Options for 1993

Geoff Howard

Senior General I/A (D & T)
N. Yorkshire

National Curriculum Technology for pupils up to Key Stage 3 was introduced to all schools in 1990. It was known then if not before that from September 1993, all pupils will begin courses leading to accreditation of Te1 and Te5. Why then do we all seem so surprised? SEAC's GCSE criteria have been available for some time now and the consequent GCSE syllabuses (or is it syllabi?) have now been produced — at least in draft form.

But still we seem surprised. It is true that the Orders for Technology are being revised but SEAC say they have taken this into account in their criteria. (?) An intriguing piece of clairvoyance perhaps but, in any case, the revision does not apply to KS4 until 1995. Perhaps we are not surprised after all, but reluctant. Perhaps it is only now that we are face to face with the staffing and organisational consequences that the full impact of declaring Technology a compulsory foundation subject is fully understood.

Establishing Technology in its present position is not simply a matter of renaming the Creative/Aesthetic option block — like publishers who put new covers on old books. I recall the look of nervousness (if not terror!) on the face of one headteacher when it first dawned upon him that he may have to reconsider his school's entire option block structure. Of course he will; not just because of technology but because challenging the status quo and perhaps changing priorities is what the National Curriculum ought to be about.

There have been some valiant attempts at a rearguard action: eight day timetables, talk of circuses (again!) increased group sizes (to potentially dangerous levels in some cases) and 'I'll face the consequences in court' to name but a few. There have been other suggestions, and I'm glad to say these form a majority of how to manage this change for the good of the children.

Some of these positive suggestions too rely on timetable mechanics: nine period days to create two free option blocks (nice one if you can do it?), fortnightly timetables and every possibility of the number of periods in a week imaginable. I am told of one school that operates in fifteen minute units of time — I am not sure whether it is genius or madness and I hope I never find out!

I shall ignore all these clever devices to that new breed of Super Deputies, who speak in a tongue which most of us have yet to comprehend (it seems they acquire this on some kind of Mediterranean holiday), and concentrate instead on the courses which might occupy a Technology option block. Yes, I've declared my hand. I think there should be a Technology option block.

SEAC produced refreshingly clear criteria for Full (thick? long?) GCSE courses and Short (thin? Half?) courses. Reading across the criteria, the core of Design and Technology is delineated as comprising Te1 to Te4 as expressed via construction materials and components. True, there is some ambivalence regarding ceramics but the spirit of the criteria is obvious enough — he that hath ears to hear...?

In response the GCSE examination boards, and some newcomers to this form of accreditation, have produced their draft syllabuses. Most are offering:

1. full GCSE course Technology covering Te1 to Te5;

2. full GCSE course Design and Technology covering Te1 to Te4;

3. full GCSE course Information Systems covering Te5 only plus other elements;

4. short course Design and Technology covering Te1 to Te4 and leading to accreditation of National Curriculum levels;

5. short course Information Technology covering Te5 only and leading to accreditation of National Curriculum levels.

It is clear from the requirement that pupils have to be accredited in all Technology Attainment Targets, that many will have to find a way of covering Te5 in addition to their Design and Technology option choice. Information systems could be a forced combination, effectively to create dual certification for Technology, but it will be a clever timetable mechanic indeed who can engineer that! A more likely scenario is that Information Systems will reside in a free option block and most schools will use a short course in Information Technology which can be mapped across the curriculum with little or no timetabling consequence. That is, after all, how IT should be covered isn't it?

Having dealt with IT(?); the next issue concerns the choice between full and short

courses. Since the SEAC criteria require the use of construction materials in both instances and it is the existence of sufficient workshop trained staff which is the issue for most schools, I will concentrate on full GCSE courses. Why settle for less? It will be interesting to hear the argument of those advocating to a parent that their child should do otherwise.

No doubt, in the fullness of time, several imaginative combinations involving short course Design and Technology and others will be announced including the mixing of National Curriculum and pre-vocational accreditation. But that is for the future. Nor will I attempt now to answer those who contemplate short course Design and Technology for the brightest to make way for 'more important subjects'. In general, I view this as cynical but only time will tell if we can build a subject which is up to the task of challenging the deep seat ed prejudices often underpinning such an approach — the past two years have not helped! For now, I will stick with a Technology option block containing courses which each lead to full GCSE in either Technology or Design and Technology.

The Technology option block must comprise meaningful opportunities for children which lead somewhere; must provide a range of courses sufficient to attract all pupils; must build on existing expertise and resources and must be manageable. A tall order but there are several factors in our favour: the 60% coursework possibility, the existence of a personal portfolio worth 20% in several syllabuses, the choices of the second material in all Design and Technology full GCSE courses. These factors enable the same GCSE syllabus to be emphasised differently.

Schools may label their option block courses as they wish even though they all terminate in the award of a GCSE in Technology or Design and Technology. In this way I suggest that there are at least seven quite different GCSE courses which could occupy the Technology option block. For each option I have indicated the AT coverage, relationships to existing GCSE courses, the likely pupil outcomes and possible staffing configurations drawn from existing subject departments. I leave the devising of appropriate names for these courses to others.

1. Technology (D&T core plus IT) covering Te1 to Te5, probably for those candidates who have a particular interest in 'capital 'T' Technology' eg. control, electronics and systems. Could be staffed by CDT or CDT in co-operation with IT or science.

