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Living in interesting times

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Living in Interesting Times

Dr Eddie Norman, Loughborough University

EDITORIAL

There is a rumour that the phrase "may you live in interesting times" is an English translation of an ancient Chinese proverb (or curse), but Chinese scholars have not yet been able to confirm its origins[1]. However, whatever its origins it seems to aptly capture the essence of the environment currently surrounding design and technology education. On a global scale, issues of sustainability and globalisation and their relationships to peace, democracy and human well-being are becoming ever more immediate. At an international level, the role of design within successful knowledge-based economies is being explored ever more deeply. And at a national level, the role of design education is coming increasingly under the spotlight. There can hardly have been a more 'interesting' time to be involved in design education.

Design education is one of the curriculum areas through which relationships between these matters can be seen. For example, taking an economic perspective, when a conceptual model of an economy is founded on 'making', then design can be thought of as an upstream activity, of periodic importance. When such a conceptual model of an economy shifts towards 'knowledge', then designing becomes a focus. Key questions surround the quality of such designing (creativity and innovation), and how these qualities can be developed (design education). And when such a conceptual model broadens to embrace social and environmental issues, the need to address the consequences of design decisions in these arenas is apparent. There is an imperative to design preferred futures, but major difficulties to be resolved concerning whose future to prefer, and the inter and intra-generational consequences associated with resource consumption and the distribution of wealth. And much of the debate surrounding such matters tends to assume humans have the ability to act intentionally (i.e. with full awareness of the consequences of their actions), which has been an assumption that has been rejected by most design researchers since the 1970s (e.g. following the discussion of 'wicked problems' relating to planning issues by Rittel and Webber, 1973). Of course designers can pursue their endeavours with the best of intentions, but that does not guarantee the outcome.

There is clear and encouraging evidence of communities coming together to face up to these monumental tasks, but in my view at least, such alliances could usefully grow. In the UK for example the Design Skills Advisory Panel has recently published its plan for the future development of the UK's design industry. It is a response to the government's Creative & Cultural Skills initiative and is being championed by the Design Council. The report, High-level Skills for Higher Value, seeks to promote joined-up thinking between the design industry, colleges and universities and schools. The Design & Technology Association has been working with the group preparing the report, and the directions that are being suggested for developing links with schools are indicated below.

A significant programme of work must be undertaken to make the current curriculum more relevant to design practice, ensure that design teachers get the training and support they need, increase the profile of D&T as a subject, and create connections between D&T and the rest of the school curriculum.

> *Our recommendations to promote and improve design education in schools are to develop:*
> – *A programme of designers working with schools supported by high quality resources*
> – *A design mark for schools to acknowledge excellent design teaching;*
> – *A teacher development scheme to support and promote design excellence in school education.*
>
> (ibid; 38)

The details can be found in the report of course, and go beyond the scope of an Editorial, but the essential point to make is that in England at least attention is

[1] It seems that the phrase was popularised by Robert Kennedy in his Day of Affirmation Address to the National Union of South African Students at the University of Capetown in 1966 concerning their struggle for freedom.

now being focused on designing in schools, perhaps as never before. It is certainly time for those involved in design education to prepare to take part in the on-going debates that are sure to develop, and these may well challenge cherished conceptions and values

For example, as I use the terms, it makes sense to suggest that in the developed world, 'craft' was the focus in the 19th century, 'technology' in the 20th century and now 'design' is coming to centre stage. One of the issues that will emerge as such discussions are explored, is that the meanings attributed to words like craft, technology and design differ greatly, within communities, countries and internationally. Some years ago I was privileged to supervise intriguing research by Andy Hine (1999), which explored conceptions of technology held by staff and pupils within his and another local English school. He established that these were many and various. The research evidence did not go this far, but it was clear that conversations would have needed much unpacking if genuine communication was going to take place. Priorities are different within the developed and developing countries, and the dilemmas and challenges equally diverse, but even holding conversations about them will have its challenges.

To further illustrate the potential for new alliances consider this quotation concerning sustainability from the *High-Level Skills for Higher Value* report.

> *Skills for sustainability*
> *A key new skill set is needed to address sustainability, but as yet there is little demand for it in the industry. Our consultation found that designers place a low priority on developing skills to tackle environmental and sustainable development challenges. Experience from other countries such as Germany, Denmark and Sweden suggests that if a critical mass of designers were equipped with knowledge about product life cycles, the impact of material choices and manufacturing processes on product development and consumer behaviour would be considerable. A UK design industry with the skills and confidence to deliver sustainable solutions could become a world leader in this field, collaborating internationally and opening up global opportunities. To achieve this, a whole-industry response will be required along with effective education and training.*
>
> (ibid, 27-28)

Research concerning sustainable design has been pursued for many decades by a well-established international research community, as has its links to sustainable consumption patterns. There are of course many more issues to consider than material choices and manufacturing processes relating to human interaction with the made world, but it has to be a major concern when professional designers place a low priority on making some kind of a start.

