Design Learning for Tomorrow
Design Education from Kindergarten to PhD

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Introductions
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Many thanks to the Design Research Society (DRS) and Cumulus for giving the Oslo and Akershus University College of Applied Sciences the confidence to chair and organise this 2nd international conference for design education researchers in Oslo May 14–17, 2013. Researchers from more than 74 universities have undertaken a rigorous double blind review process used to select papers for inclusion in these conference proceedings. We received 225 full papers and of these 165 were selected and included in the conference proceedings and presented at the conference. Thanks to all, and a special thank to professor Peter Lloyd of the Open University, who served as chair of the scientific review committee and to dr. Janne Reitan of the Oslo and Akershus University College of Applied Sciences who chaired the committee with him.

The 2nd international conference for design education researchers in Oslo May 14–17, 2013 on the theme of ‘Design learning for tomorrow – Design education from Kindergarten to PhD’ received an overwhelming response. This is gratifying for us, the organisers, as we see design in a broad interdisciplinary perspective in support for a better tomorrow. For years we have promoted the idea that sustainable design solutions should include more than ‘professional’ designers; they should also include a general public as ‘conscious’ consumers and decision makers with responsibility for quality and longevity, as opposed to a “throw-away” society.

This is also the reason why we as the conference hosts have chosen to focus on design education from Kindergarten to PhD. This perspective was put forward as a contrast to most design education conferences where there is either a focus on design education for professionals or general education for children and non-designers. In the call the conference papers we have argued for a longitudinal perspective on design education where the education of professional designers is seen in relation to general education of a people. This is becoming increasingly relevant as more and more decisions are being made on the basis of visual representation. With this conference we have the ambition to see education at many different levels in securing a sustainable future for the design of everyday life solutions. For that we need qualified and reflective decision makers with a consciousness for quality of design and solutions.

Why are these issues of concern for Norwegian researchers in this field? The answer goes back to the 1960 National Curriculum for primary and lower secondary schools in Norway, when art and crafts were merged into one subject. Currently this subject includes art, architecture, design and visual communication. No other Nordic–or European–country seems to have developed a model similar to this and today we see
the benefit of this merger where design is at the core of the subject for youngsters – building upon the best from art and the best from craft to become creative problem solvers and critical consumers. I am looking forward to the day when UNESCO, or other organisations with responsibility for funding research, recognise that we need more research and knowledge on what impact design education from Kindergarten to PhD have on consumer habits and sustainable development at large. I hope that such projects are not far away. Politicians have far too long been told that advanced mathematics is the main way to stimulate youngsters to abstract thinking. The designerly way of solving problems can be even more suitable in training abstract thinking, and it will also include ethical aspects of sustainable development and ecology. A design literate general public would therefore be a step forward in supporting the statement of commitment by the members of Cumulus; the ‘Kyoto Design Declaration 2008’.

For this DRS//cumulus Oslo 2013 conference we are happy to continue our international cooperation for design education research. In advance of the conference we have cooperated on editing the conference proceedings at level 1 in the Norwegian system. After the conference we will cooperate for special issues of the following academic journals; Art, Design & Communication in Higher Education, TechneA, Design and Technology Education, Studies in Material Thinking and FORMakademisk. The role of journals as an arena for design education research is essential for the advancement of knowledge production within the field. For the Nordic design and design education research field, FORMakademisk has played a crucial role in its five years of existence, as a digital open-access journal for both design and design education research. Its first editorial wrote that:

The aim of the journal is to provide a venue for research in design and design education, and thereby develop an interest and working community of scholars in the field. The editorial team perceives design as a generic term that includes creative and performing activities in the great span of the artefacts ‘from the spoon to the city’. The editorial team relates to design education as a field that includes the dissemination of design in society and the teaching of design at all levels general education, vocational preparation, professional education and research education - from kindergarten to doctorate.(www.formakademisk.org)

The Norwegian design education community includes design education for professional designers and teacher training for design educators. The teacher training is mainly developed through two master programmes--one in Oslo (Institute of Art, Design and Drama, Faculty of Technology, Art and Design, Oslo and Akershus University College of Applied Sciences - HiOA) and one in Notodden (Department of Art Education, Telemark University College - HiT). Two PhD-programmes; Oslo School of Architecture and Design (AHO) and Cultural Studies at the Telemark University College, have a focus on both design and design education. The AHO programme was chaired by professor Halina Dunin-Woyseth, who has played a key role in developing research within the ‘making disciplines’. From the AHO programme the research network DesignDialog was established in 2002 with research focus on three themes; 1) Studies of dialogues of design in context, 2) Studies of design education, and 3) Studies of public dialogues on design.

I see this conference as a further step to international collaboration in design education research. Thanks to all those at HiOA, Faculty of Technology, art and design, who have supported this conference; Dean Petter Øyan and institute leaders Åshild
Vethal – Institute of Art, Design and Drama, Gunnar H. Gundersen – Institute of Product Design, and Laurence Habib – Institute of Computer Science. Without their support this conference would not have been possible. Thanks are also due to the leaders of Oslo and Akershus University College of Applied Sciences, rector Kari Toverud Jensen and head of research Frode Eika Sandnes, for general support to the internationalisation of design education research at HiOA, including this conference.

