New Friends and the Design Education Continuum

Prof Eddie Norman, Loughborough University

Design (and technology) education is a lifelong activity. Ken Baynes has researched the activities of young children and has written as follows:

> To my mind, the precision with which a designerly thread can be followed through all these instances of play and imagination, gives powerful backing to the proposition that design ability is the common inheritance of all children (1994:17)

This proposition would find support from the work of many other researchers, and to my mind it is clear that designerly activity is a characteristic of human behaviour. Geoffrey Harrison illustrated a model of designerly activity in engineering through case studies drawn from the years of formal education and into professional engineering. The characteristics of the design education continuum which he explored within that area of the design field were described as follows.

- Knowledge and understanding progress from the *intuitive* towards the *articulate;*
- Skills develop from the *innate* to the *disciplined;*
- Creativity develops from the *casual* to the *harnessed;*
- Capability develops from the *natural* to the *disciplined combination of creativity, skills and understanding;*
- Motivation develops from *pure pleasure* from making something to *excitement and determination* to be creative and effective.

> This continuum lies in the development of the individual but it also reflects the development of engineering design itself over the millennia since the earliest civilizations. (2001:4)

There are many other design areas and greater generality of this model beyond engineering design was not being claimed. However the echoes of history within the evidence gathered from design (and technology) curricula in general and higher education were apparent. For a viewpoint representing design areas beyond engineering, reference can be made to the work of the Design Skills Advisory Panel in the UK in (2006 and 2007).

> …the Panel believes that the imperative must be to create more of a professional and cohesive design industry; one that learns and adapts systematically from and with its clients, other design businesses, other disciplines and design educators. (2006:2)

> …and their conclusions after a major consultation involving over 4000 designers were developed around the model shown in Figure 1.

The panel were looking across the design education continuum and some of their conclusions are shown below.

> We also need to ensure that good design education starts in schools where the foundations are laid for future design capabilities. If the UK is to increase its capacity for innovation, then it needs an education system that is able to develop foundation-level analytical and problem-solving skills, plus creativity, imagination, resourcefulness and flexibility.[1] These are the skills that design education can provide for everyone.

> In FE and HE, courses need to complement their particular specialisms by teaching a much greater range of skills, including subjects such as strategy, consumer behaviour, brand development, marketing, business management, account and project management. Design students should also be provided with support to identify and pursue appropriate career paths, within and outside the industry.

> …In response to themes and issues that emerged from our research and analysis, we have identified several priorities for skills development.

In recognition that design is a valuable transferable skill but iscurrently undervalued in schools, our priorities are to:

- promote the value of design and raise its status in schools
- support teacher training and development
- better connect the design curriculum with professional practice.

In recognition that students need a wider range of professional skills and that increasing numbers are

[1] *The Innovation Gap, NESTA, 2006*

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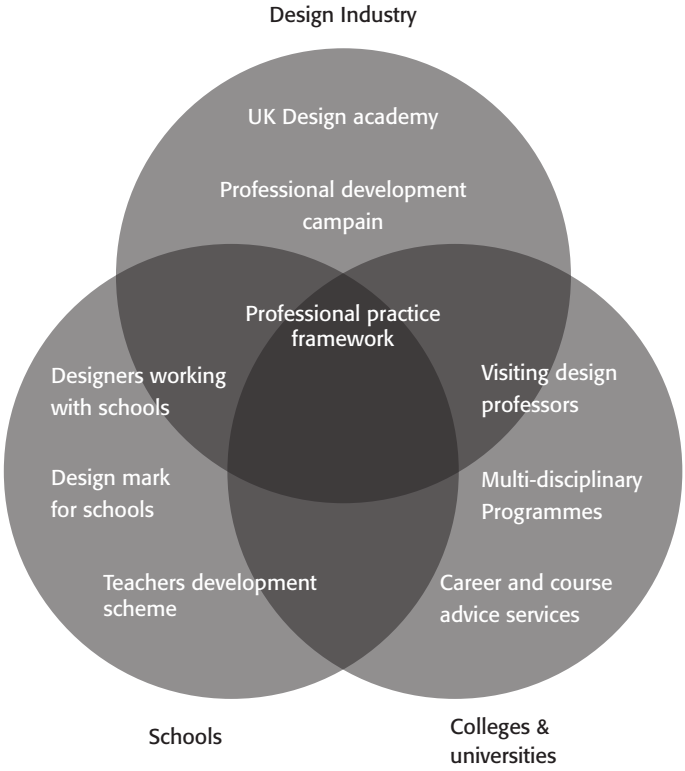

Figure 1 Model used in framing the recommendations of the Design Skills Advisory Panel (2007:37)

currently obscuring career pathways, our priorities for colleges and universities are to:

- link FE and HE with professional practice more effectively.
- develop new skill sets and provide multi-disciplinary experiences for design graduates.
- offer more objective course and career information and advice.

