

This is an unusual editorial in the sense that the ideas that lie behind it do not originate with me. They arose out of a conversation with Ruth Wright at the Engineering Council. Readers will see that in the Research Section of this edition of the Journal, Ruth has written a paper summarising some of the work that the Engineering Council has recently been undertaking to support design and technology, both in terms of political influence and curriculum development. These are very welcome and timely and it seemed an appropriate moment to reflect on the role that can be played by such bodies.

Deploying political influence is always a delicate game – and the track record of the Engineering Council is an interesting one. In late 1998 the National Curriculum was under review. The Council consulted with their profession and key partners in design and technology and science education and there was widespread agreement across the field that design and technology was valuable and must be retained as statutory for all pupils at all key stages. Then, in the autumn of 1999, came the notion of ‘flexibility at Key Stage 4’ and the idea of the wider disapplication of the National Curriculum. This proposal appeared to threaten the continuing entitlement of all pupils to design and technology (including food technology as a statutory requirement at Key Stage 3). The Engineering Council, with 10 other bodies including DATA, led a call for design and technology (and food technology) to be retained. In early 2000, the Engineering Professors’ Council stated that: ‘We believe that too much emphasis is often placed on science based entry for engineering higher education. Design and technology at A’ Level can provide an acceptable, sometimes a preferable, alternative.’ (Open letter to Dr Tate [QCA]).

Through these and other manoeuvrings, one has been aware over the last few years of a body that was seeking to support the position of design and technology in the curriculum. It has to be said however, that the Engineering Council had (in my eyes) a long way to travel before I would forgive their shameful endorsement of the ill-informed Smithers and Robinson hatchet job on design and technology in the early 1990s. This was in the early days of the National Curriculum when we could ill afford such comment, and my own vitriolic review of the ‘Getting it Right’ report summarised my general frustration with what I described then as the ‘...engineering fraternity, steeped in generations of mathematics and science and deeply skeptical

of anything that cannot be explained on a slide rule.’

So, when I was invited to contribute an opinion to a new report (Interaction) being prepared by David Barlex and James Pitt for the Engineering Council, I was somewhat sceptical. The track record of the two authors gave me confidence that the report was well intentioned – since they have both worked tirelessly for the best interests of design and technology. But still, in the interview that we conducted, David was probably aware of my underlying ambivalence. The subsequent launch of the report at a seminar at QCA put these doubts to rest. The report is thought-provoking and provides a valuable analysis of the supportive interactive relationship that needs to exist between science and design and technology.

At the same seminar, Professor Geoffrey Harrison launched ‘Continuum’, a report summarising the growth (in individuals) of a design and engineering culture. Again the report was commissioned by the Engineering Council. With some wonderful images of youngsters undertaking design and technology across all key stages and into higher education, Geoffrey mapped this growth, illustrating that design and technology is indeed the natural home of the culture of creativity and inventiveness on which engineering thrives. Importantly, Geoffrey points out the value of an engineering culture for all students – not just for those who wish to pursue it as a career. As well informed consumers, we all have a role in shaping our designed and engineered world.

David Hargreaves was present at the seminar at which these two reports were presented, and his enthusiasm for design and technology was made quite clear.

Design and technology is moving from the periphery of the school curriculum to its heart, as a model of the combination of knowledge and skills that will be at a premium in the knowledge economy, and it is from the best practice that other subjects can learn about effective teaching and learning for innovativeness. Geoffrey Harrison’s forthcoming booklet on *The Continuum of Design Education for Engineering* wonderfully illustrates the combination of creativity and discipline that is involved, from the three-year-old to the postgraduate engineer.

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Summaries of these two reports are in Ruth's article 'The Engineering Council Supporting Curriculum Debate and Innovation'.

Early in 2001 it became apparent that although curriculum developments in general were moving in a very positive way, design and technology might yet again be at risk. The factors at work this time were Key Stage 3 changes, proposed changes to the science curriculum, and proposals for the reform of the 14-19 phase. It seemed that QCA would be reporting its recommendations to the Minister in March 2001, and the Engineering Council decided to seek to influence this advice with another commissioned report that explicitly underlined the distinctive contribution of design and technology in a knowledge economy. I was asked to lead a small team of people preparing this report. Again, Ruth's article contains a summary of the resulting report.

Not content with merely commissioning it, the Engineering Council then decided to preface it with a strongly written foreword – unambiguously nailing their colours to this particular mast. Moreover, when the report was released to QCA and Ministers, it went with a letter from the Director General of the Engineering Council.

'It is crucial that the vital role of design and technology is understood and built upon. As this paper makes clear, design and technology is about far more than career preparation. More than any other area of the curriculum, it is about capability for all. The paper sets out the unique contribution which design and technology makes to the school curriculum. The Engineering Council fully endorses these statements.' (Malcolm Shirley, Engineering Council, 28 February 2001)

Whilst this 'general education' argument is at the heart of design and technology, there is also a key argument to be made about employability, and the Engineering Council is well placed to make it. Having done so, it is interesting – and gratifying – to hear the same words coming back from Ministers.

'The role of government is increasingly to invest on the supply side of the economy. In the middle of the 20th century, Keynesian economic orthodoxy promoted the investment of public money in our traditional industries – coal, steel,

shipbuilding – in the belief that this contributed to national wealth and kept work in communities. But our economy is changing, and fast. Today, its bedrock is know-how: ideas, creativity and the ability to turn those into goods and products.' (David Blunkett, Education into Employability: The Role of the DfEE in the Economy)

The Engineering Council's main role is not with schools and curriculum, but in setting standards for and regulating the engineering profession. The Council is a core body to 35 professional institutions – ranging from civil, mechanical and electronics to design, marine, chemical, communications, computer and media specialisms and multi-disciplines. Engineers and technologists are to be found in all sectors of the economy and are involved in both old and leading-edge technologies – including, for example, the food and textiles industries. Nonetheless, under its Royal Charter and a Memorandum of Understanding with the current Government it seeks to represent the profession to government and others. And this 'voice' includes speaking out on curriculum matters which impact on engineering and technology – at school, further and higher education, and professional development levels.

The Council's interest in education for all, as well as in education as a stepping stone to the world of engineering and technology, has led to it being a valuable support for design and technology over recent years. And as in so many instances, one of the factors persuading members of Council about the value of design and technology has been the impact it has had on their own children in schools. I have lost count of the number of people unconnected to the immediate world of education who have told me that design and technology was 'the saving' of their son/daughter. We should never forget that the students we teach are our best advertisement.

Anyone seeking evidence for this might like to refer to the 'censusatschool' web site which tracks what pupils say is their 'favourite subject'. The latest review of 53,000 students places design and technology as third favourite for secondary students (after PE and Art).