There are other research communities making important contributions to D&T education research. This summer CRIPT took place at the University of Central England (now Birmingham City University) and PATT-18 took place at Glasgow University. The PATT conference was attended by delegates from 18 countries to consider *Teaching and Learning Technological Literacy in the Classroom*. It was preceded by a seminar which brought many of these delegates together with leading philosophers of technology. In 2008, in addition to the *D&T Association International Research Conference* in the UK, *PATT2008* and the *Biennial International Conference on Technology Education Research* organised by Griffiths University in Australia, the *Design Research Society* will be holding its international research conference in Sheffield, and the *Engineering & Product Design Education (E&PDE)* will take place in Barcelona. The latter conference is organised by the Design Education Special Interest Group of the Design Society, which is a further worldwide organisation. The opportunities for sharing insights, knowledge and understanding from the areas of international design research, including sustainability, design education and the philosophy of technology, do not need to spelled out, but they do need to be facilitated to support us all in these 'interesting times'.

In this issue of the journal you will find the published version of Malcolm Welch's 2007 John Eggleston Memorial Lecture. This was an exploration of both the broad range of issues that surrounds design and technology education and the particular issues that children face in learning to design. The paper gives indications of our current understanding, but also

raises many questions concerning areas of uncertainty. For example, one particular area discussed is the transfer of learning between school subjects, and between the school and the world outside. Clearly the issue of 'transfer' is highly relevant to any reflections on children's education as consumers, as designers and, for some, as future members of the design professions. It is both a common and curious assumption that transfer occurs between different contexts despite little research evidence demonstrating that this is the case, and the existence of much evidence that suggests the contextual dependency of learning. This is a rich and important area for further research.

David Spendlove's paper discusses the key role that emotion plays in relation to creativity and learning experiences.The fundamental role that emotions play in human decision-making has seemingly only recently begun to receive the attention it deserves. There is clearly room for revision of much prior research in the light of the emerging evidence in this area. For example, the model of design decision-making founded on the bounded rationality of humans that I presented in the 2006 John Eggleston Memorial Lecture could be revisited and the intentionality it embodies re-examined. The role of emotion in designing is such an important area for on-going debate that the keynote presentation that David Spendlove made at the 2007 D&T Association International Research Conference has been presented in two parts: an introduction to the topic in this issue and some more detailed implications in relation to the D&T curriculum, which will appear in the next. Further contributions in this area would be very welcome.

Wesley Hamilton's paper discusses research which evolved from the Comenius 2.1 European project DIAL:Connect. Pupils' collaborative dialogues were analysed from video and audio recordings, as well as the role of the teacher in facilitating their development. Language and its role in designing is a further key area for research and particularly its role in creating unity of purpose, better social cohesion and 'greater evidence of exploratory and imaginative activity during the meaning making and knowledge building processes' (p44). The patterns of discourse observed were categorised in a framework that could be useful to other researchers. Language seems to have been one of the key developmental differences between *Homo sapiens* and *Homo neanderthalensis* (Mithen, 2005) and it is *Homo sapiens* that has been characterised by innovation and rapid technological development. For the 'Neanderthals' technology appears to have been essentially static for some 200,000 years and any language use based on holistic phrases of unique meaning. The breaking up and reformulation of these phrases – segmentation – is thought to be one of the key steps in the evolution of *Homo sapiens*. The potential connections between language, designing, technology, innovation and sustainability are evident. As a further example of parallel research in the 'design' and 'design education' areas, which could be usefully brought together, there is a project being conducted by the Design Thinking Research Symposia (DTRS) concerning the video analysis of professional design conversations which will result in a book and special issues of the journals *Design Studies and Co-Design* in 2008.

John Williams paper discusses the issues surrounding the development of a global curriculum in this subject area, in particular the syllabus in Design Technology offered by The International Baccalaureate Organisation (IBO) for which he is the Chief Examiner. As John Williams describes, a postmodernist critique of curriculum development would argue for the respect of local cultures and differences, and their mutual and concurrent reorganisation alongside global issues. The problems created by colonial educational structures, including those established by the English, are well-known, and the parallel difficulties of creating a global curriculum are highlighted in this paper. As the 'Technology Education' movement continues to grow apace, there is an emerging need for critical discourse in this important area, if some of the problems which became evident in the postcolonial period are not to be replicated in the technology education arena.

The abstracts from the Design and Technology Association Education and International Research Conference 2007 indicate several themes, and the on-going discussion and exploration of creativity, the relationship of creativity and technologies, the nature of designing and appropriate design curricula were amongst the most evident. Classroom contexts and

organisation, the use of language, engagement with new technologies such as CAD/CAM and PICs were all being researched and explored within the context of creativity. Empowerment of the learner and the avoidance of routine responses, e.g. research on fixation by Bill Nicholl and Ros McLellan, were clearly important conference themes. Full copies of the papers can be downloaded from the D&T Association website.

And then there are the current STEM (Science, Technology, Engineering and Mathematics) initiatives… interesting times indeed!

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