Cumulus Working Papers

Dublin

31/13

Contents

FOREWORD Luisa Collina

Design Disciplines Facing the Contemporary 'Age of Austerity' are not Stagnant

"More for less" (an interesting combination of Dieter Rams' "Less and More" and "Less but better" and Mies van der Rohe's "Less is more") was the title of the Dublin Cumulus conference, a title that reminds us of the history of the modern movement in architecture and design, and at the same time represents the contemporary challenge of design in many countries.

The conference was a precious moment for educators and researchers to ask questions and reformulate answers on themes that are very controversial at the present time: growth – when we discover that decrease and downshifting are more germane than increase and expansion; well-being – when many citizens are confronted with economic difficulties even to sustain elementary health care; consumption – when pocket money is in many cases not enough to make ends meet for a decent life.

But to be a designer means to be optimistic, means to be conscious about the potential of design to give shape to possible sustainable futures, based on new shared values, new lifestyles, new models of entrepreneurship and new advanced solutions.

It is not a matter of going back to a past way of living; instead, it is time to look to the future and to actively participate in a new way of designing our daily life.

In fact, the "More for less – design an age of austerity" conference underlined how design can bring innovation in a time of difficult socio-economical conditions to offer new ways of thinking, producing and solving everyday problems. These incorporate collaborative solutions and services; the sharing of time and of resources; do-it-yourself approaches and hand-made productions; recycling and upcycling of old products and furniture; tinkering activities with electronic appliances that are no longer working. These are just a few examples of how design disciplines, in a professional as well as educational context, have been facing the contemporary "age of austerity", searching for solutions that are not only cost-conscious but environmentally and socially aware; that are not only "cheap" but also attractive.

The proposals, hypotheses and answers suggested by the designers and the conference participants demonstrated the richness of research and design activity in relation to these themes and these approaches: a multitude of smaller and bigger innovations promoted by individuals as well as (more typically) by communities that have attempted to overcome the present scarcity thanks to the sharing of resources and intelligence.

The picture that comes out is a set of design disciplines that are full of life: not regretting a heroic past but able to recognize the rising of new paradigms, the so called sharing economy or more recently the frugal economy, ready to react to these new challenges by changing, integrating and updating their body of knowledge in their educational and professional lives.

Is a New Deal for Design rising?
Let's see!

Luisa Collina

INTRODUCTION Lisa Godson & Alex Milton

Design Learning in an Age of Austerity

The papers in this volume were among those presented at the Cumulus conference at the National College of Art and Design, Dublin, in November 2013. Based around the theme of *design in an age of austerity*, the conference proposed that in the deepest recession since the Great Depression of the 1930s, we need to turn the modernist mantra 'less is more' on its head as the reduced budgets of governments, business and people demand 'more for less', and develop a 'New Deal' for design.

The conference convenors proposed that the global recession forces design practice, research and education to address a number of questions:

- Consumption – How can design find a balance between excess and austerity
- Growth – How can design stimulate sustainable economic growth?
- Research – Is design research and development a luxury we can still afford?
- Education – How can we change pedagogical content and delivery methods to become more efficient while maintaining standards?
- Environments – How can we use design to create places and spaces for renewal and growth?
- Wellbeing – How can design improve our wellbeing and welfare in the face of public sector cuts and financial hardship?
- Communities – How can design bring local communities together to work on projects that improve how we live, work and play?

Vibrant economies are built on innovation, but with this comes an ethical responsibility for design as the supposed engine of the unsustainable consumerism and excess of previous decades. The conference sought to stimulate discussion on how design researchers, practitioners and educators can respond to today's fiscal constraints, and stimulate growth and renewal in our economy, culture and society.

The conference was attended by over 200 delegates from across the globe, and brought a diverse range of academics and practitioners together to share ideas and concepts about contemporary design research in this age of austerity.

Contributors were invited to submit research that addressed contemporary approaches to design research, with the conference committee and review panel welcoming research through, for and into design.

Among the most significant presentations and discussions at the conference were those that addressed the theme of design and learning in an age of austerity. As such, that is the focus of this volume, with other selected presentations archived at www.cumulusdublin.com.

Most of the papers presented here focus on particular case studies, detailing individual student and researcher projects, courses of study, pedagogic approaches and research into education. They arise out of highly specific circumstances and sites, from post-crash Greece to the Cape Peninsula of South Africa, from the classrooms of Ireland to the University of Central Oklahoma.

What the projects share is a refusal to accept that the global economic downturn means a diminishment in the importance of design. The financial 'boom' in many countries from the mid-1990s, for example Ireland, often led to a superficial understanding of design as the application of style to commodities, its 'meaning' predicated on codes of consumption. However, the papers here assert the ways a more deeply considered understanding of design beyond that of form-giving can and does play a vital role in addressing new and more vital challenges than shifting units of product.

This more fundamental understanding of design has of course been manifested in many areas of practice over the past decade, particularly in relation to post-industrial economies and the shifting role of designers to address vital social issues and public services, for example as outlined in the UK Design Council's white paper on the activities of their pioneering 'do tank' in the area of what was then termed 'transformation design' (see http://www.designcouncil.info/mt/RED/transformationdesign/TransformationDesignFinalDraft.pdf).