2. Design and Technology: Food 1 (D&T core plus food) covering Te1 to Te4 and staffed jointly by CDT and HE with construction aspects and those surrounding table settings or food outlets etc. emphasised perhaps eg. new ways of packaging food, food materials as packaging materials, tools and dies for processing food products, games children play while waiting to be served.

3. Design and Technology: Food 2 (FTT plus D&T core) same coverage and staffing as 2 but with an emphasis on food aspects. Construction materials used only to support this main focus eg promotional bits and pieces, menu choosers, diet calculators.

4. Design and Technology: Textiles 1 (D&T or plus textiles) coverage as 2 staffed by CDT plus either He and/or A&D staff, textiles as an extra construction material emphasised eg. display structures, use of textiles fastenings, furniture, containers, devices for carrying musical instruments on push bikes.

5. Design and Technology: Textiles 2 (FTT plus D&T core) coverage and staffing as 4 but textiles emphasised with construction materials subservient eg. fashion accessories.

6. Design and Technology: Graphics Media (a CDT: D&R clone?) coverage as 5 but staffed only by CDT. Graphics used only to support designing and making in construction materials.

7. Design and Technology: Graphics Media (CDT: D&C with a greater emphasis on making and modelling) AT coverage as 5, staffed by CDT plus A&D.

In practice, most of the courses on offer are likely to be staffed jointly by CDT and HE. It will be important to establish that this should be on the basis of true partnership, jointly planning and delivering a coherent course and not simply 'a double a week CDT and a double a week HE'. Over time true Design and Technology courses will evolve if nurtured.

Some schools have floated such option lists with their current Y9 and asked them to make provision choices to test the system. To everyone's relief and delight, those schools which start off with average staffing for CDT and HE (and some have resisted this for years

What is available at Key Stage 4

DATA are holding two Key Stage 4 seminars on the 16th and 23rd March 1993. These will be in the South and North of England, and will be for all DATA members; teachers, advisers, ITTs and associate members. The aim of the seminars is to provide:

- an input from SEAC explaining the criteria and setting the framework for Key Stage 4 discussions.
- an LEA Technology Inspectors' perspective on managing the implementation of Key Stage 4, giving consideration to: staff expertise, timetables and resources.
- focused discussion groups on issues raised in he input sessions.
- parallel seminars by all the examining boards who are offering syllabuses at Key Stage 4 to explain the opportunities they are offering.

For information and booking forms contact Jane Howden at DATA.

of course) find not only that they can manage such an option set but that the workload on their current CDT and HE department remains largely unchanged.

So what constitutes average staffing? Figures for notional staffing and minimum staffing for workshop trained staff can be calculated provided that certain assumptions are agreed:

1. 2 staff per form of entry is nice if achievable but we cannot do with less than one per 20 pupils to avoid safety problems.

2. At Key Stage 3, 5% timetable time each for CDT and HE for all pupils is a reasonable target.

3. At Key Stage 4 all pupils will make a choice from a Technology option block comprising a range of courses each of which, either singly or as a combination with something else, will require 10% timetable time.

4. All Technology courses will require a contribution from workshop trained staff. Less than a 50% contribution may be tokenism and could make it difficult to cover adequately the Programme of Study. As an absolute minimum, it is difficult to see how the contribution can be less than 25% for any Technology course.

5. Staff are entitled to some non-contact time (?!) say between 10% and 15%.

It turns out that you do the sums,.

A typical six form entry school has a notional requirement of around 8 Design and Technology staff and will have difficulty if they have less than 5. In each case half of the total will need to be workshop trained.

For as long as I remember, six form entry schools have been advised that they should have three workshops and usually an equivalent number of FTT rooms ie. potentially 6 Design and Technology staff before we start to count in any other contributors.

So where is the problem? Well, of course, being given advice is one thing: being able to act on it is something else. For some, budgets have been constrained since the advent of LMS and there have also been some unfortunate responses to the 'famous five' nonesense when requests for early retirement were made. As a consequence there exists some so called Design and Technology faculties without much in the way of relevant staff expertise in the core activities of Design and Technology.

So what to do? For a small minority of schools there may not be a ready answer but for most the figures I have presented will hold good even if it means a little 'tweaking' in the interim — the assumptions made can at least help to focus the issues and priorities. For some schools a solution may lie in considering just what is meant by 'workshop trained' a phrase you will not I have used repeatedly.

I know of one teacher who has successfully (and enthusiastically) completed so many workshop based LEA in-service courses that she must by now have logged in as many hours as a PGCE student for example. At what point do we consider her fully workshop trained? Are there degrees of being workshop trained eg. Key Stage and/or materials/equipment related?

I believe there exists a set of competences for PGCE students. Am I dreaming to suggest that, even in the era of market forces, schools, LEA and colleges might co-operate to devise a credit accumulation system linked to these competences? I think that several schools, with their newly delegated GEST funding would be very interested indeed in such development.

So it is possible. There are sufficient options open to us to provide meaningful Technology courses for all pupils. It is a pity therefore that the revised Order seems to have responded to the reluctant. This otherwise excellent and much needed revision appears marred by its Key Stage 4 proposals for Full and Short courses. The proposal to allow virtually single material working in these courses tends towards preserving the separate subjects of the past rather than seizing the opportunity to delineate Design and Technology on a logical basis and work towards establishing it in the future.

Perhaps it is I who should not be surprised. The working group must have exercised the judgement of Solomon to appease the various vested interest groups and get as close as they have to a good solution. But options? Personally, I prefer SEAC's criteria for Key Stage 4, especially since construction materials can, and should, include textiles in any future version.