

## Technology Teachers and the New Revisions of the Technology Curriculum: Responses of DATA Members

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After the publication of the Revised Draft Orders for National Curriculum Technology in November 1993, DATA members were invited to send their comments to Wellesbourne. A very large number did so despite the widespread feelings of exhaustion, *déjà-vu* and the general frustration of technology teachers up and down the country after years of change and uncertainty. This article attempts to pick out some of the recurring themes — not an easy task in view of the ‘individual creativity’ that characterises DATA members and which leads to a degree of diversity greater than in most subject areas despite the National Curriculum Orders of whatever revision.

Overall there was a remarkable degree of support — or at least willingness to co-operate with the proposed new Orders and a feeling that they would be more manageable than previous revisions. However, some loss was recognised, as one member commented:

I’m sorry we’ve lost ‘fit for their intended purpose’ from the definition, since there is a danger we will now lose AT1 ‘Identifying needs and opportunities’ which was subsumed under the new AT1 ‘Designing’.

The new definition of the subject was generally seen as allowing a rather more creative approach — ‘welcome’, ‘less prescriptive’, ‘increased flexibility’. The Key Stage 3 requirement to ‘investigate more complex products and applications’ was also welcome and seen as leading to a more demanding approach.

The balance between the two Attainment Targets was also seen to be acceptable, Designing 40%; Making 60% though many members preferred 50/50. However, as one member put it:

Judgement has to be reserved about the PoS until we have seen them in detail. We have some reservations about the complexity of linking Designing and Making PoS with Key Stages 1 and 2 PoS for Primary teachers. Has the notion of ‘capability’ been lost in the drive to ‘slim down’ the technology curriculum?

There was similar hesitation about the new emphasis on investigating, disassembling and evaluating. One comment argued:

The new activity of ‘investigating, disassembling and evaluating’ needs explaining more fully to be able to make

sensible comments. Does it include ‘fault-finding’? Most young people enjoy the making aspects of Technology but a bald consideration of the design of a ‘Kenwood food mixer’ might leave many pupils and teachers cold. If evaluating includes a thorough analysis of the values implied in the product and ‘winner and losers’ that might be useful.

Several members found difficulty in the definition of compliant materials:

We will need a definition of ‘compliant’ materials in SCAA-speak. We know it’s not ‘food’ (food is already mentioned as a separate area). Textiles were mentioned in an earlier key stage as ‘Textiles’. Could it mean that in this area, Textiles and Plasticine are the favoured materials in our quest for quality products?

A particular problem was the effect of the new elements on the balance between AT1 and AT2 — in which would they be counted? As one member considered it:

The weighting is crucial of course — a lot depends upon where the assessment of ‘products and applications’ and ‘investigating, disassembling and evaluating products’ is to lie — if this falls predominantly in one AT then it should attract the greater weighting. It seems likely that if it is unbalanced it will be in ‘Making’ AT2 — if only because that has the evaluation strand in the 1992 proposal. But this may be problematic. The document suggests that there will only be two programmes of study for the key stage:

- one is designing and making, a slimmed down version of the ‘core’ PoS from the 1992 document
- the other covers a reduced collection from the 1992 ‘supporting PoS’.

If pupils are to evaluate applications (a very laudable aim) then they will need to clarify the design problem and ‘clarification/specification’ that lies in the 1992 AT1 ‘Designing’. The solution must be to recognise that such critical reflection represents an area of technological capability in itself (i.e. they involve pupils working through AT 1 — 2 without making anything concrete). ‘Products and Applications’ should thus be included in the Designing and Making (Core) PoS.

Not surprisingly perhaps, in view of its much debated place in the technology curriculum, many of the responses focused on food. There was general satisfaction, in particular, that food was back in Key Stage 1 but some disappointment that it was not an obligation in Key stage 4 or even Key Stage 2 and a realisation that in both primary and secondary schools the reincorporation of food resources would help to increase the general resource base available to technology. As one member put it:

If only resistant and compliant materials are available, and 10% curriculum time is still devoted to Design and Technology, many schools will be unable to staff Design and Technology. If they are denied access to work areas used for non-resistant materials, they will be short of work areas. This might lead to a reduction in time available to Design and Technology and therefore give it lower status than other subjects and make the achievement of higher attainment levels more difficult.