If the co-ordinates of design practice have shifted, this is of course reflected in both formal and informal learning. While a concern with the fundamental tenets of design education is implicit in all the papers here, Cathy Gale is more directly propositional. In 'Offshore Artschool: an educational heterotopia', she suggests a new model – an art school, based on Michel Foucault's concept of a heterotopia as 'a real place within or out-

side a culture that reflects or speaks about that space, like a mirror'. Her proposed institution, rather than a space for devising easy solutions, focuses on 'problem-finding not problem-solving', leading not only to innovative outcomes but also 'new notions of design'.

New 'notions' for design led many contributors to expand their projects far beyond the ostensible brief. For example, Caoimhe McMahon, who explains her concern with a re-design of task furniture for educational settings. A conventional ergonomic approach would involve design research from a musculoskeletal perspective. But alongside this, McMahon addresses vital pedagogical issues. Through a thorough account of a variety of grounded research approaches, McMahon explores power relations in the classroom, and its relationship to posture and activity. Through this, she demonstrates the necessity for all design researchers to be mindful of the entire context they are considering.

That entire context might involve a very specific community, where the 'learners' and 'teachers' are not only registered students or paid instructors but co-conspirators. As detailed by Andrea Wilkinson, students at the Media Arts and Design Faculty in Genk (Belgium) work with people suffering from dementia to afford greater dignity in their daily lives. In 'Negotiating pedagogy: collaborative learning in the real world', Rudolf Perold and his colleagues at CPUT in South Africa discuss how they include the local community in collaborative design projects, charging themselves with enabling 'the production of locally relevant knowledge' by their students. Emma Gieben-Gamal and Sónia Matos similarly established a project to engage their students with a grassroots movement to 'give them experience of real community needs in times of austerity'. The focus was the re-design of a playground, working with a parents' group. Drawing on critical pedagogy and participatory design, the outcome enhanced the design students' sense of themselves as 'active agents in society'. While their project (based in Edinburgh in Scotland) was a singular one, similar principles underscored the design of an entire 4-year programme in Bogotá, Columbia, as explained by Carolina Obregón.

Obregón explains how the curriculum and pedagogy devised for the Design and Fashion Management programme at the Universidad Jorge Tadeo Lozano addresses ways learning and delivery might be made appropriate to the conditions of economic downturn, and how local communities can be brought together to work on projects 'that improve their own standard of living and benefit the environment.' She suggests the values that can be drawn from 'austerity' as an appropriate principle in Columbia in terms of biodiversity, traditional craft techniques and manufacturing processes.

Resourcefulness is a clear feature of many of the projects here – of course as a desirable attribute of stu-

dents, but also in terms of the expectations brought to bear on their work. This is the case with the recent successes of the design programme at Oklahoma State University. In her exposition of the principles behind that success, Amy Johnson employs the intriguing concept of 'collaborative competition', a model more typically used in sports training. She explains how an overhaul of the design curriculum and a shift in the mode of teaching delivery has led to a 'thickly authentic' environment, her paper instructive and inspirational to those working in supposedly 'underdog' institutions.

If many of the case studies in the volume suggest working with local, physical communities, online collaboration is another dimension, and Mark McGuire addresses this in the context of virtual learning. By examining a number of 'role models', he explores their potential sustainability as fixed-location institutions get ever more-expensive. Sustainability in general is clearly a central concern in a time of not only economic, but environmental crisis. Both are central to the work of Nadia Elrokhsy, Cary Ng and Eulani Labay, a team from Parsons the New School for Design. In the fascinating context of civic interior design, they are mindful of housing economics and the wastefulness in the ways interior space is often organised. The course they have devised is designed to 'contribute and support a move away from behaviours, habits and rituals that further our propensity for consuming more products'.

Of all countries, it is Greece that has featured most dramatically in media respresentations of the economic crisis. Spyros Bofylatos and his colleagues from the Department of Product and Systems Design Engineering on the island of Syros explain their response to this through their account of the ReAct festival, a three-day event that they organised to communicate the need for radical change in Greek society. Through this, they emphasised the possible centrality of new design thinking in remaking the world. Going far beyond the bounds of the academy, their ambitions were no less than to forge a 'platform for lifelong intellectual and social development'.

The Cumulus conference in Ireland was a timely opportunity to exchange ideas and foster new working relationships with leading design educators and practitioners across the globe. The topics and ideas discussed during the conference helped inform the educational initiatives being developed as part of Irish Design 2015: a major government programme that seeks to increase the awareness, understanding and use of design in Irish society as a whole.

We hope readers enjoy the diverse perspectives, research findings and debates contained within the selected papers.

Professor Alex Milton and Dr. Lisa Godson

Selected Papers

Cathy Gale

The Offshore Artschool: an Educational Heterotopia

Graphic design is a broad-based activity infused into almost every aspect of modern life, yet only a few decades have passed since its activities were perceived as strange, operating beyond the gaze of the general public. Now 'page layout', 'font', 'point size' and 'format', have entered the public lexicon due to our exponential dependence on the home computer and the design software contained therein. Nevertheless, access to the digital tools of graphic design has not been accompanied by widespread understanding of the discipline's conceptual scope. This in turn, has lead to reductive notions of graphic design as a commodity distinguished only by the vehicles used to deliver a message, such as TV advert, street billboard, book cover, poster, website and magazine. Within its educational contexts design research anticipates new ideas, products and processes that do not yet exist. The academic framework makes this possible by providing space for open-ended debate and experimental practice. In this way design forms a bridge between a problem and its solution; the public and private; the collective and individual; the actual and the possible.

