ID KAIST Design 3.0 Forum

Miles Pennington – Questions & Position Statement

Questions:

1. Is it design? In the mosaic of multi-disciplinary influences that is now 'design' what are we really teaching? Is 'design' just a tool, part of the picture or is it still the main title?

2. New directions. Are we better off teaching genome sequencing programs rather than 3D modelling software? What does leading edge science have that is going to be influencing design activities in 20 years from now?

3. What's holding it all together? What are the skills, approaches, experiences, characteristics or methods that are absolute core to what we do in 'design'?

Position Statement:

Running Forward While Looking Back

I currently lead the Innovation Design Engineering (IDE) programme at the Royal College of Art, London. It is a joint programme with Imperial College London and was started over 35 years ago with the question "Can you teach design to engineers?" – seemingly obvious today but in the late 1970's this was a radical departure from the siloed discipline approach in art and design. The answer was of course 'yes' - if you find the right engineers and the programme has been building on this foundation of inter-disciplinarity over the last three decades. In that time some interesting things have happened; first we have ceased to take only engineers into the programme; we still have people (about one third) from engineering, technology or science backgrounds; but alongside that we have people (again one third) from design backgrounds and the rest are a diverse set of different backgrounds from fine art to banking. The second major change has been we have switched from training people to work in the field of Industrial Design to developing people capable of operating in an extraordinarily wide spectrum of work – I often use the following Peter F. Drucker quote to describe our current intentions "Since we live in an age of innovation, a practical education must prepare a person for work that does not yet exist and cannot yet be clearly defined." We take people from any kind of background and put them through an intense experiential educational journey and when they graduate they do so into almost any field. What does that make the programme now? We see IDE now as a cutting-edge innovation programme where design and engineering are tools to achieve it. What is the IDE graduate? A new type designer; or an engineer or an innovator – that's a difficult question. There is a combination of innovation focus; engineering and technology understanding as well as design and creative flair and it is a potent mix, but it is difficult to define exactly what you would call the final output. There is no specific goal, and no specific way of getting there – as one of our research staff, Professor Ranulph Glanville once said "There is no book of spells…but there is magic". For me it is no longer important to talk about the IDE programme in terms of a particular discipline – I'd rather let the work of the graduates define it. I agree with Drucker, the future isn't clearly defined, we need many elements to come together to help build it. Design is one of them – it's what the others are that is intriguing.

Within the IDE programme though we do talk a lot about directions and approach. Whilst at the RCA I have overseen the development of two methods to allow students to explore projects in different ways. These we call Directional Innovation Methods. At the moment there are two well resolved methods – Experimental Design (EXP) and Disruptive Market Innovation (DMI). EXP is about lateral exploration - design and technological, commercial and societal innovation at a fundamental level which may incorporate the exploration of new technologies, new product categories or new contexts and could form the basis of advanced research at a later date. Rigour in research methodology and an intelligent formation of a hypothesis are important features as well as innovative and explorative experiments and results. Disruptive Market Innovation (DMI) on the other hand is about delivering functioning innovative products that disrupt the market or create new markets. DMI outputs must be technically feasible and proven, manufacturable as well as desirable. Disruptive innovation is well accepted as the creation of a product or system which radically changes a market or builds a new one. Using these two methods as beacons to navigate the direction in a design project allows student to safely experiment whilst also delivering original and challenging work. What's next? Technology Led Innovation – It is now obvious that within 10-20 years of a new wave of technologies and sciences will become available to industry. For example, nanotechnology, bio-medical advancements, new material innovations, advanced computing - there are so many frontiers that are being pushed forward outside of the normal realm of design and innovation. However there is a risk that new technologies are developed without thought for real people. We have a keen interest in exploring ways in which meaningful deployable innovations can be generated from technology improvements – not technology gadgets without a human orientated need or desire. We need design students to stretch well beyond the traditional foundations to be able to tackle these emerging technologies and lead them into people's lives.

However the breaking down of traditional discipline boundaries and looking far-forward to emerging science for influence on design education doesn't mean that we leave everything behind. I am a strong believer in the core foundations of creativity and diversity – original thinking and wide ranging opinions. We are lucky in the Royal College of Art that the institute itself provides an incredibly rich source of both. As an art school that still has a wide variety of courses from painting to vehicle design means that students are exposed to opinions 180 degrees different from their own as a matter of everyday occurrence. It's important that the designers of the future respond to broad influences – that starts at school and extends throughout their careers – they should look to social, political, economic, industrial and other themes for inspiration for their creative work – sensitive creative responsiveness to the evolving world is the character that is key – that hasn't changed and continues to be critical. We always need to ensure that these foundational approaches that are instilled in education; the core requirements haven't changed even if other layers are appearing.

Miles Pennington (October 2016)