Design Education: Collaboration and Cross-Disciplinarity

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Design Education: Collaboration and Cross-Disciplinarity

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Foreword

Design Education: Collaboration and Cross-disciplinarity

The 18th International Conference on Engineering and Product Design Education (E&PDE) was held at the University of Aalborg on the 8th and 9th September 2016.

The conference was hosted by the Department of Architecture, Design and Media Technology at the University of Aalborg, Denmark, in close collaboration with the Design Education Special Interest Group (DESIG) of the Design Society, and the Institution of Engineering Designers (IED).

The E&PDE conference was initiated in 1999 in the United Kingdom and was consolidated as an international conference in 2004; alternately taking place in the UK and abroad. Its objective is to facilitate the bringing together of people from within education and industry who are interested in sharing expertise on the implementation and analysis of contemporary and developing methodologies in engineering and design education. It provides educators and researchers from product development, engineering and industrial design, together with industry and government representatives, with a platform for discussion on topical educational issues in design education and its future direction.

Conference Theme

As the host institution for E&PDE 2016 we chose to focus collaboration and cross-disciplinarity. We developed the theme based on the notion that development of new products has to be integrated with business, services and the digital arena. This influences work and education of designers in two ways: Designers develop products that cannot stand-alone and need to be understood as part of a larger ecosystem, such as smartphones that need software, applications and network to provide the user real value. That emphasises the need to collaborate with multiple providers and stakeholders during a development process. It also means that the complexity of the product development process increases and calls for cross-disciplinarity as a prerequisite and condition for the design team that encompasses more than traditional designers and product developers. Therefore it is important that design educators explore how we prepare students for collaborating with stakeholders, companies and businesses and at the same time investigates the process-, methodological and tool-based challenges and opportunities in a cross-disciplinary setting.

Our aims with the theme Collaboration and Cross-disciplinarity are to:

- Provide a networking platform for a broad variety of participants
- Explore how engineering and product design education contributes to a balanced development of technological possibilities and the needs of people for future society
- Discuss how engineering and product design education can enhance meaningful relations with manufacturers, stakeholders and society in general
- Explore how cross-disciplinary approaches and projects can lead to fruitful insights and valuable results
- Discuss how design education can best be used in the framing and alignment of needs and expectations of users and stakeholders
- Seek innovative solutions that open up new horizons for collaborative practice in design
- Embed the integration of all aspects of engineering and design in our curricula
- Explore the broadening and deepening of the design profession through collaboration and cross-disciplinarity

Conference Programme

24 countries will be represented at the Conference this year. 237 contributions were received which explored the full depth and diversity of the conference theme. Amongst them were 26 student contributions. After reviewing abstracts, full paper submissions and subsequent revisions 103 contributions were selected to be included in the proceedings, 11 of which were poster presentations at the conference. The accepted papers allowed the committee to build a conference programme with a number of major streams including; Preparing Students for Cross-disciplinarity, External Collaboration, Form and Aesthetics in Collaborative Design, Collaborative Environments, Framing and Alignment of Projects in Design Education and New Design Paradigms. As such, the programme covers the issues and meets the needs that arose when the conference theme was defined.

Our keynote speakers Professor Marianne Stokholm from Aalborg University and Morten Bo Jensen from the VIPP Company presented interesting lectures on the subjects “30 years of Design Education” and “Vipp – the story". Their lectures are included in the Proceedings of the Conference.

Conference Host

The E&PDE 2016 took place on the Create-campus of the University of Aalborg and was hosted by the Department of Architecture, Design and Media Technology and Industrial Design Section. The University is located in the northern part of

the Jutland in Aalborg, the 4th largest City of Denmark. The Industrial Design Section collaborate with the Department of Mechanical & Production Engineering to provide an educational programme in Industrial Design Engineering, with a strong focus on the integration of Aesthetics and User-oriented aspects with Functionality, Technology, Manufacturing and Business aspects, through extensive collaboration with external companies and organisations.

Acknowledgements

This 2016 edition of the E&PDE conference was made possible through the commitment and efforts of many people. I would like to thank Ahmed Kovacevic, Judith Grace, Lyndon Buck, Erik Bohemia and Charlotte Whitehead for their professional leadership and open, warm and welcoming way have lead us through the planning of this conference. It has been a pleasant experience to work with such well-organised conference committee that truly reflects the theme of this conference: collaboration.

I would sincerely like to thank all the members of the international academic review board. They succeeded in the timely review of a vast number of papers, while retaining a true professional and academic stance on the intrinsic value and qualities of all papers submitted.

Naturally, I would like to express my gratitude to my colleagues from the Industrial Design Section, especially Nis Ovesen and Kaare Eriksen, who made it possible to host the conference and over the past year have contributed in a dedicated and professional manner, and in particular our conference secretary Birgith Skipper Holstein.

On behalf of the conference programme committee;

Christian Tollestrup

Head of the Section of Industrial Design

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Roman Zavbi	University of Ljubljana

the Design Society

The Design Society is an international non-governmental, non-profit making organisation whose members share a common interest in design. It strives to contribute to a broad and established understanding of all aspects of design and to promote the use of results and knowledge for the good of humanity.

The Design Society was founded in 2000, taking on the previous activities and responsibilities of the Workshop Design Konstruction (WDK) Society, especially the organisation of the International Conference on Engineering Design (ICED) series of conferences, which had been running since 1981. Since 2000 the Society has organised ICED conferences in Stockholm, Melbourne, Paris, Stanford, Copenhagen, Seoul and Milan. It has also expanded with members from forty countries and with further very popular events such as the Engineering and Product Design Education conferences and the International Conference on Design Creativity among many other activities. The Society is very active in publishing papers and proceedings on design topics, and it has a developing portfolio of other design resources available to members including a repository of theses and collaborative agreements with a number of design research journals.