It is an honour for us that the DRS-Cumulus partnership will be signed in Oslo by DRS chair professor Seymour Roworth-Stokes and Cumulus vice-president professor Luisa Collina. Professor Michael Tovey and co-chair of this conference Erik Bohemia have played a central role in preparing for this partnership and this 2nd conference for design education researchers.

Warm thanks to the Scientific review committee, the Scientific review panel, the Programme Committee, the Organising committee, and the rest of the Editorial team; Janne Beate Reitan, Peter Lloyd, Erik Bohemia, Ingvild Digranes and Eva Lutnæs. Thanks also to colleagues and students for valuable contributions.

We are also grateful to our supporters and sponsors; the National Museum, the Research Council of Norway, the musicians and designers Peter Opsvik and Svein Gusrud, the furniture companies SAVO, HÅG, STOKKE and Variér for generously providing display chairs for the exhibition, and all the other supporters and cooperation partners.

We hope, as the organizers, that the conference will promote design and design education as a field of practice and inquiry. We hope that it will create a fertile context for establishing new networks of future co-operation, nationally and internationally, and that design education research in its broad context will be recognized both inside and outside the design research community. The general public’s interest for design and quality is developed from the kindergarten, through primary and secondary education and the public’s attitude is central for professional activities and a broad democratic design participation.

Liv Merete NIELSEN
Professor, designer
Chair of the conference
Design Pedagogy Special Interest Group of DRS

This is the second symposium organised jointly by the Design Research Society and CUMULUS. The two organizations complement each other. CUMULUS is the International Association of Universities and Colleges of Art, Design and Media. It is a non-profit organization consisting of 165 universities and colleges of art, design and media from 43 countries. Cumulus was founded in 1990 and since then has been acting as an umbrella for many purposes and numerous projects for education and research of art, design and media. The Design Research Society is a multi-disciplinary learned society for the design research community worldwide. The DRS was founded in 1966 and facilitates an international design research network in around 40 countries.

The Design Research Society has three main aims. It focuses on recognising design as a creative act, common to many disciplines. It has the intention of understanding research and its relationship with education and practice. Then there is the overall aim of advancing the theory and practice of design. The membership of DRS is international.

The Society’s Special Interest Group in Design Pedagogy is one of five in the society. It aims to bring together design researchers, teachers and practitioners, and others responsible for the delivery of design education, and to clarify and develop the role of design research in providing the theoretical underpinning for design education. These aims are not directed simply at one type of design education, but are intended to include all ages. However as the current membership of DRS is predominantly from universities inevitably the conference stream has concentrated on design education at that level.

The first DRS/CUMULUS Symposium was held in Paris in 2011. Its overarching aim was to explore how innovation in education is informed by and is informing design research. The symposium focused on design education, innovation in general education through design, and on innovation in business and engineering education through design integration. There was a particular emphasis on developing research in the area of Design Pedagogy. It was successful and it marked the point at which the Design Pedagogy Special Interest Group became could be said to be established as an effective force in design research.

This was consolidated at the DRS Biennial Conference in July 2012 in Bangkok. Papers aligned with SIGs were streamed through the conference programme. The Design Pedagogy stream consisted of 24 papers which was a strong representation within the conference. They focused on teaching and assessment, education and learning, design methods and processes, design approaches, cognition and creativity, and design culture, with papers grouped accordingly. Attendance at the sessions was good with informed and lively discussion.

In recognition of the strength of the papers at the conference, 8 of them were selected to form the basis of a special issue of the Design and Technology Education Journal. It was edited by Erik Bohemia and Mike Tovey and it included a review of the conference and an editorial which related the developments in design pedagogy in...
higher education which the papers focused upon, to the wider issues of design teaching at the school level.

This second DRS/CUMULUS conference builds on these developments and develops them into new areas. Its theme of design learning for tomorrow encompassing design education from kindergarten to PhD is large and ambitious. The conference is intended to be an international springboard for sharing ideas and concepts about contemporary design education research. It is open to different facets of contemporary approaches to such research in any aspect and discipline of design education.

The context for this is set well by the organizers who say:

‘Designed artefacts and solutions influence our lives and values, both from a personal and societal perspective. Designers, decision makers, investors and consumers hold different positions in the design process, but they all make choices that will influence our future visual and material culture. To promote sustainability and meet global challenges for the future, professional designers are dependent on critical consumers and a design literate general public. For this purpose design education is important for all. We propose that design education in general education represents both a foundation for professional design education and a vital requirement for developing the general public competence for informed decision making.’

This is a powerful and energising assertion for all of us involved in research in design pedagogy. It is possible that you could argue that this is what is needed, for despite a richness of activity, the number of journal papers on design pedagogy research could be higher. In a ranking of design research journals (Gemser et al, 2012) Design Studies was placed first. In the last year it has published only three papers on design pedagogy. This is better than the second placed journal, Design Issues, which has none, or another highly rated publication, The Design Journal which also has none. A challenge for scholars of research in design pedagogy is to achieve a greater impact amongst our journals.

