



CAMBRIDGE ASSESSMENT

Missing the point: identifying a well-grounded common core

Comment on trends in the development of the National Curriculum

Tim Oates

Group Director Assessment Research and Development

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Cambridge Assessment has been looking in some detail at the revisions to the National Curriculum, and to Science in particular. It might be assumed that, as an assessment body, we should only be concerned with tests and qualifications. But these qualifications have to have content, and for GCSEs and related qualifications, this content is prescribed by the National Curriculum. We have a prima facie interest in validity - to assess what is intended to be assessed - and have enduring concern with the value of what is being assessed. There have been successive revisions to the form and content of the National Curriculum since its introduction two decades ago, and we are very concerned about the current direction of revision policy.

After the first version of the National Curriculum was unveiled, Margaret Thatcher stated '....I never meant it to be this big....'. The system agreed, and Dearing's first revision, in 1995, resulted in significant slimming, a trend which has continued in all subsequent versions. But it is important to reflect on why this overblown curriculum came about. With the Education Reform Act, the National Curriculum essentially became the key game in town. If a subject topic was in, then it carried great status, through force of law. If it was out, it was marginalized. So the lobbying started, as different groups fought to establish their own priorities in each subject. And there was a huge fight over some areas of content, such as earth sciences - which wound up in science rather than geography. All this resulted in two things: an overloaded, overbearing curriculum, and a need to reconcile competing interests. In the successive revisions of the National Curriculum, there appears to have been a strong emphasis on keeping interest groups happy rather than developing well-theorised content. This is a tendency which is an enduring feature of the English education system, according to Professor Andy Green, in his seminal 'Education and State Formation'. Why should underlying theory matter? Why not just go for a curriculum based on social consensus? Bill Schmidt's work, using international survey data to compare different national systems, develops a compelling argument for ensuring that a national curriculum gets the right concepts in the right order - you teach things to children when they are ready to grasp them, and ensure the right sequence of conceptual progression.

You also need to avoid an overcrowded curriculum, or teachers will be pressured into moving on too quickly, just to cover the content. But in looking at the Science curriculum in England, we think that a number of things have happened. Content has been reduced - that's a good thing. But the wrong considerations may have been used to drive this reduction. Rather than investigating key concepts and conceptual progression, ensuring that these make up a clear but economic statement of content, there has been an emphasis on a 'motivating' National Curriculum, and one which includes an emphasis on contemporary social issues. Rather than listing key concepts and processes such as 'conservation of mass' and 'photosynthesis' in the statutory content, the curriculum tends to focus on generalized statements of scientific activity and application. A very real risk is that these are open to considerable variation in interpretation - this may have reduced apparent bulk of the National Curriculum but the approach severely threatens the notion of a clear but succinct statement of a common core of learning.

The focus on a 'contemporary and motivating' National Curriculum is actually very odd. Of course the structure of knowledge changes in specific subjects, and over time we become increasingly adept at explaining difficult concepts to young children. But the National Curriculum itself doesn't need to be motivating - in fact some of it is going to be perceived by children as difficult and demanding - such as 'conservation of mass' - something which the majority of children find hard. It is for teachers to construct motivating learning programmes which enable specific children - each with different needs and interests - to grasp these. The National Curriculum in Science should be neither motivating nor de-motivating. It should be a highly accurate map of key concepts, ordered in the correct sequence - indeed it should resemble a list more than it should resemble a manifesto for a particular view of Science. This focus on a 'motivating' curriculum appears to have led to content which both aims to generate a consensus between different interest groups and confuses context and content. The statutory content strongly emphasises

contexts and not content. It has been slimmed, but the slimming has replaced clear statements of conceptual content with statements of scientific context.

It is important to grasp the functions played by different 'layers' in the system. The National Curriculum can be a succinct listing of key concepts, correctly sequenced, while qualifications such as GCSE can provide contextualised specification of content designed to support specific learning programmes. These support teachers' development of a motivating curriculum for their specific learners. A comparison of high performing systems shows that the most effective curricula are sparsely stated, focused on key concepts and this provides freedoms to schools to design teaching around these concepts. But we do have this with the current National Curriculum in England – it is just too vague.

Currently, the weakness of the conceptual content in the National Curriculum allows highly variable interpretation of scientific concepts - something which was at the heart of the original intention of the National Curriculum - a key reason for having one at all, in fact.

The QCDA has publicly acknowledged that the type of flexibility associated with the current curriculum could widen the gap in performance between schools, and thus further exacerbate the problems underperforming groups of learners; an issue highlighted by the Schools and Skills Select Committee in its scrutiny of revisions to the curriculum.

We have looked at Science, and not at other subjects. In English, the freedoms included in the later versions of the National Curriculum may have improved the National Curriculum rather than compromised it. There is a strong argument for being far more sensitive to the differences in the structure of knowledge in different subjects – we should review whether it is valid to use a common framework of levels and statements for all subjects.

But the drift in Science seems to run counter to the direction suggested by the international comparative work of Schmidt and others. We are working through a detailed review of the national curricula of ten countries, to establish with precision whether we are converging on those systems which are performing well, or moving away from them. A clearly stated curriculum, a listing of minimum content, well-grounded in conceptual progression, seems to be the thing.

Tim Oates

Cambridge

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