Online and connected

A colleague recently forwarded this extract from PhD-Design (a Jiscmail discussion list concerning design research):

Friends,

Those interested in interdisciplinarity will want to read the latest issue of the Journal of Research Practice

http://jrp.icaap.org/index.php/jrp

If you have not yet had a chance to browse this journal, I recommend a visit. This is a broad-ranging, international open-access journal with a rich variety of articles that shed light on many aspects of research and research practice.

Highly recommended with best wishes for the New Year.

Ken Friedman

If you are reading this online and click on the above link, you will find a number of fascinating articles concerning 'Crossing the Boundaries', 'Reframing the Structures' and 'Rethinking the Questions'. At the risk of stating the obvious, this is possible because the researchers have made their work available online and it is an open-access journal. If, like me, you have an instinctive attraction to the idea of open-access to research findings, then you might want to find out more about the open-access movement. The Public Knowledge Project (PKP) was funded by the Canadian Government and provides open source software for the management of open conference and journal systems developed by the University of British Columbia and Simon Fraser University. Details of the project can be found at http://pkp.sfu.ca/ from which site the software can also be downloaded. There is a sample list of some of the over 900 journals in 10 languages that are using the open journal system software (http://pkp.sfu.ca/ojs-journals). Clearly, I'm partly just putting the links in 'because I can', but there is tremendous potential for the publication of research findings in being able to connect papers to some of their sources.

Research concerning interdisciplinarity, multidisciplinarity and even postdisciplinarity is not restricted to general education of course. The Design Research Society Conference Undisciplined is in Sheffield in 2008 (http://drs2008.designinquiry.wikispaces.net/) and is being managed using PKP's open conference system software. Although it is a conference that is focused in higher education and beyond, those papers that address design education will be discussing very similar issues to those facing schools and colleges. Perhaps I'm getting old, but it's not completely clear to me what the earth shattering events are that occur at around the age of 18 that lead to an apparent gulf between general and higher education. My work at Loughborough University leads me into both arenas and they don't appear that different.

There were also numerous related, and some intriguing, publications at the Engineering and Product Design Education Conference Shaping the Future in Newcastle in September 2007 (http://www.cfdr.co.uk/epde07/). This conference again essentially concerns higher education, but the issues largely span the curious '18+ divide'. I actually feel quite inconvenienced by the fact that I cannot write that if you visit the website you can download the papers. You actually have to order the book, or more accurately, recommend to your library that they do it for you. (There is a 'Library Recommendation Form' indicating the £100.00 cost). However, if you do visit the E&PDE website you can download a video of the excellent Keynote presentation which was given by Prabhu Kandachar, the Chairman of Delft University of Technology concerning 'Designing for the Base of the Pyramid'. This was an inspirational account of designing for the majority world; those who do not share the advantages of the minority world's wealth. So that is some compensation.

It is not just that the cost of such books is prohibitive for individuals, but that there is effectively a barrier between the research outputs and those who might make use of them. It is not even that the cost of the E&PDE 2007 Conference Book is unreasonable. There are 99 papers, so that's only about £1 each, but I think it is highly unlikely that they are going to find many readers beyond academics in higher education. Books are wonderful things; they can be browsed, skim read, smelt, and even curled up with on a sofa, although I accept that's less likely with a research publication. It's a little harder to engage with an online publication in the same kind of ways, but the human interface designers are working on it. I remember completing the literature review for my MSc thesis, admittedly rather a long time ago, by completing cards for 'inter-library loans' and waiting a few weeks for the photocopied papers to arrive. That was quite normal then, but there again it was quite soon after punchcards stopped being used to programme computers and the first calculator was designed. I used a mechanical calculator with a handle and gears, and checked the answers with a slide rule, to calculate areas and volumes in the Drawing Office in my undergraduate days, but times have moved on (…although I might also admit to nostalgic memories of the 'winding' and 'sliding').

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So, this journal has gone both open-access and online, and so it should!

There are sound managerial reasons why this should happen, which Andy Mitchell explains in his contribution to this first online issue. There are also sound 'research' reasons why it should happen. Researchers write because they want their work to be read and to have impact, and there is no doubt in my mind that 'Google Scholar' is the way forward! I recently had a conversation with a postgraduate research student who said they were learning about child development. Of course, I asked what they had read so far, and got the seemingly inevitable answer of "Google…that's how I learn about everything!" I could definitely sense the stereotypical, horrified reaction of an ageing academic beginning to take shape, but found it strangely eclipsed by the realisation that it has simply become essential to ensure that Google is accessing authoritative sources, and not only the 'non-refereed' and unmoderated contributions of web enthusiasts. I still tell first year Loughborough design students to only use library books and the Cambridge Engineering Selector software to retrieve information on materials and processes, but I expect many just type "good insulator" into Google.

Anyway, the D&T Association's decision to make all its research publications, past and present, available immediately online is surely the right one. To also make them all available on Loughborough University's Institutional Repository shows clear understanding of the need for high quality, open-access resources. The D&T Association's published research – conference and journal papers – will be held alongside the IDATER archive, the NADE (National Association of Design Education) archive and other publications by staff in Loughborough University's Department of Design and Technology. With a single keyword search anyone interested will soon be able to access the latest research published in this journal and at the D&T Association International Research Conferences, as well as some of the important research publications by earlier researchers. And Google will find them as well!