Design research is not the same as research in some other disciplines. (Ref) In a fundamental science such as physics if research stops then effectively the discipline comes to a halt. If there is no physics research then there is no physics. Design is not like that. If design research were to stop then design would continue, more or less regardless. Designers would continue designing things, and probably the world would notice no difference. It would seem that design research is not central to design practice.

Design research is an activity which is directed to exploring and understanding the nature of design, its processes and methods. It has loftier academic aspirations than the data gathering part of the design process. It is usually undertaken by academics, and it is expected to conform to conventional standards of academic scholarship and rigour. Design research is clearly necessary for the academic respectability of the discipline.

One of the purposes of design education within schools is to equip students with the information and capabilities they need if they are to apply to study design at a university. It is an intention which probably applies to a minority of the students, but it is important nonetheless. In schools design education overall has to achieve much more and its broader reach is extremely important. It is important that research into design pedagogy should also have this wider relevance.

The recently published ‘Design and Designing: a Critical Introduction’ (editors S. Garner and C. Evans) is intended to provide an overview of design for those at school who are considering embarking on a university or college education in design. It
Consists of a collection of essays from a large number of contributors each concerned with a different aspect of design. In the first chapter for example Tovey asserts that the purpose of design education at this level is to provide students with a passport to enter the community of practice of professional design (Tovey 2012). For a significant time this has been the intention of practice based design education. Many students have the ambition of achieving a level of capability to function as designers in the professional world. In order to reach this standard they need to demonstrate a level of professional ‘polish’ and presentation to match that of the practising designer. However Tovey also argues that the most fundamental quality they need is one of creativity. The key to their achieving this lies in their abilities to think in a solution focused way employing visuo-spatial intellectual abilities. The ability to engage in creative thinking, and more particularly the creative synthesising of ideas through design thinking, is the most important capability required to enter the community of professional practice.

These are capabilities which need development from an early age. Abilities such as tackling problems with a solution focus, and thinking visuo-spatially are not developed ab initio at university and college level. It has been argued that spatial ability is a fundamental form of intelligence along with others such a numerical and literary abilities. (Gardner, 1984) Cross has gone further in suggesting that designerly thinking might be a basic form of intelligence (Cross, 2006). Although the case for such a view is not proven, it is a productive stance to take as it helps to identify and clarify features of the nature of design ability and it offers a framework for understanding and developing it. What seems to be generally agreed is that these underlying capabilities are ones which need to be nurtured early and developed, not only as the basis for studying design but also to equip students with abilities needed across a range of occupations. As the organizers of this conference propose design education can make a vital contribution to the development of the general public competence for informed decision making. Thus design education can be seen to have a wide remit in both providing the next generation of designers, and developing competence in decision making more generally. If it is to meet these challenges then research into design pedagogy has a crucial role in supporting the development of innovative and effective design teaching.

Michael TOVEY
Convenor of the DSR Design Pedagogy Special Interest Group (PedSIG)

References
About the Design Research Society

Design Research Society (DRS) is commending time, effort and energy and having already been investing these over the past 40 years to give rise to the most astute and relevant research in design.

When asked on numerous occasions to comment on design and design research, I’ve always been very careful, if not harsh, with regards to certain research projects whose content and/or approach seemed to fall short on the front of the relevant things in design. My reaction hit even closer to home in France where design is absent from academic disciplines, and design research has yet to really take off. I have to admit, nonetheless, that the strides undertaken by several universities abroad and continued by DRS have swayed me into believing that there really is an area that craves further learning and discovery, and cultivates fresh, relevance-hungry skills and competencies. Conferences and DRS-published works reflect a tremendous proliferation of new ideas, new projects and new ways to breed knowledge.

In 2010, and after having sat in on a conference in Seoul organized by the International Association of Societies of Design Research, I wrote the following: “Taking advantage of design’s coming out and its lack of visibility research-wise for the purposes of Sociology, Psychology, Education Science, or even hard science, and playing them off as “design research” can only prove beneficial to design in the end. Employing the design research notion loosely, when, in reality, its usage is clearly career-gared, does not seem all that fitting to me either.

The scope of research needs to be clearly outlined in a category of its own, and based on a language that both captures and communicates the knowledge from all fields spanning social and hard science, not to mention the socio-economic challenges that riddle our everyday. Design is a language doubling as an interface that connects people, ideas and knowledge, and imagines them in a better tomorrow. We could come up with our own scientific version of it as long as we don’t get carried away and throw everything together haphazardly merely because design is omnipresent, and it suffices to get the intellectual juices flowing every now and then.”

Time may have elapsed since these thoughts first emerged, but the issue remains the same. This text reflected the questions that crossed my mind following the various presentations I had attended. One presentation, in particular, caught my attention. It was given by a doctoral student who claimed that the work he was doing on the design of a bicycle was research. Twenty years ago, designing a bike was considered design. Today, that same bicycle now aspires to fall under the category of “design research.” Let’s try and refrain from wanting to label any idea, even the most relevant, “research.” Despite their efforts to make a hard science out of Marketing, business schools are
busy filling in the gaps left behind by research done in the Marketing field. Every business owner and retailer in the world will tell you that Marketing is not a science, and wanting it to be one is just as futile as deciphering the gender of angels.

