Unfinished Business

Eddie Norman, Emeritus Professor of Design Education, Loughborough University

Time waits for no-one! …and so after 28 years at Loughborough, following my secondary teaching and engineering careers, it is time for me to diversify (retire), as there are a few things I want to attend to. So, now I am an Emeritus Professor with more time on my hands for editing the journal. I am very grateful to Loughborough University both for the opportunities that my career there has brought and for the award of this title. There are some guitar projects waiting in my workshop (as shown in the photograph), and I'd like to learn formally about guitar-making; there's my allotment to work on, if the English weather ever again ceases to be 'extreme' (…presumably the climate change sceptics haven't actually tried growing anything recently), and, perhaps more surprisingly, there's publishing design education research. As many people will know, I have been fortunate to be involved in one way or another in publishing design education research for many years, as co-Director of *IDATER* from 1998-2001; as Editor of the *Design and Technology Association's Education and International Research Conferences* from 2002-2009 and as Editor of this journal from 2005. However, it remains a matter of continued frustration that its impact is not what it could, or should have been. This is unfinished business and one that I hope to continue working at in 'retirement'. So, I have joined forces with Ken Baynes to establish an independent publishing company: *Loughborough Design Press (LDP)*, which will specialise in publishing design education research.

Ken Baynes has a fine art background, and I have an engineering background, and we have reached much the same conclusions from these different starting points. The first, and perhaps the most important conclusion is that we do not believe that the body of research that has been completed in the area of design education is sufficient visible. Great strides have been made since the 1970s and the first book to be published by *Loughborough Design Press* will be by Ken Baynes, whose career has spanned these decades. In the book, he analyses and reflects on design education, its importance and its future. The book is called *'Models of Change: The impact of designerly thinking on people's lives and the environment'* and it has been developed from the Orange Series publications published by the Design Education Research Group at Loughborough Design School. These are freely downloadable from Loughborough University's Institutional Repository (see https://dspace.lboro.ac.uk/dspace-jspui/handle/2134/1686). I worked with the Design and

Technology Association to establish the online research hub Design And Technology Education Research (www.dater.co.uk), which included the online archiving of this journal and its predecessors back to 1970. Google Analytics reports show that in 2012 this journal was receiving about 1000 online visitors per month from a total of 136 countries, although mainly from the UK, USA and Australia. The DATER hub receives about 200 visitors per month, and almost exclusively from the UK, although interestingly over half of those visitors are 'returning'. So, it's not that the efforts to date are without impact. It is just not sufficient impact.

Recent policy debates have tended to focus on the benefits of design education to employment and the economy, and there is good reason to hope that such claims bear fruit. The case for the importance of design in higher education might well give such concerns greater weight, but for general education the case has much broader foundations. The essence of design as a fundamental human capability through which we strive to create our preferred futures has been eloquently described by numerous writers and researchers over the decades; too many to mention individuals. The current

Unfinished Business

products, systems and environments – all the outcomes of human endeavours to create 'better' futures and all their consequences, intended and unintended, are the consequences of design decisions; design decisions that are themselves the outcomes of human modelling, both cognitive and external. There is hardly a more important agenda for design in general education to address. How can it be that it is not clearly understood to be a curriculum priority?

Whatever the reasons for an apparent willingness to overlook the vital significance of design education, it is this matter that is the unfinished business that LDP must address. In this context, it is perhaps apparent why an initial focus of LDP's publications is 'graphicacy'. Numeracy and literacy are rightly recognised as curriculum priorities, but graphicacy is not. How can this be in a culture that is becoming ever more dependent on visual communication through the growth of the internet, where the first steps in analysis often require the creation of visual representations, which are themselves a ubiquitous tool for teaching and learning? The traditional forces that drive curriculum politics are deep-seated and powerful, invisibly manipulating the choices that are made. Ken and I are not foolish enough to imagine that this is a position that can be easily changed, and that founding LDP will lead rapidly to these matters being resolved. Equally we are not tired enough not do everything within our powers to try to bring about change.

We have established a blog on LDP's website that will be used to comment on developments relating to design education research, a YouTube channel (http://www.youtube.com/ldpressbooks) and a Twitter account (http://twitter.com/ldpressbooks). We'll support initiatives (from any source) and publications (from any publisher) that are moving design education research forward. There are strong developments relating to design education research in higher education and the DRS/Cumulus Conference in Oslo in May 2013 promises to be an important event (http://www.hioa.no/DRScumulus). Some of the more significant contributions made to this conference will be developed in order to appear in future issues of this journal. So, we hope you'll visit us online at www.ldpress.co.uk and let us know what you think. If you don't get an immediate reply, it'll be because I've lost track of time working on a guitar or the weather has cleared up enough to go digging.

The research papers in this Issue are just what you would hope to see. Some are shedding new light on established areas of research and others are looking at emerging areas. All the research papers are making significant contributions towards the thinking of teachers and policymakers who must consider appropriate design pedagogy.

The paper by Jan Ardies, Sven De Maeyer and David Gijbels looks again at the Pupils' Attitudes Towards Technology (PATT) survey instrument that was developed in the 1990s. The instrument has been reconstructed and revalidated, and a pilot study was carried out with 250 students before completing a main study with 3000 participants. Following factor analysis an instrument with six sub-factors and 24 items of attitude towards technology is proposed, which should be of great interest to future researchers in this area.

The paper by Susan Siok Hiang Lim, Christina Lim-Ratnam and Matthew Atencio revisits our understanding of designing from the perspective of students. The design journeys undertaken by two students in Singapore were reconstructed from evaluations of their design journals, mind maps and interviews with the students and their teachers. The outcomes reveal the different approaches being taken, as well as common aspects in the thinking strategies of the two students.

The paper by Kaiju Kangas, Pirita Seitamaa-Hakkarainen and Kai Hakkarainen is a further detailed study of students' design thinking, in this case Elementary Students in Finland engaged in a collaborative design activity. Chronologically-Oriented Representations of Discourse and Tool-Related Activity (CORDTRA) diagrams were used to unfold the collaborative design process of one the student design teams. The results indicate that 'the students' design thinking was collaborative, materially mediated, and embodied in nature'.

The paper by Oenardi Lawanto et al, explores one aspect of metacognition within the context of self-regulated learning. The research was conducted with grade 9-12 students in Colorado and concerned task interpretation and the degree to which this was reflected in their designing. Data were collected through survey questionnaires and web-based engineering design notebooks. The research also looked at the differences for relatively lower- and higher-achieving design-performing students.

The paper by George Torrens and Helen Newton concerns the development of the most appropriate pedagogy for enabling collaboration between a Special School and a University Design School. Following an extended collaboration, the paper reports the outcomes of analysing

Unfinished Business

the pedagogy employed from the perspectives of the students and pupils. Questionnaires were completed by the university students and the school pupils and their analysis is supported by observations by the school and design staff.

The paper by André Liem and Elizabeth B.-N. Sanders looks at research concerning user-centred design and co-creation (co-designing) with MSc students in Norway. A comparison is made of projects conducted in an educational and a professional context. The management and execution of the participatory workshops was analysed and the implications for education are discussed.

Within this Issue there are also Richard Kimbell's Reflection piece concerning 'De-fibrillating with Minis (Skirts and Cars)' and a review by Hugh Johnson of *Positioning Technology Education in the Curriculum* (Edited by Marc J. de Vries, Delft University of Technology, NL).

E.W.Norman@lboro.ac.uk