

Review of the NC Order

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responds to John
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It is interesting that two people can look at the same words and read something different.

I am reminded of a 1970s Humanities textbook that had a photograph of a street scene in which a policeman was waving a truncheon in the face of a coloured youngster. We were invited to say what we saw in the photograph. Some saw police harassment and institutionalised aggression — others saw the maintenance of order in the face of antisocial thugs. It was a cleverly designed textbook — bringing home the limitations in the old adage ‘seeing is believing. What the book made crystal clear is that the cool rationalist philosophy implied in the saying very seldom applies in real life. Indeed the reverse — ‘believing is seeing’ — may be closer to the truth as our beliefs and values condition the way we see the world.

I suspect that the points of dispute between John and myself are only to be explained through this phenomenon. We would appear to hold different values about Technology in the curriculum, and this conditions the way we read the text of the proposed revision. Let me not be drawn, however, into an excess of condemnation — for there are many things in the proposals which I have publicly welcomed and which can be seen as a significant improvement on the original 1989 Order. The presentation is better, the words are clearer, and structure built around two ATs instead of four is not in itself a problem and could be an advantage, and the retention of active capability is especially to be welcomed. John is wrong when he says I oppose any change to the 1989 Order; he should perhaps re-read Section 16 of the APU report.

But all this still leaves me with the problems I outlined in January, and the issue is at its clearest in the PoS, which lay down in stark detail what Will Be Taught. The level of prescription is breathtaking, with detailed lists of things to be taught at every level, along with the corollary that these things should not be taught at prior levels.

So here is the first conflict of values. I do not believe that this model of progression reflects children’s patterns of learning. To take a specific example, understanding that ‘the size and shape of the human body is an important consideration in designing’ is not something that should be reserved for level 5 pupils. It is central to designing at all levels. My six year

old son deals with the concept at a six year old level, and my nine year old son deals with it at a more sophisticated level (I don’t have any daughters). In GCSE and subsequently at A level work, the concept is even more refined and the undergraduate designers here at college take it yet a stage further. There is a desperate arbitrariness about it appearing suddenly in a long list of things to be taught at a particular level only to disappear again at all subsequent levels.

I suspect that the authors know this to be true. Why else would they deal as they have with evaluation in AT2. The very same statement; ‘evaluate work against original intentions’ occurs at five different levels, and when challenged on this matter they point out — quite rightly — that the statement means something different at each level as both the pupils’ intentions and their understanding of evaluation become increasingly sophisticated. That is exactly my point, and if this rule can apply to evaluation — why not to drawing, and to the use of materials, and to understandings about the user? The reality of learning is that it is not something that you *have* or *don’t have*, it is something that progressively unfolds, extends and deepens.

But we have not finished yet with the pre-specification of what children (and teachers) will do and won’t do. Not only are the PoS now to be tightly defined, they are also to be pre-packed into mandatory DMTs, the number of which is specified and the content of which is specified. It is as though the authors had completely lost faith in the ability of teachers to act as intelligent professionals able to make such choices for themselves. Perhaps this is easier to understand when we remember that we have all been subjected to torrents of this centralist thinking for the last decade. It is one of the enduring contradictions of the Thatcher era that a government supposedly committed to choice and freedom in the market place should construct such a rigidly centralised and nationalised curriculum.

So here is my second conflict of values. As John quite rightly says, the space (room for manoeuvre) that was written into the 1989 Order has led to a variety of interpretations among LEAs and schools. He then goes on to describe this as ‘an appalling weakness’. It could only be seen as such by those who think they have all the right answers. I fear John is forgetting his history. The development of

CDT through the 1960s, 70s and 80s is one of the more heartlifting stories in the history of British Education. But it could never have come about in this climate of centralised curriculum control. It came about precisely because teachers were encouraged to think and behave as autonomous professionals, developing innovative and sometimes individual approaches.

In 1985 I was asked to write the Orange Book — the GCSE guide for teachers. I undertook the task, conscious even then of the steps we were taking down the road of standardising the curriculum. I insisted then on a conclusion that went as follows;

The National Criteria for CDT — and the syllabuses that will emerge from them — represent a crucial and timely consolidation of current thinking in CDT. However, if the steady growth and development of CDT over the last twenty years has taught us anything at all, it is that to advance our thinking we must rely on the innovation and creative endeavour of teachers in the classroom... Without this possibility of innovation CDT will wither and our common aim should be to look back in twenty years time and note how far we have progressed from the National Criteria.

I still hold the same view — only now it is about the National Curriculum. A curriculum framework can be helpful and supportive and a National Curriculum that provided such a framework would be very welcome. But we have constantly to be aware of the fine line that distinguishes between a supportive framework and a constricting straightjacket. If it was genuinely the desire of the authors to eliminate any variety in interpretations of technology then I fear they have crossed the line.

Finally it is clearly necessary to unpick a little the extent to which the new proposals rely upon the use of *implicit* requirements. As the reader will by now have gathered I am, in principle, very much in favour of implicit rather than explicit demands. However, my immediate concern here is to note what is chosen to be implicit and what is chosen to be explicit, because again it provides a clear indication of the priorities underlying the review. My conclusion must be that the human (user) end of the designing activity has been left largely implicit while the outcome (product) end has not. We are told very

explicitly that we have to teach levers, gears, shell structures and electrical circuits (all at Level 4) — and yet, to take another example, how many explicit statements do you suppose relate to *information gathering*, a critical capability in technology? When are pupils to be taught the disciplines of finding out about the task, for example, by discussion with clients or through designing and administering questionnaires and critically evaluating the resulting data; and when will they be taught to do database searches or use reference books to gather the information they might need to develop an appropriate solution? The only explicit statements are at Level 8 ‘to obtain and analyse worthwhile and valid information...’ and Level 10 which refers to ‘research skills’. Other than this it remains entirely implicit. This implicitness, set against the bald explicitness of the technical end of technology demonstrates clearly the values underpinning the review. We all know the pressures — ministerial, Engineering Council et al. — that the review group were trying to appease, but they should not expect everyone to sit quietly on their hands while important elements of capability disappear.

If the cause of the review lay in a concern for raising the quality of children’s work in technology, the authors might reflect upon the experience of Rank Xerox. In a recent radio programme on ‘quality’ in British industry one of their directors recalled, ‘we were good at producing copiers — we knew all the technologies and used them in our new machines. We found it difficult to understand why our market share was dropping like a stone’. They realised before it was too late that the most critical ingredient in the design of new machines was missing — the priorities of the user. They utterly transformed their systems and made the satisfaction of the user — rather than the display of new technologies — the corner-stone of their design policy. They not only won the European quality award, they are also on the way to regaining their market share.