Losing the Plot

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It's not just that I have recently reached the top of the waiting list for allotments in my home town, and been allocated one that has brought 'losing the plot' to be a focus of my attention. The rules I have signed up to are quite strict eg

A) All allotments will be inspected six monthly by a rotating sub-committee…to report on the state of the plots. …Photographs will be taken…

B) All plots must be brought into 75% cultivation at the time of the August inspection…etc

However, the primary driver for my concerns was attending the Dissemination Conference concerning 'Understanding Creativity For Creative Understanding' which was organised at the University of Cambridge on 22 April. The following is an extract from the report on the research project.

The vast majority (89%) of pupils surveyed agreed that they felt "happiest about tasks when I can make my own decisions". 76% liked "to play with ideas in D&T and see how far they go" and around two thirds of pupils agreed that "I like problems where I can try my own way of solving them" (66%).

BUT levels of agreement tended to be lower to items asking them to comment on current practice.

Only 57% thought they really had a choice about the work they do. And whilst 77% agreed that their teachers 'let me make my own decisions about my work', when asked more specifically about the types of decisions they made within projects, the percentage of pupils indicating they could make choices dropped. Around half indicated that their teachers allowed them to decide which materials to use (53%) or research to undertake (48%). Perhaps more worryingly, one in six pupils (17%) disagreed that their teachers 'encourage me to think for myself', which is necessary to experience challenge.' (ibid:29)

Clearly the children understand well enough what designing should be all about, but there is equally no doubt that someone, somewhere is 'losing the plot'. The Conference plenary discussion ended with one delegate saying words to the effect that a gap has been allowed to develop between 'school designing' and 'real designing', and I, for one, could not but agree. Of course, 'school designing' has a lot of stakeholders seeking to influence its structure and content (eg engineering, industrial design, product design, textile design, food technology, the craft industries, graphic design etc), and that presents significant problems for curriculum designers. Only a small subset of key elements from any

one design area is likely to be represented in a particular curriculum, but that is no reason for the emergence of 'school designing'. Designing should be understood to be a fundamental human capability which is to be nurtured and developed through design education and, for some, on into professional practice in different areas of the design field. The Cambridge University findings suggest that in England at least the difficulties of creating a National Curriculum, with all its attendant potential benefits, is leading to some no doubt unintended, but concerning outcomes.

The current importance statement for design & technology in England is well-known and provides an interesting contrast to the Cambridge findings. However, just to note an extract…

They learn to think creatively and intervene to improve the quality of life, solving problems as individuals and members of a team.
Working in stimulating contexts that provide a range of opportunities and draw on the local ethos, community and wider world, pupils identify needs and opportunities. They respond with ideas, products and systems, challenging expectations where appropriate. They combine practical and intellectual skills with an understanding of aesthetic, technical, cultural, health, social, emotional, economic, industrial and environmental issues .(QCA, 2007)

This is not to suggest that these implementation difficulties exist in any other countries that are developing national curricula. They may well have a better match between intention and practice, but the unfolding story in England does provide an excellent case study of emerging issues. It might be possible to look at these in a wholly disinterested, academic manner, if they were not so important to all our futures. One of the reviews in this issue concerns *Design & Technology: For the Next Generation* (2007). This is a valuable collection of essays by some of the current leading commentators and researchers. The final contribution is made by Dr Peter Toft, HMI, who currently oversees the inspection of design & technology in English schools. He responds to the contributions of the other authors and in the extract below he is commenting on the paper discussing creativity by David Spendlove and Marion Rutland.

Creativity is inextricably linked to designing. It also lies at the heart of students' capability in making. It is a competence which the government currently aims to promote in schools, not least because of the importance to the national economy of the creative industries. In a very useful analysis, David Spendlove and Marion Rutland identify four areas in which creativity should be expected

in design and technology. These are: concept, aesthetics, technical and construction. They helpfully stress that creativity requires self motivation, skills of creative thinking, skills within the area of practice and an acceptance that pupils need help to develop these three ways. As with Malcolm Welch's contribution, they outline a range of strategies to promote creative thinking. Amongst these, they recognise a critical issue. Unfortunately many of our teachers do not because they feel impelled to teach their students to pass examinations by following sequences in projects in such a way as to maximise their marks. For the writers, however, this critical issue is that students need time to think, make associations and reflect. Our evidence shows that the importance of gestation time is barely recognised in the short modules common in the design & technology curriculum for students in the 11-14 age range. They are rarely given the chance to think ahead in such courses by being giving an introduction to the next task before the current task has been completed. Creative thinking is rarely neat and though it can be aided by good structure in teaching it is not formulaic'. (ibid:281-282)

