

## What are we trying to do to our children? What are we doing to our Children?

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We seldom ask these two questions. As a consequence we have, over the last five years, accepted with hardly a whimper a National Curriculum and scheme of assessment which has become progressively more narrow, prescriptive and a threat to autonomous thinkers. The two jewels in the tardy crown were, until recently, the English and technology curricula. The English curriculum is now limited to a dull and punitive presentation of basic grammar and a series of limited set texts which some would say have been proscribed with the intention of limiting children's imagination, feelings for fellow beings and subversive thoughts about politicians and others who hold power in our society. Technology, from being the one curriculum area where it was recognised in its original Working Party Report that 'the capability to investigate, design, make and appraise is as important as the acquisition of knowledge' is now reduced in the recent HMI Proposals to a prescriptive rule book (Kimbell) approach to designing and making. The challenge of designing and making systems and environments as well as artefacts is dismissed with the justification that '...the boundaries between artefacts, systems and environments are imprecise: many outcomes encompass aspects of all three. We propose therefore to remove these unhelpful categories and recommend that pupils should be required to make a manageable range of good quality products'. Such sentiments obediently reflect the terms of reference set by our political masters who demand a stress on the '...importance of construction materials and components...'. With a working definition which describes design and technology as '...applying knowledge and skills when designing and making good quality products fit for their intended use' and the exclusion of evaluation below Level 5, whatever happened to the value-laden elements of technological capability? How and when did they disappear?

It is my contention that we avoid confronting my two initial questions because we are temperamentally indisposed to declaring our value positions and comparing them against the values of those with whom we need to engage in discourse. We seem to go to great lengths to avoid discourse and as a consequence are left with no reasonable option other than that of deferring to those in our society who have power and status over us, allowing them to use

us as collaborators in their conspiracy to change our world to their advantage.

Is it not time that we openly declared our value positions in relation to the purpose and means of delivery of the technology curriculum? If we were to do so we could begin to tell the world just what we are trying to do and what we are actually managing to do to the nation's children. This would arm us for debate with those who so far have called a solo tune and despised dialogue. To encourage this process, in addition to the values I have already revealed, I commend below three categories of values which I believe should form the bedrock of the technology educator's case. The first concerns my views on the nature of technology, the second reflects my political prejudices and the third reveals my views on how children (and adults) best learn through and about technology (and other things).

### ■ Some Value Positions on the Nature of Technology

One of the most elegant definitions I know and like comes from the Open University course 'Living with Technology': 'Technology is what animals do to manipulate their environment'. 'In the LEA advisory service I work for we have promoted a modified version of Black and Harrison's definition: 'Technology is a disciplined process using materials, energy and human ingenuity to achieve sound human purposes'. For the purpose of the values I am trying to express here an adequate definition is: technology is about making a sustainable world which is better for all people.

All these definitions are clearly weighed down with values implications and beg an infinity of questions. None of them would sit comfortably alongside the definition quoted above from the current proposals for the technology curriculum but they would embrace it as a subset.

### ■ Some Value Positions with Respect to the Distribution of Power and Resources

My observations since the start of the Thatcher era lead me to conclude our society is driven by the following value propositions:

- a. the concept of society is (said Margaret Thatcher);
- b. enlightened self-interest is a virtue;



- c. enlightened self-interest justifies unrestrained exploitation of resources;
- d. those with power should, in a healthy vigorous society, use their power to increase their share of power at the expense of those with less power;
- e. (unfair) competition is the engine of a healthy, clean society;
- f. the market is the final arbiter.

Within such a framework technologists, so long as they hold politically correct views, are used as puppet priests to bolster control by, and on behalf of, minorities and contain the discontent of the majority by addressing their needs as consumers. The Educational Reform Act proudly applies the above principles by setting schools, teachers and whole communities in competition with one another with the clear intention of ensuring that the weakest, whether virtuous or not, go to the wall. The National Curriculum is framed in such a way that teachers have no energy or time to develop children as autonomous thinkers and operators with the certain consequence that the skills of evaluation and the identification of underlying value assumptions will only be developed by a tiny minority. Given the clear return to selective education that minority will most likely be populated by those who share the above values. The proposals for the revision of the technology curriculum are consistent with the above positions because of their limited definition of technology and the low priority awarded to equal opportunities, multicultural issues, social and environmental consequences of technology and the scathing dismissal of systems as a legitimate field of technological study.

The values I would advocate are clearly the antithesis of those expressed above. My root value position is that technology must always be developed in a way which ensures that the Earth's life support systems are ultimately sustained. Within that framework solutions to problems should be equitable compromises of which a values and environmental impact audit is always a component part. The current proposals, if implemented, will lead us firmly away from this model.