Beyond its service-orientated roles, design can have a huge impact on the way we live, how we navigate the complexities of contemporary life and define our place in the world, whether local or global. But, as Stephen Heller (1993) points out, it is difficult to conduct experimental research projects whilst serving the needs and wants of a client. For business, the speculative or ludic proposition is just too risky – with its associated financial and time-consuming consequences. In contrast, design education can straddle the commercial and social spheres and, in so doing, develop prototypes of design's possible futures. It is with this in mind that the *Offshore Artschool* (Figure 1) is developed as a problem-finding rather than a problem-solving tool. As the process of enquiry itself, rather than the outcome of this activity, prob-

lem-finding is framed as a mode of action research leading to innovative outcomes and new notions of design [1]. As both a noun and a verb 'design' is able to be both the product and the thinking that has led to this outcome. In Donald Schön's (1992) words, "designing is a reflective conversation with a design situation." Thus, in a synthesis of theory and practice, design thinking and making is fused in a creative and intellectual response to the question of whether design research and development is a luxury we can still afford.

Aims of the Offshore Artschool

Design disciplines are dependent on a broad matrix of ever-changing external forces incorporating financial markets, ecological issues, politics, society and the ebb and flow of culture. In the current economic and political context (graphic) design is increasingly described as performing a predominantly commercial role. Perceptions of the discipline now encompass its evaluation in market terms and design courses at HE level are framed as commodities. Rather than exploring new knowledge through design research, 'employability' indicates the necessity to fulfill a wholly vocational role in the service of an unstable economy. Research is necessary, therefore, to test the boundaries of the discipline in an ever-shifting landscape and demonstrate that there is more to design than material production. The *Offshore Artschool* is a student-centered research project that aims to make the role of design in modern life a visible subject for debate and dissemination.

Reconfiguring the space of teaching and learning

This project acknowledges the limitations of current academic circumstances (in the UK) and works within them. The *Offshore Artschool* is described in this paper as an educational heterotopia. For Michel Foucault (1984) the heterotopia is a real place within or outside a culture that reflects or speaks about that space, like a mirror. The ship is defined as the heterotopia par excellence. The academic environment of the *School* is, thus, re-envisioned as a ship: a floating campus, which is able to operate across diverse geo-political spheres. The *School* is conceptually based on water to create fluid opportunities for travel to any educational institution in the process of picking up participants (Figure 2). Studio-culture and digital technologies are exploited to encompass a broad scope of contribution across partici-

1

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OFFSHORE ARTSCHOOL
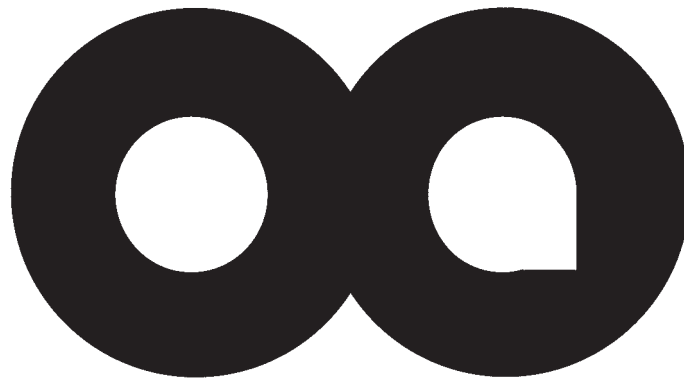
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| crit in progress | tutorial approaching: come aboard | coffee break: continue debate in canteen |

pating colleges. Studio based seminars will be offered and simultaneously extended to an online community beyond physical or temporal constraints. By occupying an alternative conceptual domain, students are given agency to define for themselves the boundaries of practice and their role in the critical context of the discipline.

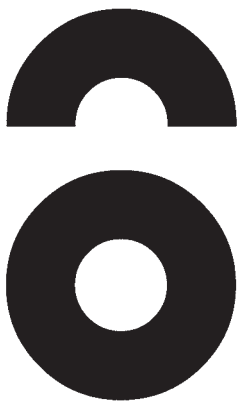## Who is the Offshore Artschool for?

In this pedagogic exercise there are no passengers, only crew: each participant must already be enrolled on a design degree (or equivalent) course. The *Offshore Artschool* is aimed at students across the broad spectrum of design disciplines: thinking and making new knowledge. The act of discourse is the subject and outcome of this design research therefore all levels of student ability can be accommodated in the project. In a significant subversion of current academic curricula neither the content or material outcomes of the *Offshore Artschool* will be marked. By rejecting established marking systems, all students (crew) are encouraged to contribute on an equal platform unconstrained by institutional bias, cultural status or traditional skill sets. The visual language of design debate is proposed as a critical challenge to the status quo: the subject of open-ended enquiry aiming to reveal new possibilities of practice. Each student is, thus, anticipated as a co-constructor of design's future: a creative provocateur rather than a customer.

How the Offshore Artschool study programme works

The *School* is an initiative set up to run for consecutive year-long sessions following a September to July academic year. The programme will be thematic, devised through discussion with the 'crew': participants who will be asked to commit by name to avoid anonymous 'trolling'. Each member will be given opportunities for discourse in the physical spaces of learning and the more open possibilities of digital media (Figure 3). Af-ter the theme has been established the next stage will tackle the project's methodologies and aims. These design components will be revisited as the project progresses to help define the 'problem space' [2] as a consequence of the inherent flux of the design process. In this project critical debate is framed as both a provocative tool to develop new ways of thinking about design, and a product in its own right. By disrupting the service-orientated role of current design education, the *Offshore Artschool* is envisioned as almost piratical in its aims, aiming to focus on critical debate in a natural extension of design activities. As such this research project sets out to expose the role of design in all aspects of our lives, not as a luxury but as a necessity.