The Design Society concentrates on activities that transcend national boundaries, and, where possible, will seek to complement national activities. The objects of the Society are to promote the development and promulgation of understanding of all aspects of design across all disciplines by:

- Creating and evolving a formal body of knowledge about design;
- Actively supporting and improving design research, practice, management and education
- Promoting co-operation between those in research, practice, management and education
- Promoting publications and their dissemination;
- Organising international and national conferences and workshops
- Establishing Special Interest Groups and other specialist activities;
- Co-operating with other bodies with complementary areas of interest

The Design Society is a charitable body, registered in Scotland, number SC031694. Registered Company Number: SC401016.

The Design Society is open to new members. www.designsociety.org.

Established in 1945, Incorporated by Royal Charter in 2012, the Institution of Engineering Designers is the premier organisation in the UK to represent those working in the many fields of engineering and product design.

Our members enjoy a range of benefits, including advice on professional codes of conduct, a job board, regular newsletters to keep members up to date with relevant developments and events and a helpful legal advice service. We host events which offer our members the chance to network with other professionals and we publish a bi monthly journal – Engineering Designer.

Our Royal Charter allows the IED to award a Chartership for Product Designers (CTPD) to suitably qualified and experienced members. CTPD is on a par with other Chartered registrations and provides professional recognition and standing to those working in Product Design. This year we also launch 'Registered Product Designer' (RProdDes), a grade of professional registration for designers who are not ready to register at Chartered level. To find out more about CTPD and RProdDes visit our website: www.ied.org.uk

The IED is a licensed body of the Engineering Council, this licence enables us to assess candidates wishing to join the EC's Register of Professional Engineers and Technicians. Those members who achieve the appropriate academic and competence standards receive Chartered Engineer, Incorporated Engineer or Engineering Technician status. We are also a licensed body of the Society for the Environment and are able to register suitably qualified and competent members as Chartered Environmentalists (CEnv).

A major part of our commitment to professionalism in design is the accreditation of academic and training courses, for registration as either professional product design or professional engineering design. A list of the currently accredited courses and information on how to get your course accredited is also available on our website.

The IED welcomes members from any organisation that has a design function and employs engineering and/or product designers and we have many academic teaching staff in membership. The first step to becoming a member is to complete the simple on-line form available at www.ied.org.uk

Dogmas in Danish Design Educations

Professor Marianne Stokholm,
Aalborg University & Stokholm Design

Summary of Keynote

It has been documented that the Danes are the happiest people in the world. Danes live in country where everything from the bacon pig to homecare and teaspoons are designed. The relation between the two facts has so far to my knowledge not been investigated. Never the less Danish Design as a brand represent a specific set of values and qualities which might be based on some tacit dogmas also ruling Danish design education.

The reputation of design from Denmark was established as Danish Design in the fifties trough the exposition and export of furniture and tableware and further consolidated by brands like Lego, Vola and Bang & Olufson.
Based on this you would assume that professional designers have been widely used for decades and that design education has a long history in Denmark. Nothing could be more wrong.

When Jens Bang from Bang & Olufsen gave a presentation of B&O design in Japan in the nineties, he was asked how many designer B&O employed and nobody believed him, when he told them the number was two. Actually one of the two was an engineer -himself. The head of the design department at Lego in the same period was a former tie seller and the world famous taps from Vola was designed by an architect.

You might then assume that design education was not needed. Until 1983 when industrial design was introduced as a pilot scheme at the Aarhus School of Architecture, AAA, there were no industrial design education in Denmark only artistic design educations at Arts & Craft schools.

Then in 1997 Aalborg University came up with a new initiative that shocked the design establishment. Aalborg is considered the outskirts of Denmark and the university was established in 1974 as technical university, with a specific pedagogical dogma named Problem Based Learning, PBL an entrepreneurial culture including collaboration with industry and establishment of new inter-disciplinary education programs.

Based on the dogma Integrated Design the university wanted to set up an Architecture & Design education program that would integrate engineering and architecture/design and create a competence profile which could bridge the gap between traditional engineers and architects/designers and thereby both meet the need of industry and the problems with unemployment rate within the traditional architect and design professions.

With the aim of creating competences in design process navigation and co-creation to prepare candidates for a dynamic, complex and interactive world the dogma for this industrial design-engineering education included project work in teams documented in two reports; a product report presenting the proposed design solution and a process report containing description and reflections on the methods and process.

Having been an active participant in both design practice, -research and -education for decades I will try to describe and analyse the development within Danish design education from the seventies and until today in an attempt to unravel the dogmas of Danish Design education. What are the dogmas concerned with? How do they influence design education? How do they affect design solutions and design competences?

Vipp – The History

Morten Bo Jensen,
Chief Designer at Vipp

Summary of Keynote

Vipp is a Danish industrial design company known globally for its waste bin, which was first produced in 1939 and later accepted into the permanent design collection at MoMA in New York.

Today, Vipp has grown into a wide range of products including kitchen modules, lighting, and a prefab home – all infused with a design DNA rooted in timeless functionality.

Vipp Chief Designer, Morten Bo Jensen, has been a part of Vipp for 10 years, and is involved in processes across the company, from product design and brand development to general business.

Morten will take you through the history of Vipp and give you a peek behind the scenes of a design philosophy that is highly influenced by the field of design engineering.