So, it seems that many of the implementation issues concerning the gap between intention and practice relating to creativity and designing are both recognised by researchers and monitored by inspectors. The government's policy is to promote creativity and implementation stifles it, no doubt much to the frustration of teachers and pupils. To me it indicates the need for focussed research to explore the effectiveness of design and technology in nurturing creativity. In the great scheme of things my allotment is not very important, but I have a clear target, a sub-committee checks and photographic evidence is collected. However, the creativity of future generations is very important, and, if design and technology cannot nurture it effectively, then it should be at a similar, if not greater risk, of losing its plot.

It is a great pleasure to welcome Professor Richard Kimbell back to write the Reflection piece in this and future issues. Richard has chosen to address the timely question of 'When is design & technology NOT design & technology?', and this is clearly the kind of fundamental review that needs to be addressed. These are challenging times for the subject area and difficult questions need to be asked.

The four research papers in this issue all address key emerging issues. Dr C Mwendapole and Dr O B Molwane's paper from the University of Botswana looks at the issue of intellectual property rights and how this area is beginning to impinge on design and technology education. Designing results in the generation of new knowledge, which is of course the reason for its perceived importance in the movement towards knowledge-based economies. The

ownership of such knowledge presents further issues that design and technology educators will need to address at various levels.

The next two papers both explore the relationship of new media and pedagogy. Gisli Thorsteinsson and Howard Denton's paper provides a review of some of the key literature relating to the development of Virtual Reality Learning Environments (VRLE) in education. This review provided the theoretical background to the Innovation Education (IE) programme which has been emerging in Iceland over the last few years. The IE programme has also been adapted for use in other countries. An action research programme focused on the introduction of the VRLE to IE is now being completed.

Dr Ester Ehiyazaryan's paper explores the value of interactive media in enhancing creativity and particularly through the self-management of risk-taking and uncertainty. An action research approach was adopted, and the potential importance of peer interaction for supporting exploratory thinking and decision-making emerged. The interactive media was found to promote student engagement and acted as scaffolding to support student learning and autonomy. Much hope is often placed on virtual learning environments to help improve teaching and learning and this initial study suggests several useful avenues for further research.

Rhoda Trimngham's paper is an important contribution to the development of a fuller understanding of the role that values play in design decision-making. Much has been written about the importance of knowledge for designing, but understanding the role that values play begins to put this in its proper context. Designers, just like all humans, exhibit bounded rationality; that is, their decisions are not purely knowledge driven. Understanding the outcomes of designing is problematic, but developing a taxonomy for values and exploring their role in designing are key steps. This is a particularly vital area of research towards moving designing in the direction of more sustainable outcomes.

The final contribution to this issue is a review by Aede Hatib Musta'amal of the book *Educational Design Research* (van den Akker et al, 2006). Unusually for an Editorial perhaps, a quotation from this book appears below.

Why have some researchers and policymakers become interested in (educational) design research at just this moment of history? I think there are two major reasons. The most important is disappointment with the impact of conventional approaches to research in education. We have no intellectual breakthroughs in research in

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education comparable to advances in medicine, engineering, and the sciences; nor have we seen any measurable improvement in teaching practices or student learning on a large scale. In clinical experiments, practices and programmes backed by research have generally proved to be only slightly better than conventional practice. In short, more than half a century of research in education since World War II has not noticeably improved education. In many countries the quality of education seems to have declined over the past several decades, just when educational research has supposedly begun to accumulate enough knowledge for its findings to make an impact. Many of us who advocate design research believe that it has the potential, in conjunction with standard forms of inquiry, to produce the kind of impact research has made in other areas of life, an argument I will develop later.   (Walker in ibid:8)

Educational design research here is meaning design-based approaches to education research, so, although it is referring to the wider curriculum, this passage can be read as support for the designerly or action research approaches often adopted by researchers publishing in this journal and its predecessors. Clearly not all educational researchers will agree with the statements being made, but there is an implicit clear warning against allowing any significant gap to appear between research and practice. Equally clearly, I believe that design and technology education research and practice need to be closely linked in order for there to be meaningful progress and I continue to be delighted to work with the Design and Technology Association, whose policies reflect that view.

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