## ■ Some Value Positions on Learning Through and About Technology

A value-laden view of successful teachers describes them as committed professionals who:

- a. Love the child by having an all-consuming belief in his/her ability to develop from a being initially beautiful and of remarkable intellect into a being still beautiful and of even more remarkable intellect: sustain a reverence for the miracle of life in all its forms.
- b. Show love not of a sentimental kind, which contents itself with wiping noses and other parts, but strives to ensure that children take responsibility for their own learning, pleasurable or painful though the experience may sometimes be.
- c. Acknowledge that children are not empty vessels; that they bring a wealth of already tried and tested ideas about reality which colour their responses to new experiences.
- d. Respect children enough to value their ideas and work to create opportunities for those ideas to be tested by the child against internal criteria and against those of peers and the wider world of human discourse.
- e. Acknowledge that children will only change their models/conceptions when it suits them because learning is a bloody-minded and active process rather than a passive one.
- f. Acknowledge that the child's ideas need to be communicated if others are to value them; that the most powerful mode of communication is talking so talking is given a central role in learning activities.
- g. Appreciate that as powerful and long-lasting learning is conceptual learning the teacher needs to strive to develop the appropriate conceptual understanding which will enable him/her to respond to pupils' conceptual insights.
- h. Try to work with the consequences of the above by giving children the space to propose their models and then to test them; appreciates that teachers only have their own models or those taken from others against which to assess children's models; that often they have to live comfortably with the knowledge that children will



sometimes present models which fit the evidence more closely and more imaginatively than their own and which, sometimes, they find difficult to understand.

- i. Acknowledge that a teacher can only draw inferences about possible mental and emotional changes through observation of current and past behaviour; that drawing meaningful inferences about the child's manifestations of his/her internal world represents the true art of teaching.
- j. Acknowledge that children learn in context and therefore tend not to adopt the most general context-free model with the consequence that conceptual insights are acquired relatively slowly; that the context in schools will include the expectations of teachers and parents, often resulting in children and less rebellious adolescents simply guessing the answers which teacher wants rather than constructing their own models for testing; that such behaviour can have calamitous results in that the child will tend to lock into the belief that learning is about finding out a series of right teachers' or parents' answers rather than continuously refining and testing one's own explanatory models.
- k. Acknowledge that children, and adolescents, in particular, are more likely to accept that their models are inadequate if they compare them against the models of those who they respect from within their peer group; in other words, learning is often most effective if it is encouraged within a secure social situation.
- l. Understand that 'learning by doing' is only meaningful learning when it is accompanied by thinking; tacit understanding without reflection is unlikely to result in further growth.
- m. Come to terms with the notion that knowledge is not necessarily 'out there' but is personally and socially constructed and its status is problematic; that it may be evaluated by individuals in terms of the extent to which it 'fits' with their experience and is coherent with other aspects of their knowledge; such evaluation can never be transmitted, only encouraged and supported.
- n. Acknowledge that the curriculum is not that which is to be learned; rather it is an

offering of experiences, tasks, materials and resources from which students construct their own knowledge; that an intelligent curriculum reveals a conceptual structure which is there for the child to grasp.

- o. That children's value positions influence their approach to learning and deserve respect.
- p. That teachers' own behaviour and attitude towards children and learning are determined by value-laden assumptions which are seldom questioned or reflected on.
- q. That the ability to reflect is a most glorious flower which is easily trodden underfoot.
- r. That if learners are encouraged to construct reality for themselves there is always a chance they may develop subversive thoughts. This needs to be encouraged.

It is my contention that all of these values about learning can, with some straining, be accommodated by and implemented through the original Technology Orders. In contrast the proposals for a revised technology, with their focus on instrumental 'hard' technology and their denigration of 'soft' technology, will deny most of them and substitute a set of values which are built on a naive and patronising transmission model of learning. Such a model allows no room for personal constructs and stresses the priest-like status of the person distributing the knowledge.

So, what are we **trying** to do to our children through our teaching of technology? I am encouraged in my belief that the majority of technology teachers I know long ago rejected the mantle of the priesthood. They continue, despite the political pressures, in their attempts to develop autonomous problem solvers who work with a clear intention of turning this world, against all the odds, into a better place for **all** people to enjoy.

What are we **actually** doing to children through our teaching of technology? Increasingly, before the arrival of the revision proposals and the accompanying bandwagon for regressive change, teachers were enabling their pupils to see technology as a broad process which requires the disciplined application of knowledge from many fields of study within meaningful contexts. Such





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technology learning often had a concern for social and environmental implications and was driven by many of the values I have advocated above. Sadly, it is already evident that the initial responses to the proposals for the new technology curriculum are tempting teachers to narrow the scope of assignments and take scant regard of potential client needs. We are in danger of losing sight of our value positions in our desire to please and to reduce the complexity of our day-to-day working. If this happens children's experience of technology will be reduced to the mechanical, non-reflective acquisition of a set of skills. In this mode pupils will once again become armed with a set of standard solutions and their intellects will be called upon to do nothing more than define a set of problems which could be solved by applying such standard solutions (Kimbell). This route leads us to a society where young people are deceived into believing they have capability whereas in truth they are limited by the contexts for learning which are set by those who fear none-differential thinkers who might confront the values which underpin their privileges.

## References

- Kimbell, R. Technology Order — first impressions of the revised proposals. *Design & Technology Teaching*, 25(2), 10.
- Technology for Ages 5 to 16 (1992) — Proposals for a Revised Technology Curriculum*, 5, paragraph 13.
- Technology for Ages 5 to 16 (1992) — Proposals for a Revised Technology Curriculum*, 3, paragraph 1.
- Technology for Ages 5 to 16 (1992) — Proposals for a Revised Technology Curriculum*, 13.
- Kimbell, R. Technology Order — first impressions of the revised proposals. *Design & Technology Teaching*, 25(2), 9.