Being found by Google is not such a frivolous matter for researchers as might appear. When publications are open-access, as yet not fully substantiated evidence has suggested that citations go up by between 50% and 250% in comparison to closed-access publications (e.g. those requiring a subscription). With the UK at least moving towards a metrics-based strategy for assessing academics research performance, which is likely to include citations in some form or other, this is a matter that might have a quite unreasonably large influence on individual academic careers. The D&T Association is doing everything it can to ensure that the authors of the excellent papers, both past and present, that have been published in its research journal and at its conferences receive the publicity and recognition they deserve.

However, there are wider, and perhaps even more fundamental research matters to consider as well. The fundamental role of the journal is to champion research done '*through practice*' (e.g. by D&T Association members), rather than '*for*' or '*about*' practice, which could be associated with more traditional academic, top-down approaches. Research through practice is the route that led to much of the existing design and technology education research base and, in my view at least, will give the speed of response and flexibility to local circumstances, that will lead to further appropriate innovation and curriculum development. That is presumably why the D&T Association has supported the research community through publishing its research journal and supporting the research conferences over these many years. This is, of course, also the direction that current initiatives in teacher training, with the introduction of M-level programmes, and curriculum development are taking in England. It is essential that those engaged in such research have access to any resources or prior art that can support their endeavours, and open-access, online research resources offer the greatest potential.

The above is not an unbiased account of the arguments for and against open-access, online journals. I clearly believe that it is the right way for the D&T Association, and I welcome the decision which has been made as the Editor, a researcher and believer in the notion that research, practice, curriculum development and innovation should be closely linked. It is appropriate to note that the ITEA (International Technology Education Association) in the USA takes the same view and publishes **The Journal of Technology Education** and the Proceedings of the **PATT conferences**. These publications and the **Journal of Technology Studies** can be freely downloaded.

The Reflection article in this issue has been written by Christine Edwards-Leis. Christine attended last year's PATT 18 Seminar and Conference in Glasgow, the CRIPT Conference in Birmingham, the D&T Association Conference in Telford and the ICTER Conference (or TERC2006) on Australia's Gold Coast. There can be no doubt that 'real' conferences have a key role to play, which is evident from her fascinating account. Any design and technology education researchers with the funding and the stamina have a similar opportunity this year with PATT conferences in March and November in 2008 (in Salt

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Lake City and Tel Aviv), the D&T Association Conference in July at Loughborough and TERC2008 again in November on the Gold Coast of Queensland.

The articles contained in this issue address key areas of current research.

David Spendlove's article is the second part of his Keynote Address at the 2007 D&T Association Conference concerning the location of emotion in the creative and learning experience. Having reviewed some of the issues in Part 1 and established the role that our emotions play in directing and clouding our decisions, this paper goes on to explore a 'person – process – product' model. The paper explores the importance of learners understanding the complex emotions which are part of their decision-making and critiquing the way in which their emotions are manipulated in the designed and made world. This remains an important, and largely unexplored research area.

Eva Blomdal and Witold Rogala discuss the conceptual development of the technology education curriculum in Sweden. It remains ever-interesting to read about this curriculum area from different perspectives, and particularly the difficulties associated with the translation of the 'shaping of technology' from Swedish to English. 'Design' might do, if that were understood in the right sense (eg the creating of preferred futures, perhaps), but not if it is associated with a meaning close to 'styling' as it sometimes is. The emphasis placed on the exploitation of local circumstances, and seeking the general aspects of a wide variety of technologies echoes many of the hopes for the National Curriculum in England and Wales from the late 1980s, although the reality has turned out to be something a little different.

Some of the reasons for this are perhaps evident in Ruth Wright's account of the emergence of policy in the early 1990s. It is vital that policy makers see the vital importance of their roles and are truly reflective practitioners. It is instructive to read these three papers together and ask questions like: what role were emotions playing in the emergence of policy? Or, how is the outcome of considered thinking about technological literacy influenced by the emotional and cultural climate? Human rationality seems surprisingly bounded to me, and Ruth's thesis of seeing the emergence of policy as a process rather than a product is an important one.

This issue also contains the abstracts of the 2007CRIPT Conference papers. This highly valued conference specialising in research relating to the primary age range began in 1997, so this year's conference was the 6th and something of a landmark. If any readers want to follow up any of these abstracts, then the Conference Book can be obtained from CRIPT at an affordable price.

Completing this issue's round-up of conferences in the area of design and technology education David Barlex has reviewed IDATER Online's first attempt which concerned *E-learning in science and design and technology*. As Christine Edwards-Leis suggests, online conferences will never be the same as 'real ones', but they are sure to develop their own characteristics and value. Those interested in both the experiment and 'action research' (the subject of the current conference) might care to visit the 2007/8 IDATER Online conference.

Finally, this Issue contains the first Call for Papers for a Special Issue of this journal in February 2009 concerning 'Blurring the Boundaries'. There can be no doubt that the notion of 'subjects' as the foundation stones of the curriculum is under ever more intensive review. Design (and technology) should have a major role to play in these curriculum shifts, and this Special Issue of the journal should contribute significantly to the debate. David Barlex (Brunel University) and Steve Keirl (University of South Australia) will be the Guest Editors.

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