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Emma Gieben-Gamal & Sónia Matos

ThinkPlay: Using Grassroots Projects as Learning Experiences

Abstract

This paper will present a design project that was delivered as part of the University of Edinburgh's Innovative Learning Week program in 2013. Our aim was to engage our students with a grassroots movement and to give them experience of real community needs in times of austerity as well as introduce them to some of the real issues facing communities and the designers working with them. The project 'Think Play' invited students to work on behalf of a Primary School's Parent Council group to respond to the school's plans to re-design the playground, and to propose potential design solutions for the space. The paper will explore the practical, pedagogical and ethical implications of instigating productive collaborations between the university and the general public to create a positive impact on real-world scenarios while drawing attention to the importance and relevance of design based research and practice.

> *It was excellent to have the input of Edinburgh College of Art students in the design process for Towerbank playground. Being neither parents, pupils or staff but rather a new generation of designers from different backgrounds, they provided a unique perspective on the space and its potential for transformation. They were able to come and observe children playing in the playground and use conversations they had at the school with different users to influence their final design, ideas some of which we are hoping to incorporate in the reworking of the space.*
>
> – Sarah Fairbrother
> (Chair of the Towerbank Parent Council)

It is a cold February morning at Towerbank Primary School in Portobello's seaside district. Despite the temperature, children run in the playground and approach with curiosity a small group of students from the University of Edinburgh. The students are here to conduct fieldwork as a response to the ThinkPlay project designed as part of an 'Innovative Learning Week' promoted by the University of Edinburgh in 2013. The challenge is to design interventions that would help the school enliven the playground – a rather dull and colourless 'slab' of concrete. Funding for any improvements would have to be sought from grant applications and parent fundraising as the school like many state schools in the UK has suffered with the recent budget cuts [1].

Figure 1. ECA Students, Camille Tan and Zuzana Tabackova, with school pupils at Towerbank Primary School, February 2013 [author's own image].

Using this episode as a departing point, this contribution will present and discuss the aims, outcomes and implications of the ThinkPlay project. Drawing on some of the ideas discussed when designing an elective course for the School of Design at Edinburgh College of Art (ECA) entitled Designing Alternatives [2], and an earlier iteration of an Innovative Learning week project in 2012 called Footprint, ThinkPlay was created in an effort to extend the learning opportunities that tackle current social, economic and environmental issues within ECA's curriculum. While the Designing Alternatives was initially developed as a lecture series (culminating in the submission of a 3000 word critical essay), both the Footprint and ThinkPlay projects took the opportunity afforded by Innovative Learning Week to challenge this educational archetype while drawing on a

model of 'action research and community problem-solving' (AR&CPS), borrowed from the field of environmental education [3].

To better understand ThinkPlay one has to briefly address Innovative Learning Week (ILW), "a weeklong programme of creative and experiential learning events designed to provide each student a chance to develop new skills" [4]. During ILW, lectures, seminars and tutorials are replaced with new opportunities to: "(a) gain a new perspective on the student's degree subject, (b) learn new skills and inspire students' to think about their future career, (c) exchange ideas and stimulate debate, (d) meet staff and students from different schools and colleges and finally (e) network and find new opportunities for research or revision" [4]. Now reflecting back on ThinkPlay, one could say that our initial aim was to provide students, from a diverse range of disciplines, the opportunity to gain a new perspective on design and community problem solving through action learning [5].

However, our attempt to challenge the existing curriculum and learning activities was not only fuelled by a growing 'dissatisfaction' with the lecture format but also by some of the literature on *critical pedagogy*. The work of John Dewey and Brazilian pedagogue Paulo Freire topped our list. Living decades apart, both appear as adamant critics of the 'banking' concept of education, one that takes for granted the idea that students are empty vessels waiting to be fed information that can be easily memorised and regurgitated. But while Dewey was an advocate of active forms of learning leading to more meaningful learning experiences [6], Freire often emphasised the role of education when tackling issues of social justice and change, a process that not only had the potential to emancipate the learner but also society at large [7]. This also resonates with the notion of the "development of critical being" within more recent educational literature [8] – a process that facilitates the learner's capacity to "take on the role of active agent in society" [*Ibid*.]. Such aspirations seemed to us particularly pertinent in face of the current social, economic and ecological challenges and the on going pressure for universities to fulfil their economic duties as opposed to social ones [9].

As suggested above, the first iteration of ThinkPlay came in 2012 when we took the opportunity provided by Innovative Learning Week to work with a local community action group called PEDAL, a Transition Town group [10]. PEDAL were invited to come up with a brief – which was to explore the idea of a local currency – and the students, under the direction of a design studio based in Glasgow called Pidgin Perfect [11] undertook a community consultation which resulted in a pop up exhibition. The outcomes for the students were very positive but on reflection we felt that the outcomes for

PEDAL were less successful: it was only at the end of the week that PEDAL realised what a rich resource the students offered and felt that they had not put them to best use. With hindsight we should have recognised their inexperience in working with designers and should have provided more support to help them develop a suitable brief; this challenge is often felt by those working within a framework of community problem solving and action research and learning.

Often traced back to the work of psychologist Kurt Lewin at the Tavistock Institute in the 1940's [12], action research attempts to devise forms of research and knowledge production that promote social democracy and organisational change [*Ibid*.]. The work developed so far follows a work ethos whereby the goal of research is to: "(1) produce practical knowledge while (2) working with people in the everyday conduct of their lives to finally (3) contribute through this practical knowledge to the increased well-being – economic, political, psychological, spiritual – of human persons and communities" [*Ibid*.].