Design research is alive and well, and several universities have incorporated it into their agendas. It means nurturing a different kind of knowledge and insight at a time when other research fields lack the necessary to go head-to-head with the problems facing Mankind. There within is the incredible opportunity to truly, once and for all, set the fields of social and hard science apart. Kudos to DRS for being vigilant in choosing projects that are apt to map out a new direction between the two.

Just as design, creation and innovation are being positioned as solutions to problems in a world whose paradigms are crumbling, it would be, without a doubt, counterproductive for design research to cut ties with design practice. From an academic standpoint, it would also be a shame for design research to appear more virtuous and prestigious than design itself. That said, the loss would be just as great to reduce design to nothing other than a technique or representation. What design can offer goes beyond practicality. Design research goes beyond the designer. Their interconnectedness does not impede their individuality.

Design research and design itself are complementary. While loyal to the fundamental principles specific to each, both strive to find common ground and engage in a healthy give-and-take relationship to ensure balance and difference. With Mankind and its uses at the center of these issues, design gives impetus to an ideal or a potential, and not only pushes the limits of creativity and optimism to new heights, but seeks to defy them. At a time when science and technology are encountering a wary public, and where wealth and welfare are hitting glass ceilings, design provides an alternative future, and enables us to imagine it through a new lens. One thing is sure: Design researchers have their work cut out for them!

Christian GUELLERIN
President of Cumulus, International Association of Universities and Schools of Design, Art and Media
Philosophy of design education
From Tutor-led to Student-led design education: the Global Studio

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Abstract: “Tutor-led” design education has been argued to be a system where lecturers are at the centre of teaching & learning activities and where educators’ tastes strongly influence students’ outcomes. Design education has also been argued not to prepare graduates for working in highly complex professional capacities synonymous with the contemporary era. We argue the role of tutors in tutor-led design education to be a factor in this.

The Global Studio runs Web 2.0 enabled industry sponsored international collaborations between students. One aim is to introduce learners to “complex project situations” and consequently to prepare them for contemporary working life. It is operationally different from “tutor-led” design education as lecturers are more “distant” in teaching & learning activities and students construct conversations and outcomes primarily via interaction with peers. Feedback from home-institution students suggests many individuals struggle with making decisions without “tutor-led design education” involvement from tutors.

Given the on-going change in funding provision and the continuing dissolution of “normal” structures, universities are predicted to continue to undergo extensive transformation in their remit and the way education is delivered. We ask whether tutor-led design education is maintainable and whether educators and students are prepared for the consequences of change.

Keywords: peer learning, learning to deal with complexity, tutor led learning
Introduction

It is perhaps only natural for educators to take an interest in the direction universities are heading. Not all are content with the track higher education is pursuing. For example, John Danvers (2003, p.53), argues that education is becoming ‘increasingly determinist’ and is promoting ‘linear systematic processes [which] lead to predictable [student] outcomes’. However, for Danvers (2003, p.54), practice-led training of artists and designers appears to differ in its approach to the other sections of the higher education fraternity. He claims a dialogical approach is the norm in art & design education as ‘...there is an expectation that received opinions, dogmas and assumptions will be challenged by students and staff...’ (p.54). In art and design higher education Danvers (2003: 54) suggests that,

...students are encouraged to take as little as possible as 'given', and to develop a critical stance in relation to the orthodoxies of practice, matters of taste, style and aesthetic codification, and to recognise and question ideological positions wherever possible.

Danvers' experiences of design education appear different to those of some other academics. Alain Findeli (2001) argues that problem solving through linear, casual means remains the most widely utilised method of processing seen in design teaching. Rather than facilitating the continued development of “voice” in learners, researchers have argued design educators speak more than their students during studio teaching sessions and are at the centre of learning activities (see Davies and Reid 2000). Perhaps more ominously, Cameron Tonskinwise (2011: 452) argues ‘design education is exemplarily Bourdieusian’ in that tutors’ values dictate outcomes delivered by students. Rather than being involved in a perspectivist dialogue with students, Jorge Frasca (2007: 64) states,

I have seen [design] instructors judge the quality of their students’ work by saying: “This one is too busy” or “This is better, it is simpler.” They suggest that “busy” is bad and “simpler” is better in every situation.

The behaviourist system described above is surely of some concern as it does not provide optimal conditions for creating mature relationships between students and tutors in the classroom (Baxter Magolda 2009). For Jorge Frascara (2007) this approach leads to curtailing of students’ development evidenced through their delivery of unimaginative forms. Controlling students’ outputs can add little to preparing them for life as a professional which demands graduates to be flexible, adaptable and to rely on their own initiative (see Barnett 2000). Brigitte Borja de Mozota (2010, p.98) disputes whether design education enables designers to operate optimally in tough professional climates. For her the problem is that even though designers ‘have this potential to work at higher strategic levels... they are not trained to do so’. This, she claims, ‘is a challenge for design education.’ (Borja de Mozota 2010, p.98)

The educational theorist Ronald Barnett (2000) proposes that graduates are entering ‘a world that exhibits global features of challenge, uncertainty, turbulence, unquantifiable able risk, contestability and unpredictability’ (p.262). For Barnett, contemporary existence seems to have become messy – for he argues we currently reside in,

