



Key Stage 2 Testing and Accountability Review – Call for Evidence

SCORE response to Lord Bew's Review

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About SCORE

SCORE is a partnership of six organisations, which aims to improve science education in UK schools and colleges by supporting the development and implementation of effective education policy. The partnership is currently chaired by Professor Graham Hutchings FRS and comprises the Association for Science Education, Institute of Physics, Royal Society, Royal Society of Chemistry, Science Council and Society of Biology.

SCORE welcomes the opportunity to respond to Lord Bew's call for evidence on testing and accountability at Key Stage 2.

SCORE partners' response covers:

- The importance of testing and assessment for science
- The impact of testing and assessment on science teaching and learning
- The relationship between testing and accountability.

In summary, SCORE partners feel that high stakes testing of science at key stage 2, in the form of Sats, had a detrimental impact on teaching and learning. Our experience of league tables based on exam results has shown that they have corrupted what is taught and examined in schools. Tests and exams have been given two purposes (to hold the school to account and to accredit its pupils) and have become 'high stakes'. However, these two purposes are incompatible because schools have been forced to make decisions based on the school's performance metrics rather than on the pupils' education and qualifications. These decisions are about what is taught, when it is taught, how it is taught and what exams students are allowed to attempt. National sampling should be used to provide accountability of the education system, and other accountability mechanisms, such as Ofsted and teacher assessment can provide school and/or teacher-level accountability.

The impact of testing and accountability

1. The primary science curriculum should engender enthusiasm for the sciences and excite interest in finding out about the natural world. It should provide children with authentic experiences of the natural and physical world and opportunities to satisfy their natural curiosity through hands-on enquiry. It should provide children opportunities to articulate and discuss their views of the natural and physical world and allow flexibility where serendipity and local contexts can be used to build on children's own ideas and experiences.
2. Testing and accountability clearly have unintended impacts on the teaching and learning of all subjects in the curriculum. However, we feel that the system of Key Stage 2 Sats in science had a particularly detrimental impact on pupil's experience of, and outcomes from, the primary science curriculum.
3. Although the system claimed to be reliable, valid and having a positive impact on standards, we found little evidence to support these claims. Indeed, there was in fact plenty to suggest that it reduced pupil motivation and enjoyment in science, greatly undervalued the professional judgement of science teachers, involved significant costs and acted as a barrier to innovation.

4. Despite a significant amount of independent research, assessment has remained essentially an afterthought in the history of curriculum reform. Testing, assessment and accountability should be considered alongside curriculum reform.

The testing system

5. There are some advantages to a centrally-run system of external testing, as it enables a single, national agency to monitor and regulate tests and assessment. That agency can take the responsibility of ensuring that the system is consistent year-on-year and across all schools and colleges, coherent throughout all qualifications, and communicated with clarity to schools, parents, Ministers and other stakeholders. The outputs of such a system can also encourage improvement in underachieving schools, and recognise high-performing schools.
6. However, we found that the system of Key Stage 2 Sats in science in England failed to capitalise on these advantages but also that the advantages were outweighed by disadvantages when considering science teaching and learning.
7. The resource-intensive assessment system adopted in England yielded very little information of value in relation to improving achievement and explaining differences, for example on the basis of gender or socioeconomic status.

The relationship between testing and accountability

8. SCORE is also concerned that there must be clarity regarding accountability at all levels regarding science at Key Stage 2. If there are several accountability mechanisms, each with a different audience, the relationships between them needs to be clear. For example:
 - a. **National sampling** – this provides system level accountability and should be used by DfE
 - b. **Teacher assessment** – assessment of the pupil undertaken by teachers provides details of pupil's progress for pupils, parents and carers, and school governors
 - c. **Ofsted** – provides school-level accountability, for the DfE, local authority and Governors
9. SCORE supported the move to sampling a statistically significant proportion of the cohort, allied with a national requirement for teacher assessment.