The Action Research and Community Problem Solving model has very clearly appropriated these three guidelines in the attempt to enhance student experience while directly applying some of the principles to education. The broader claim is that "practical problems are a never failing-source of ideas and knowledge" [13]. However, if we consider that action research is always participative [*Ibid*], managing the participation of different key stakeholders can become a challenge, one that requires a continuous dialogue [14]. These lessons learned, when designing ThinkPlay we both recognised the importance of more closely defining the brief with Towerbank Primary School. It was now important to consider the needs of the community group and not simply the students learning experience. We also learned that working with existing initiatives and resources rather than starting from scratch was the way forward.

ThinkPlay provided this opportunity. Like other schools looking to improve their playgrounds, Towerbank Primary School's management had turned to the parent body for support. In response the school's Parent Council had set up a group of parents tasked with the responsibility of developing a new playground scheme and securing funding to implement the plans. This move should be set against a context in which the Scottish Government recognizes the importance of outdoor play and the value of well designed playgrounds [15; 16] but in which local authorities provide little direct help, either in the form of funding or design services. Instead, this is channeled through grants, which are administered by charitable organisations, such as *Grounds for Learning* [17], which places an enormous strain on schools to compete for scarce resources without always having access

to the necessary design or fundraising expertise. In this instance, Towerbank Primary School benefitted from a parent body that included design professionals but the heavy investment of time remained a major obstacle. Consequently, while the parent group had developed some initial designs, the project had lost some of its initial momentum, so they quickly saw the potential for student participation to have a real impact on moving the project forward.

Learning from our experience with PEDAL on the Footprint project and mindful of the time involved in setting up and participating in a week-long project, we were keen to avoid exploiting the good will of the community we hoped to work with, so invited two members of the group, one of whom was an architect (Andy Siddall) and the other a landscape architect (Emily Peel Yates), to take a formal role in developing the design brief and implementing the project, which they agreed to. In line with an action research approach and also the principles of community-led design [18] several meetings were set up to discuss the project with Andy and Emily as well as with the school's senior management to develop the brief and agree the structure of the week's activities in an effort to create shared ownership of the project and clear goals.

So we return to that cold February morning when a group of 12 students, having been briefed by the parent design group and members of the school's Pupil Council, arrived at Towerbank Primary School to conduct a range of consultation activities with children, staff and parents. By the end of the week the students had developed of a set of design proposals, which they presented in a pop-up exhibition in school's playground shelter. Like the students on the previous ILW project, Footprint, the students who participated in ThinkPlay were resoundingly positive about their experience. Among the comments made key points included the benefits of a non-assessed project, which gave them freedom to be more experimental in their work and take more risks; the 'live' aspect of the project also altered the nature of the teamwork, which made it qualitatively different to any other teamwork they had experienced on projects as part of their formal curriculum; and one student pointedly remarked that the project gave "a real confidence boost", an outcome also reported by Chiles and Holder in relation to the live projects they run as part of the curriculum at the University of Sheffield [19].

This confirmed to us the value – from the students perspective – of imbedding similar live community-centred projects within the curriculum but ThinkPlay also demonstrated the real impact such collaborative projects could have for the community group. Like the students, the school and parent playground group also reported a number of positive outcomes. Some of these were planned and intentional: the project provided cre-

ative learning opportunities for school pupils as well as university students; the students provided a set of designs that responded in sensitive ways to various needs of the project, some of which have already been implemented; and the students participation served to renew interest and engagement among the school community for the development of the playground, which would be crucial to the parents fundraising drive as well as to grant applications. Less intentional but equally valuable was the way in which ThinkPlay positively impacted on communication between the parent playground group and the school's senior management which would also be vital to the future prospects of the playground improvement project.

These successes were in part the result of the hard work and dedication of the students but they also bore out the importance of identifying a viable community project for student participation. Here, unlike the Footprint project, there was a clear set of immediate needs tied to a set of identifiable outcomes. We were also much more conscious of Paul Pholeros's caution that there should be 'no survey without service' [20], which depended on a good understanding of the context of the project; developing a close relationship with the parent group and school and our understanding of their needs, skills sets and objectives; the careful planning in collaboration with the stakeholders to develop a realistic design brief; and our consideration of the parent group's time investment in the project and how this could be managed ethically.

These strategies were largely informed by the methods of community-led architecture and participatory design and but their integration with the methods of critical pedagogy and in particular the ideas of Paulo Freire was central, we think, to the success of the project, for all parties; the students, the school and us. Crucially, it helped foster a sense of mutual respect and shape the tone and culture of the project in which everyone understood 'learning' to be at the heart of the collaboration as well as a more tangible set of desired design outcomes. As such, it was in line with Freire's position that:

> *Authentic help means that all who are involved help each other mutually, growing together in common effort to understand the reality which they seek to transform. Only through such praxis – in which those who help and those who are being helped help each other simultaneously – can the act of helping become free from distortion in which the helper dominates the helped* [21].

We would also argue that this combination of methodologies and perspectives is key to managing the balance of needs between the students and those of the

community group, including the potential 'failure' of students to provide viable design outcomes, which is one of the key challenges of running community-led projects as educational opportunities. Thus by setting such projects within the framework of action research and critical pedagogy the potential for 'failure' can be transformed into a valuable learning experience, not just for the students but also for the community. Happily, in the context of ThinkPlay the design outcomes were largely successful but we would like to end on the point that the reflexivity that this approach engenders encourages deeper, more long lasting, outcomes than those necessarily tied to the specific design brief; for many of the students this has resulted in a clearer sense of themselves as 'active agents in society' and a continued interest in participatory approaches to design and the desire to engage with social and environmental issues in their work.