A supercomplex world [...] in which the very frameworks by which we orient ourselves to the world are themselves contested. It is a world where nothing can
be taken for granted, where no frame of understanding or of action can be entertained with any security. It is a world in which we are conceptually challenged, and continually so. (Barnett 2000, p.257)

Seemingly in agreement, the sociologist and cultural theorist Scott Lash (2003, p.53) argues that in late modernity ‘totally normal chaos is regulated by non-linear systems’. Michael Beverland (2012) suggests that design graduates will need to have ‘soft’ skills in order to deal with high levels of uncertainty. We argue the constrictive influence of “tutor-led” design education upon students’ processing of problems is not optimally suited to preparing them to negotiate “normal chaos” as graduates. For Derek Miller (2010), Senior Fellow at the United Nations Institute for Disarmament Research, professionals should be involved in a process of ‘figur[ing] out what is wrong with their own ideas, and not what is right about them.’ However, Miller (ibid, p.5) argues,

Designers are worryingly not involved in that process. Design is trying to prove itself, rather than disprove itself. It is the latter, though, that will serve the social good.

Perhaps the lack of exposing design students to complex challenges contributes to the situation described by Miller (2010, p.5). We attempt to introduce students to demands of “normal chaos” that are a function of the contemporary era via running projects through ‘The Global Studio’. The Global Studio primarily centres on students taking responsibility for their own decisions through peer engagement. We construct this approach to give learners the opportunity of “dealing with uncertainty”. We term the approach used in the Global Studio “student-led” Design Education.

The Global Studio

In the contemporary world of professional industrial design practice, it is not unusual for teams located in different geographic locations and from different cultural backgrounds to collaborate in order to deliver interventions (Wang et al. 2002, Gupta et al. 2009). The list of professionals in such operations is formidable: – clients, designers, researchers, engineers, suppliers and manufacturers. It is important to remember that each team contains a workforce made up of human beings. Richard Thaler and Cass Sunstein (2009, p.7) argue individuals from this species are not as infallible as they are sometimes made out to be:

If you look as economics textbooks, you will learn that homo economicus can think like Albert Einstein, store as much memory as IBM’s Big Blue, and exercise the willpower of Mahatma Gandhi. Really. But the folks we know are not like that. Real people have trouble with long division if they don’t have a calculator, sometimes forget their spouse’s birthday, and have a hangover on New Year’s Day...

Add to this other requirements (for example negotiating differences in time zones, issues with spoken or written language as well as differences in cultural norms and practices) and one can imagine the likelihood of “normal chaos” ensuing in professional design practice.

Through enabling cross-institutional collaboration conducted between a university based in England, industry partners and international universities, the Global Studio responds to shifting trends taking place in design practice with regards the emergence of globally networked organisations and the inherent shift in ways of working (e.g.
Hoppe 2005, Horváth, Duheovnik, and Xirouchakis 2003, Asokan and Payne 2008). Harrison and Peacock (2010, p.878) claim this presents ‘home students with [an opportunity to develop] a portfolio of globally relevant skills and knowledge without them leaving their home country’. The organisation of the learning activities aims to equip students with an appreciation of cross-cultural and distance communication and consequently strives to allow them an opportunity to experience “normal chaos”. Our approach thus mirrors Ben Johnson’s (Johnson 2011, unpaged) claim that education should prepare learners ‘for uncertainty by helping them feel comfortable in postulating, guessing, hypothesizing, conjecturing, and testing their theories.’ Our approach in turn aims to address the already cited criticisms of design made by Miller (ibid).

The Global Studio follows in the tradition of the Design Studio, with its emphasis on project-based learning and learning in and through “doing” (Schön 1985). Concentration on project-based learning in the Global Studio is claimed to help embed established design practices into the students’ repertoires (Bohemia and Harman 2008). The Global Studio makes use of a blended learning approach – a combination of online learning and face-to-face teaching. In order to facilitate cross-cultural collaborative learning, Web 2.0 technologies are utilised to enable communication between distributed student design teams. According to Harrison and Peacock (2010, p. 878) these technologies help individuals ‘transcend national boundaries and the constraints of distance educational opportunities’.

In the Global Studio all participating students are allocated an online project site which provides a common interface and “space” for staff, learners and industry partners to collaborate on a given assignment. The use of such technology has led to the production of learner-authored content and has facilitating the development of a student-centred learning & teaching approach (Bohemia, Harman, and McDowell 2009). The shared sites also provide students with an opportunity to learn from and with peers from their own and participating universities and manage their own time frames in order to simulate a “real world design studio” scenario. Falchikov & Goldfinch (2000 cited in Cassidy 2006) claim peer learning also enables students to take a leading role in learning and to develop autonomy and independence. A central premise of the Global Studio is that throughout the projects, collaborating students are co-dependent on one another’s inputs. This introduces a sense of ‘risk’ to the Global Studio. Earwaker (1992) suggests that for growth to occur amongst students, risk should be inherent to the experience of higher education.

We claim the Global Studio is structured in such a way as to deliver students the opportunity to experience the educationally valid phenomenon of “normal chaos” through introducing uncertainty. As an example of “student-led” – as opposed to “tutor-led” – design education, the Global Studio also promotes “risk” which is argued to be necessary for growth to occur.

