teaching in the first place – to offer creative approaches to teaching and learning. Teachers are saying that they are enjoying planning exciting lessons based on stories, problem solving and children's own questions. In fact they say that they find it much easier to use and develop other aspects of the curriculum through science.

PT: That includes the Essential Skills for Learning and Life, which are a focus of the Rose report. There is an expectation that more emphasis will be placed on learning and thinking skills, personal and emotional skills and social skills.

LB: It is nice to think that we have maybe been ahead of our time for a number of years in our work on personal capabilities with our Smart Science publication. Many teachers may be concerned about how to make these links and these materials can provide support and a series of activities that illustrate how such skills can be developed through science. I also think that it will be really important for schools to take the lead in creating their own unique learning environment, but I do think that one of the most important things will be that they do so in partnership with other people or schools.

PT: The Smarter Schools cluster of schools has used coaching techniques to reflect on and improve the learning and teaching of scientific enquiry. Teachers involved in this process are adamant that their relationships with their colleagues have deepened and that they are much more able to manage working with children's ideas and questions in science. I am convinced that these changes in the curriculum will really only work if schools develop their own professional development programme to lead their staff into and through change. Some of this will be in-house, with teachers discussing and planning in science, but many schools will want to make use of other sources of support, ranging from their local authority, independent consultants and the network of Science Learning Centres.

LB: There is one more change we have not mentioned, and that is the abolition of the science SATs. It has drawn mixed reactions from teachers; some have applauded the move, but it has left others concerned for the future of primary science. Perhaps what many teachers have failed to appreciate is the introduction of APP [Assessing Pupils' Progress], which includes assessing science. For many schools this will help to ensure that science remains a focal point in the curriculum.

RF: I go back to my first comment about 'what goes around comes around'. We really must put these changes into perspective. Governments and their initiatives come and go, but we must remember that we are not obliged to jump every time someone in government decides it is time for a change. A more appropriate response is to consider the appropriateness of those changes to primary science and quality teaching and learning. It may take us some time to think changes through and try out ideas, but that is good professional practice. That is our job in primary science – to build a future that is based on the needs of the children first and incorporating the national curriculum statutory requirements, the views of teachers, and school communities and localities.

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Websites
Smarter Schools project: **www.personalcapabilities.co.uk/smarterschools**
Smart Science: **www.smart-science.co.uk**
Science Learning Centres: **www.sciencelearningcentres.org.uk**