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Amy M. Johnson

Collaborative Competition: Generating Excellence in the Design Classrooms of the Austere Economy

Abstract

Designers are the quintessential poster children for doing more with less. Our ability to innovate within very tight constraints is both our 'super power' and our Achilles' heel. This is especially true in design classrooms where money for facilities, technology and faculty has been significantly reduced.

This case study will describe the collaborative competition model that is being used at a regional university in the United States to create more from less while generating important data to argue for increased program funding.

Introduction

Although no longer demographically rural, Oklahoma still maintains the core cultural values and attitudes found in it is rural roots including hard work, personal and family self-reliance, self-sufficiency, friendliness, and local control of civic affairs [1]. Even today the value of personal individualism is subordinate to the family and its needs.

These close family ties and the subordination of self to the larger familial entity is reflected in the demographics of the students who attend The University of Central Oklahoma (UCO), the state's regional metropolitan university. Located approximately 20 miles (193 km) north of Oklahoma City in Edmond UCO is home to a student body of 17,217 [2] students. But few of these undergraduate students live on campus. With an average age of 25 most students live off campus and commute. In fact 86% of UCO's freshman population will move less than 50 miles away from their familial home, and of these students 52.3% will venture less than 10

miles from their permanent residence to attend college [3]. Most of these students will also pay their own tuition by working and applying for student loans, as 83.5% of entering freshman expect to receive less than $6,000 of financial assistance from their families [4].

The state and the university have done an excellent job of keeping these demographics in mind when setting tuition. For example one undergraduate three-hour studio course in design at UCO for an Oklahoma Resident comes in at just $591 [5]. Compare this number to that of the larger state institutions such as the University of Oklahoma and it jumps to $1,026 [6]. But UCO's tuition savings is almost shocking when compared to a US top 20 design school [7] such as Rhode Island Institute of Design which comes in at $4,262 [8] per three hour course or the School of the Art Institute of Chicago at $3,981 [9] per three hour course, easily a three thousand dollar difference.

An obvious side effect of this low tuition rate is limited funding for UCO's programs. Yet, the UCO Department of Design has set its sights on becoming a top 20 design school [10]. There are some very big hurdles in the way; lack of brand or name recognition enjoyed by the larger and long established design schools, lack of facilities, and lack of funding, but the faculty at the UCO Department of Design do not see any of these challenges as insurmountable.

The design approach sees these challenges as opportunities and quickly changes the question from how will we merely survive to how can we create excellence that will outshine our previous performance? And how will we do this in a way that engages faculty and students in a cultural shift where competition for resources becomes a driver and not a hindrance? And more importantly how will we prove our advancements to administrators who may have little knowledge of design let alone our program needs?

Two Assumptions, One Fact

But to do this – to create excellence despite lack of space, low funding, and being a commuter school requires the belief in two completely unprovable assumptions and a third measurable fact. First it is assumed that students here are as good as they are anywhere. Secondly, faculty here are as good as they are anywhere. And third, the first Top 20 Design School is 793 miles away at the University of Cincinnati, this is our measurable 793 mile circle of opportunity (Figure 1).

Blind belief is only the first step to cultural change. Now it must become actions, behavior and expectation on the part of both faculty and students. Because in order to increase visibility and funding to create excellence, excellence must first be proven: the classic catch 22. In Oklahoma vernacular it was time to cowboy up, to do it no matter the odds or obstacles.

The Greek soldier and poet Archilochus said, "We do not rise to the level of our expectations. We fall to the level of our training." To counter this tendency the first step in implementing the new culture was an unflinchingly high level of expectation of excellence in all aspects of studio practice. The faculty expect and will not accept less than what they know to be the student's best effort on each project. Faculty will not let a student accept anything but their best effort from themselves.

This high level of expectation fed by the Hawthorne effect [11] in which an increased attention from superiors, clients or colleagues produces an improvement in behavior enhances these results by creating a sense of teamwork and common purpose in this collaborative effort.

This helps to create what Shaffer & Resnick call a *thickly authentic environment* [12] defined as an alignment between learning activities and a combination of the following:

- Goals that matter to the community outside the classroom
- Goals that are personally meaningful to the student
- Ways of thinking within an established discipline
- And the means of assessment

They argued that thickly authentic environments create all of the above alignments simultaneously.

But collaboration alone is not enough. What is required is a mentally tough student who is driven by competition to be the best but who is also willing to help their fellow classmates improve and excel while simultaneously competing. The Department needed to create students that were capable of mental toughness, extra effort (MTXE).

MTXE

MTXE was coined by Gene Smithson [13], the basketball coach of the Wichita State University (WSU) Shockers in the mid-1980's and was a Kansas-wide phenomenon that was talked about and practiced by every grade school and high school coach in the state. Small and underfunded, the WSU of the 1980s had little going for it. It had made just three appearances in the NCAA Tournament in the previous twelve years. MTXE brought consecutive 20-win seasons, two appearances in the NCAA Tournament and two appearances in the NIT. Smithson won more than two-thirds of his games, and clearly recruited some of the most talented players in the history of WSU basketball [14]. When Smithson retired MTXE faded from the local vernacular but in 2012 current coach Gregg Marshall, a talented leader in his own right, reinstated MTXE.