**Two Projects: Gifts and Festivals**

These two Global Studio projects involved more than one hundred students from universities around the world. At a micro level, the projects were run via teams of three to five students from one university (Team A) collaborating with an equivalent group from another participating institution (Team B). Although these collaborations are provided with their own WordPress project sites through which they communicate, students are also free to choose to communicate via other Web 2.0 technologies such
as Skype or Facebook. Staff, other participating learners and industrial collaborators also are encouraged to provide feedback to students via the project sites.

The Global Studio projects advance through pairs of teams adopting client–designer relationships. As in professional design practice, the client delivers a brief and set of parameters for the designer. Ultimately, the designer’s task is to respond with a design intervention. In the Global Studio, client briefs and eventual design outcomes must exist within an overarching “project theme” provided by the project coordinators. This theme contains a set of deliverables as well as deadlines. It is important to note that when a team acts as “client”, their brief contains instructions to design products or services that are to be relevant to an aspect of the culture in which they are “home students” – this will be expanded on below. Each team within the pairing performs both the client role and the designer role. Thus, Team A is the client for Team B. At the same time, Team B must write a brief and expects appropriate design interventions from Team A.

There are many reasons for our choice to enable each team to play a “dual role” in the collaboration. Firstly, we wanted to help develop the opportunity for an egalitarian relationship between partnerships to flourish. We also wished to enable each individual a varied learning experience and subsequently the opportunity to develop a diverse range of material for their portfolio. Finally, our aim was that each student was given the space to experience and negotiate the simulated “normal chaos” of contemporary working life as a design professional. Our belief is that through experiencing this “normal chaos” and negotiating uncertainties during the project, students can become more versed in negotiating complex problems in professional life.

The authors have worked together over two consecutive academic years to initiate and help deliver two projects through the Global Studio. The first project, in which nearly 250 students participated, was termed ‘The Gift’ and was inspired by the anthropologist Marcel Mauss’ seminal book of the same name (Mauss 1950, 1990). The sociologist Pierre Bourdieu (1998, p.94) claims ‘Mauss described the exchange of gifts as a discontinuous succession of generous acts’. Mauss claims that ‘giving’, ‘receiving’ and ‘reciprocation’ the central tenets of human interaction. For the cultural theorist Stuart Hall (1997, p.3), these interactions, which are part of cultural practices ‘carry meaning[s] and value[s] for us, which need to be meaningfully interpreted by others, or which depend on meaning for their effective operation.’

The Gift project aimed to encourage students to explore various aspects of communication and design. Such issues included:

- How do relationships form between people?
- How do bonds form between people of different cultures?
- Should cultural differences be bridged or should they be celebrated?
- What strategies might be employed in order to encourage relationships?
- What are the material effects of Design?

Over 200 students participated in the second project entitled ‘Festivals Fairytales and Myths’, it reflected the notion that in currently in developed markets, where consumers can get hold of seemingly limitless quantities of fungible commodities, there is a yearning for “authenticity” (Arnould and Price 1993). This helps explain the expansion of the ‘Slow Movement’, resurgent culture and the growth in festivals and community events (Pierykowski 2004). The project also attempted to underscore the
importance of “context” and “meaning” to design students. For example, Peter Lloyd and Dirk Snelders (2003, p.250) claim that beyond what may be termed its actual intended function, an object can be something that ‘expresses or embodies ideas’ in society. The notion that designers should be able to understand contemporary or historical movements is highlighted by Paul du Gay et al. (1997) who state that they ‘play a pivotal role in articulating production with consumption by attempting to associate goods and services with particular cultural meanings’ (p.5) and are pivotal in presenting ‘these values to prospective buyers’. Consequently designers are termed ‘cultural intermediaries’ (du Gay et al. 1997, p.62).

As noted, in both projects, when assuming the role of client, students were asked to write a brief which was relevant to an aspect of the culture in which they were “home individuals”. Via opening channels for Web 2.0 communication we hoped to provide a platform through which designers would have access to a level of cultural knowledge they may not otherwise have. We will term this “local knowledge”. In our experience, “normal design education” often promotes the practice of asking students to design for abstracted individuals (requesting students to create imaginary “personas” for whom their design interventions are aimed at is a good example of this). Through utilising feedback from collaborators, we wanted to enact a shift away from these practices. The aim here was to provide teams a means of designing with partners with local knowledge.

To summarise, our aims were:

1) To address the criticism of tutor-centred learning in design education. Through creating an environment which centred on collaborative peer learning, we wished to decrease the overarching influence of tutors in the design teaching & learning environment.

2) Through limiting our “control” of the project, we aimed to introduce – and thus ultimately help prepare – future design professionals to the “normal chaos” that is a function of late modern practices. We believe through this that designers can become more versed in negotiating complex problems.

Students’ Reflections and Discussion

Individual feedback from participating students was collected at the mid-point and the end of the two projects. This paper will focus on end-of-project qualitative feedback provided by home students at the UK institution. We have only included end-of-project feedback as this data is provided following reflection on the whole learning experience provided by the Global Studio. We have concentrated on data from the UK HE establishment as the authors have observed practices there which are concurrent with criticism of tutor-centred philosophies already cited.