The provision of food is a necessity for this reason, let alone providing balance and continuity from Key Stages 1, 2, 3, 4, to GNVQ.

Making food study optional at Key Stage 3 means either pupils will make choices at 7 years (or older) or schools will make decisions on their behalf. Surely it is important to have pupils' study/career options open as long as possible — at least until end of Key stage 3. Why is it Science must now be taught to all until the end of Key Stage 4 to ensure career/study options are not lost, whereas the reverse is being suggested for Design and Technology? Food should not be optional at Key Stage 3.

However, there was still ambivalence about the role of food:

The food issue is still unclear. It is there again as a 'material' rather than 'Food Technology' (or so it seems). This nettle really needs to be grasped, and the important place of food formalised. This may not be as part of technology; statutory 'Life Skills' or PSE courses might be better.

And at least one member felt that the Home Economics teachers might need to do better:

It is clear that pupils could choose to do work with food. Clearly the responsibility

will be on HE teachers to provide realistic teaching inputs and assignments which will attract pupils to this aspect of Technology. Providing pupils are offered stimulating teaching and learning situations in the food area, progression can take place. Frankly, in the last three years, the Home Economics work in Technology has not provided such situations.

The same member goes on to comment:

The change in attitude to true technological activity appears to be a function of staff commitment to equal opportunities, both men and women in the teaching team, plus appropriate non-stereotyped project work.

Vocational specialisms were also seen as important, although the surprising lack of well focused vocational work in the Orders did not pass unnoticed.

The differences between industrial production processes and the type of work possible in school workshops are sometimes considerable. Pupils thrive on practical, experiential activities and industrial visits will become increasingly necessary in order to explain industrial processes in an accessible way. 'Low tech' school-based simulations of, for example, injection moulding processes, offer a very different perspective to a first-hand experience of factory production. There are, therefore, access and resourcing implications in meeting the requirement to 'investigate more complex products'.

Some respondents feel that, if vocational aspects were emphasised more strongly then the designing and making activities might be diminished. Did they foresee Sir Ron's next move? Food was seen to be relevant here:

There is no doubt that food should be taught in schools as it does provide useful routes into employment. In fact, some examination boards have planned short courses in Catering at GCSE level (SEG). The issue here is that work on offer at KS3 and KS4 must be more Food Science rather than Home Economics.

Certainly members saw few links with National Curriculum Technology and GNVQs; a point Professor Smithers has recently underlined before the TV cameras. But the increased relevance of food in vocationally linked activities scarcely compensated for the

virtual disappearance of Business Studies in the new revision — an issue on which surprisingly few members commented. But the dearth of electronics still troubles members:

The programme of study covering a range of activities does not include 'electronics'. In fact, electronics can be an essential element of control and is very often an integral element of the products we use. As the thrust of the recommendations is towards designing and making products, electronics will need to be taught.

There was however, a widespread agreement that it was right to uncouple Information Technology and link it equally with all subjects in the curriculum — perhaps to enhance their vocational relevance. Yet this was seen to give rise to problems:

...if IT is separated from Design and Technology will Technology now be called 'Design and Technology' as opposed to its previous title which implied the inclusion of IT? And which subject, (IT or D&T) will get control of 'control'?

However, there was considerable concern about the new 'short courses' for KS4. One member comments:

I am suspicious about the 'sanitised' new-style independent (?) short course with less emphasis on making. This seems to be an 'intellectualised' Science, Technology and Society type course for the academic child. What is the curricular justification for this as a compulsory subject?

Whilst another asks:

What will be the status of the 'new-style independent short course, with less emphasis on making'? Will it be possible for this to be the only D&T course in the KS? Will it be possible for it to be additional to other D&T courses? Is there a danger that this will become the resting place for the consideration of values and that such consideration will be lost from elsewhere?

## Summary

DATA members' response to Sir Ron Dearing, put simply, seems to amount to two cheers. Progress has been made but there remain fundamental doubts and uncertainties. Whilst no Order can never be perfect we seem to be moving in more or less the right direction. But beyond this accord there is the uneasy feeling that HM Government's drive for more vocationally oriented and more basic education may yet lead us into other, different and even less predictable directions than heretofore! Even since members wrote their responses we have experienced another Smithers led diminution of Technology at KS4. Watch this space very carefully!