In 2013 Wichita State reached the Final Four of the NCAA Tournament, winning the West Regional with victories over the #1 team in the nation, Gonzaga, the #7 team in the country, Ohio State, the #20 team in the coun-

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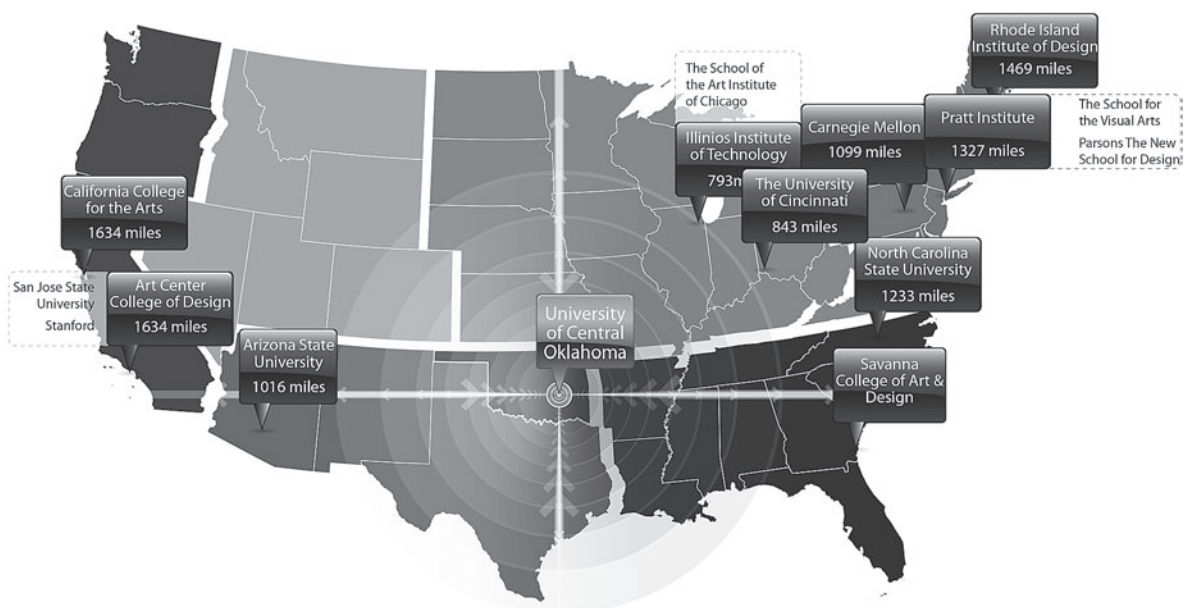
try, Pittsburgh, and La Salle, before losing to the tournament's top overall seed, Louisville [15].

Smithson's whole premise was that with these two attributes, mental toughness extra effort, one can do almost anything even without resources and even when people don't expect excellence from you. He also believed, as uco's design program does, that people will rise or fall according to the level of expectation. Very much the idea that excellence if expected by every person involved and worked for by everyone involved can be achieved, despite low funding, despite not recruiting the nation's top talent.

Is this the harder way to go, absolutely, but why not try? In many ways design is fortunate, there is a built-in mechanism for achieving the kind of interaction necessary to create excellence anywhere: critique

Critique

Critique here is direct and in-depth and it is in line with Vygotsky's zone of proximal development in which:

The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers [16].

Great design doesn't take place in a vacuum. It requires feedback, criticism and analysis from all angles. It requires tough questioning, testing and in some cases, failure before the best solution will be found.

This approach feeds collaborative competition [17].

Collaborative Competition

Collaborative Competition, a common experience in sports, is becoming an innovative model in business and science and has long been the standard at most top design schools. Founded on the principle that competition is first and foremost an opportunity to learn, the collaborative competition model views competition not as a threat but as an opportunity to evolve, excel and transform students into working designers in an environment that closely mimics the collaborative competition found in a professional design studio.

And while it is certainly possible to bring work to the instructor for individual critique there is no expectation of privacy as there might be in a 'desk crit' where feedback is perhaps only partially overheard by one or two students. All work is permanently in the pin-up stage of critique, where work is placed in front of the group for feedback.

In this environment students gather together, critique each other's work and revise their projects. They are work-

ing together to help one another improve but they are also asking themselves, 'Am I a better designer today than I was yesterday? And what am I doing today to be sure I am better tomorrow?' In trying to be the best they are competing against each other and against themselves, but they are doing so as collaborators.

The first step to create this level of fundamental change and move toward proving excellence was the implementation of mtxe training and collaborative competition in the student's foundational year.

Design Foundations

In order to facilitate this in 2008 the Department of Design created a separate and distinct design foundations program that uses a See Think Learn Change Do [18] model to create students who are trained in observation, analysis, reflection, innovation and action. This new foundation curriculum is tough in the extreme, it challenges, inspires and pusher higher-level knowledge down earlier into the program to allow us to make the design program more challenging and effective at all levels.

This was not done lightly and was undertaken with the agreement of the full graphic design faculty, who over the course of several weeks mapped every project from every course. It was not particularly fun and it did indeed have it's awkward moments where people clearly wanted to fight for their pet projects…but they didn't. The faculty had agreed that everything was on the table, and so it was. Additionally all faculty agreed that this was a long-term experiment so what was created had to be viable in the long term.

And it worked.