In recognition that designers need continuing professional development and that the sector currently lacks the infrastructure to support skills development, our priorities for the design industry are to:

- promote and explain design and its impact more effectively.
- develop high level professional skills and stimulate the supply of, and demand for, development and training.
- establish professional standards and achieve greater cohesion and collaboration across the industry. (2007:31-32)

Thinking across the design education continuum is now more vital than ever. In my view, the strangely targeted criticisms of design and technology within general education in the UK only retained credibility because of its relative isolation within the design continuum. Design epistemology is distinctive, important and influential, as the extract below from an email correspondence with Ken Baynes indicates.

> Part of the epistemology of design is to be found in the artefacts that have been designed. Traditional academics always have a problem with this kind of 'embodied knowledge' which takes some of its epistemology from the laws of physics, the potential of materials etc.
>
> Greek classical architecture embodies theories about the proper roleof humanity in relation to nature, beauty, mathematics and of course engineering.
>
> Vitruvius wrote the first (surviving) book on architecture (about 30BC). De Archtectura has ten sections and really covers architectural knowledge in a very thorough way. It included the education of the architect – he (not she in those days) needed to know about sociology, business, materials and engineering as well as mathematics and techniques for designing: drawing; model making; setting out. He presents a well-argued theory of form and proportion derived from the mathematics of nature and the human body. He was an ergonomist as well as an aesthetician.
>
> His book was re-discovered in the Renaissance and through Palladio's great handbooks on proportion,

> symmetry and detailing influence design even today. (Baynes, 2012)

Vitruvius' provided a vision for the design education curriculum appropriate for that time and design area, and it was embedded in an associated epistemology that has been influential for centuries. Similarly the Bauhaus provided a design education curriculum that transformed design and led to the modernist design movement. Richard Kimbell's reflection on 'Who built that?' in this issue of the journal reveals the issues surrounding the meaning of design epistemology in relation to the building of Ely cathedral. The task of keeping the design education continuum 'up-to-date' remains, but its theoretical underpinnings are sound, if not always fully articulated. There is no doubt of the need for those involved in design education to pay greater attention to its theoretical framework and its communication, as well as its implementation, but that cannot be held up as an excuse for policymaking that disregards the lessons of history.

So, in the spirit of the design education continuum, this Issue marks the beginnings of a new collaboration with the Design Research Society (DRS) and Cumulus. The DRS is world-leading and has a Special Interest Group concerned with design pedagogy. Cumulus is an organisation of over 150 European higher education design institutions. Two of the papers in this Issue were presented at the recent DRS conference in Bangkok, and illustrate the potential for collaboration across the design education curriculum. The next issue (17.3) will be focussed on the design education contributions made at the DRS conference in Bangkok, and will have a Guest Editor and Editorial. In 2013, one of the journal issues will be focussed on the DRS/Cumulus conference that is to be held that year in Norway. It is hoped that this emerging collaboration will strengthen the design education continuum and support the work of all its researchers and practitioners.

Erik Bohemia and Gillian Davison's paper concerns The Gift design project. This was carried out in The Global Studio, which enables international collaboration between academic and industrial partners. The project involved students who were based in Canada, England, Japan, Taiwan, Australia and Korea and communication between students was conducted online using web tools, emails, Skype and teleconferencing. The project provided both students and tutors with opportunities to become involved in peer assessment and review, peer feedback and reflection on learning outcomes.

Jane Osmand and Brian Clough's paper explores the role that 'buddies' might play in assessing design. This was an action research project that was designed to improve the assessment experience for students at Coventry University in the UK.. The Assessment Buddies system was modelled on industry practice to support the 'crit' process, which is a central aspect of design education within higher education. The paper reports findings from student focus groups and questionnaires concerning the effectiveness of the assessment buddy approach.

Sarah Turner's paper concerns the 'emotional rollercoaster of the teacher training year. This study aimed to develop deeper understanding of how a cohort of science and design and technology PGCE students settled into schools on their teaching placement and to investigate any differences between mature trainees and those who have continued straight through their education. The paper reports findings from questionnaires and interviews and discusses the need for students to develop resilient behaviours.

The paper by Thomas Delahunty, Dr Niall Seery and Dr Raymond Lynch concerns the evaluation of the assessment strategies employed for graphical education at Junior Cycle in the Irish System. Research methods involving visual protocols were employed to capture the approach in solving a prescribed graphical task among first and second year students in the Technical Graphics classroom. The limitations suggested of summative assessment strategies are discussed.

Karl Hurn's paper concerns the Impact of social software in product design in higher education. This paper aimed develop a greater understanding of the use of social software by students in product design education and the impact of blogs, wiki's, Facebook groups, Flickr images, Myspace pages, RSS feeds, Tweets and YouTube video posts on their learning processes. An action research approach was adopted and the results of semi-structured interviews and questionnaires are reported.

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E.W.Norman@lboro.ac.uk