Through undertaking these projects, many students appreciated that understanding cultures different from their own is important in contemporary design practice:

This festival is closely linked to Valentines Day, so it was important not just to skim over it and assume it as a western celebration but look for the unique differences this day holds in China... To have a successful project I learned that it is highly important to spend time trying to empathize, understand and respect other people’s cultures, and breaking through this barrier will ease communications and enhance productivity.

...we had missed the point that in China cupcakes are not popular and don’t hold the same meaning as in our Western culture.
...doing this project it has made me learn about other countries festivals and how they celebrate it. It is important to understand cross culture differences. And the differences should not be underestimated either.

The majority of students reported that working with peers from cultures different to their own helped develop their understanding of other cultures:

Learning to work with a design team from a different cultural background was challenging and interesting; it was all about learning about a new culture, having to both understand and respond to new, and different cultural cues.

Importantly, the exercise of evaluating conversations with (as well as design proposals presented by) their collaborators located in other countries enabled students to critically evaluate cultural stereotypes:

Seeing/observing what the overseas team had found on our own culture (or my own) demonstrating what the cultural stereotypes were. What the overseas team found was not necessarily appropriate to our culture or reflected our culture, but based on these cultural stereotypes and clichés.

[I gained an appreciation of] the opinion of people so far away from the U.K. and Europe considering those places and how wrong are some stereotypes from both parties.

Through the Global Studio projects, students – for the first time in their experience in HE – were asked to tackle a range of complex issues highly relevant to contemporary design practice. These issues include, problems intrinsic to the client designer-relationship:

...I was able to experience both sides and the difficulties in communications and getting the correct information to gets stuff done, also giving the correct information so that the designer can get everything you ask for in the designs.

Issues relevant to communicating from within different time zones were also highlighted:

I have learnt the difficulties of different time zones, for example Japan is 9 hours ahead of here. This often made it difficult to get quick feedback on ideas or as we found to clear up confusion. This had big affects on the speed of work as designers

Learners also experienced problems communicating when “mother tongues” are different:

Because the languages are different, the meaning’s translation is difficult and often make people hard to understand, can’t transmit clearly.

Students also realised that some nations’ political policies were very different to their own - and that this impacts on what information can be accessed by their collaborators:

One of the first to be brought to my attention is the fact that Facebook is blocked in China, as are several other websites such as Youtube. I first noticed this when we posted several links with our brief to websites related to the Evolution festival.
The ability to negotiate complexity was an important part of the success or failure of this project. An important example is creating methods to bridge the language divide between home students and overseas collaborators:

...re-phras[ing] questions and [...]talk[ing] a little slower and a little louder using more simple English so that we were able to get our point across. 
[we] learnt to communicate using more pictures and less words. 
To try to help them in the understanding of the brief we put together a powerpoint of our local area, general instructions as to how the cakes are made: including a video, and an information sheet with images, at the same time trying not to be patronising if they already had knowledge of this. 

Collaborators were generally unfamiliar with the “local context” relevant to students from the home institution. This caused frequent misunderstandings:

Our collaborators didn’t understand the meaning behind our festival and this caused them ask questions such as ‘Is there any special aspects of your local area.

The difficulties experienced by students while working with their counterparts highlighted for them the importance the research stage has on the overall design project’s direction and the impact of communication on the design process:

This project has also highlighted how important the research stage is especially when designing for an area that you have no previous knowledge or experience of. 
...a thoroughly enjoyable project that i believe has taught both collaborating groups a lot about the true value of communication, the ability to understand and respond to different cultures and produce more relevant products as a consequence of this. 
...by collaborating with students where the distance was to the extreme, I hope that in the future I will feel more prepared for design collaborations across distance, whether it be again somewhere as far as Japan or on the other hand a company (person) based in the UK but a few hours away from where I am based.

Some of the students also recognised that in order to make a meaningful difference to other people’s lives they need to take into consideration the others people’s cultures:

Within design I see society and culture as the main driver for products, the ability to fully encompass a knowledge for someone else’s culture will make you a well rounded, better designer who creates more effective designs that have an impact on peoples lives.

Central to the philosophy of the Global Studio is the notion that collaborating students are co-dependent on one another’s inputs. Thus, for a successful outcome, teams must rely on a teaching approach that is not tutor-centred. As such, students who felt they had benefitted from the experience noted they had learnt to rely on developing their own problem solving strategies. For example, going beyond normal confines, self-evaluating design work, and feeling a greater level of control about their work’s direction is as suggested by students’ quotes below:

I had to go outside and experience [the] world. Get out of the shell that is the [class] room 103.
We then had to go ahead and use our own judgment, as designers to decide as to what concept would work the best. [The project] created several challenges that needed to be addressed without input from lecturers. This definitely formed an environment that felt greatly independent of University even though the project was undergone there.

Reflecting back, the majority of students stated the Global Studio projects were a positive learning experience and that they could foresee this learning being relevant to their future professional design practice. For example, this student informed us how difficult designing for others can be:

Another positive was designing an idea for a culture that is very different from our own. It can sometimes become very easy to start incorporating your own views and preferences on an idea when you are designing for someone else, however when a culture is so very different from your own it becomes almost impossible to do this while trying to keep an idea relevant and keep your clients happy.

However, paralleling this reflection upon the positive effect on learning, many students informed us that they struggled with making decisions without tutor-led involvement from design educators. For example, in their feedback learners suggested that ‘tutors pushing students to work harder’ or that lecturers should provide ‘more strict deadlines [...] to make sure everything is done on time’:

...improvements could be made by having interim presentations with lecturers present. It would have been good had we had two or three presentations to the other university.
It would have been beneficial to the process if we could have had some input from the lecturers with regards to the actual designs too, perhaps resulting in some less dubious outcomes or smoother transitions between iterations.
We really were stuck, as we couldn’t progress an inch without the feedback [from our counterparts] on our designs. By now we had to take it to the tutors to set things in motion, eventually things started moving again.
Our partners didn’t act upon the initial concept feedback we gave them and therefore didn’t upload any developed concepts. This caused us to panic.

The student quoted below articulated how projects that learners are normally asked to work on are governed by the tutors – and how this impacts on the course project takes.

I have learnt an incredible amount from this project and they are things that I would never have experienced from the in-house projects at university, the projects we get from the university are regulated often by your tutors but it is so different when it is done by fellow students. Evidently our tutors are our clients and it’s so easy to gain feedback and direction as they are there with you in your classroom however when working with international ‘clients’ it is clear to me how important communication is, how important leadership is and how communication your ideas in the right way can stop allot of confusion and misunderstanding.

Through enacting a behaviourist approach, we argue design education is working to diminish students’ exposure to “normal chaos”. An important aim of the Global Studio is to help introduce students to the “supercomplexity” that is a function of late
From tutor-led to student-led design education: the global studio

modernity. The authors have attempted to achieve this through reducing the reliance on a tutor-centric approach to design pedagogy.

A student who wrote his feedback whilst being on placement with an international manufacturer of high-end sports cars reflected the need for an approach to design education which is less “dictated” by tutors:

‘I feel I can understand this [Global Studio project] more so, as I’ve just spent my first week at the […] Design Studio, where its extremely fast paced and not everything goes to plan when there are many things going at once.’

A Sustainable Future for “Tutor-Led” Design Education?

In a recent report, the leading UK management think tank the PA Consulting Group (2011) highlighted the unprecedented challenges ahead for home-based universities. Issues listed include the ‘next wave of globalisation’ (2011, p.5) which will continue to increase access to learning through Web-enabled technologies for individuals wishing to study. Also mentioned is the ‘blurring of public-private divisions’ (2011, p.5) in terms of funding structures. According to the PA Consulting Group (2011, p.5), this momentum is,

...systematically sweeping away the organisational and regulatory walls that have delineated higher education and universities, opening up a dynamic and expanding economy of purposeful learning.

These issues translate into the possibility of offering greater distance learning opportunities for an increasingly diverse population of students and the possibility of universities working with a greater variety of agencies in order to supplement decreasing funding from the State. They are symptoms of Barnett’s aforementioned “supercomplex” era in which structures are dismantled. As part of a wider field of higher education, it seems sensible to suggest that design education is not immune from such upheavals. If it is going to become increasingly normal for the day-to-day logistics of higher education to become more complex, then it is highly possible the experience of higher education will follow suit design students. It may mean greater complexity in terms of the increasing the amount of time spent collaborating with peers and tutors across distance as well as routinely being involved in more diverse, externally funded projects.

We argue augmented demands placed upon design students necessitate changes in teaching methods employed by design educators. For example, implementing distance learning within design curriculum might result in reducing students’ face-to-face studio contact with tutors. One outcome from this process could be a reduction in tutors’ “voice”. An increased diversity in the nature of projects may necessitate branching into areas design educators may not deem themselves to be experts in as well as increased collaboration with colleagues whose specialism lies outside of design. Reduced “voice”, increased collaboration and a diminished claim to expertise may combine to reduce the influence design educators have over the solutions created by their students. Consequently, tutor-led design education may become less of a logistically workable principle as de-structured higher education systems continue to emerge.

Conclusion

In this paper we have argued that “tutor-led design education” may not be ideally suited in helping to prepare students for complexity and the “normal chaos” which
helps to define contemporary times. The Global Studio attempts to enable design students to experience normal chaos. Our aim is to help prepare students for this “supercomplex” era. Our qualitative data provided by home-institution students suggests many have found it to be a valuable learning experience.

However, student feedback suggests that many students have struggled with making design decisions during both Global Studio projects. We suggest one factor for this may be the difference in pedagogical approach between Global Studio teaching & learning philosophy and that of tutor-led design education. The latter is the dominant approach in the curriculum. Given the contemporary cultural and professional climate, we suggest there is a need to “introduce a much-needed sense of chaos” at an early stage in design education and to scaffold its presence into the curriculum.

Finally, given the operational changes continuing to influence higher education, we hope that our discussion raises the issue of the on-going logistical feasibility of tutor-led design education. If it may not be feasible going forward, we must ask ourselves whether tutors and students are ready for a changing dynamic? We argue more research should take place into this subject.

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