First semester design students now complete projects that were reserved for second semester sophomores, today's seniors complete projects the faculty would never have attempted with them prior to this approach. But it's not enough for the Department to say its students are producing fantastic work… someone else has to say so. Enter the student competition initiative.

Student Competition Initiative

Started in 2010 and known to the students as 'Winner, Winner, Chicken Dinner!' The student competition initiative is a way to independently verify results by systematically entering student work into local, regional, national and international juried competitions in order to generate data to quantify progress in a format that is readily understood by both internal and external stakeholders. The giant chicken poster (Figure 2) and the program's kitschy

name have helped ingrain the program into the culture of the Department; when the chicken poster goes up everyone knows there's something coming.

AIGA BlueRidge's Flux student competition was the perfect place to test out the idea of external verification through competition, as it was inexpensive and boasted big name judges, the most recognizable of which was Ellen Lupton. UCO design students did well and this served as proof of concept for the expansion of the program.

Results

Since then the Department has entered the American Advertising Awards, Graphex, How Magazine's International Design, Under Consideration's Brand New Awards, PAVE IDA, Print Magazine's Hand Drawn, and several others, the results of which are documented in Figure 3 below.

Conclusion

In many ways this case study represents primary research on organizational behavior specific to the design field. MTXE and collaborative competition blend with extremely high standards to create a thickly authentic environment in which the structures, processes and expectations which create proof of achievement used to negotiate with stakeholders also *becomes the pedagogy*.

Results from external design competitions provide qualitative data and suggest that through this process students are seamlessly transitioned from theory and practice to the use of high-level tacit design knowledge.

Suggestions for Further Study

While the Department has seen amazing results, which have been used to argue the case with upper administration to increase space, funding and faculty, students are still a bit timid. They still see themselves as the underdogs and are shocked to come out as top dogs.

The author has been toying with the idea of an old west showdown. Could student's confidence be increased by creating head to head challenges between a UCO design class and that of Name Brand Design School X? Resulting work would be judged in a blind peer-review process in which judges would be recruited by a third party not participating faculty: no school names, no faculty names, no student names, no information that this is an underdog versus top dog challenge – just the creative brief and the work; because if it's your first time in *Fight Club* you have to fight [19].

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3

Competition name	Competiton level	Date	Number entered	Entry Fees	Results
AIGA BlueRidge Flux	National	2010	11	$77	4 awards
American Advertising Federation (ADDY Awards)	National, Regional/District, Local	2011	42	$1,917	72 awards 4 National, 26 Regional, 42 Local
PAVE (Planning and Visual Education Partnership)	International	2011	1	$55	1 Honorable Mention ($500.00 award to student)
The Dallas Visual Communication Society	National	2011	12	$300	0 awards
3 x 3 Illustration Competition	International	2011	20	$340	0 awards
IDA International Design Awards Competition	International	2011	2	$50	2 awards Best Emerging Interior Designers
Under Consideration Brand New Competition	National	2011	7	$300	3 awards
Graphex Awards	Regional	2011	2	$250	2 awards ($350.00 award to each student)
Hand Drawn Print Magazine's Illustration Competition	International	2011	13	$270	0 awards
American Advertising Federation (ADDY Awards)	National, Regional/District, Local	2012	44	$1,780	94 awards 6 National, 28 Regional, 60 Local
HOW Magazine International Design Competition	International	2012	5	$200	1 award
American Advertising Federation (ADDY Awards)	National, Regional/District, Local	2013	67	$2,780	151 awards 11 National, 53 Regional, 88 Local
HOW Magazine International Design Competition	International	2013	6	$240	1 award
AIGA BlueRidge Flux	National	2013	22	$92	21 awards 2 best of catgories
American Advertising Federation (ADDY Awards)	National, Regional/District, Local	2014	74	$3,200	Results pending

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Mark McGuire

Open Strategies in Design Education

Abstract

In this paper, I briefly trace the development of MOOCs and I discuss the differences between the high profile platforms that rely on lecture videos and machine marking (xMOOCs) and earlier experiments that follow what George Siemens refers to as a 'Connectivist' approach, which encourages participants to build their own personal learning network (cMOOCs). Using a case study method, I then discuss three Design courses that leverage open strategies and serve as exemplars of collaborative, networked teaching and learning. I argue that these small-scale initiatives show how change-makers can initiate significant, sustainable innovation in higher education from within the academy.

Introduction

In retrospect, two significant developments in higher education can be traced back to the year 2008. The first is the significant reduction in public funding for post-secondary education, and subsequent rise in tuition fees, following the Global Financial Crisis, which peaked in that year. The second is the emergence of MOOCs (Massive Open Online Courses), a term that was coined to describe an experiment in open, networked learning in 2008 and was later applied to courses from Udacity, Coursera, edX and other high profile online learning start-ups. The primary motivations for the first MOOCs, and other early efforts to open up access to higher education, were pedagogical, rather than financial. However, the possibility of providing university-level courses to very large numbers of students at a fraction of the cost of traditional place-based learning has caught the attention of government consultants, educational companies, and technology entrepreneurs. Continuing government cutbacks could lead to the unbundling of public universities and the outsourcing of the more profitable activities to large, private providers. However, collaborative, open strategies supported by networked technologies offer opportunities to innovate within the post-secondary sector in ways that are both pedagogically sound and financially sustainable.

MOOCs

Three Canadians, Stephen Downes, George Siemens, and Dave Cormier, developed the MOOC model of networked learning in 2008. The first course associated with this model, 'Connectivism and Connective Knowledge' was launched in the fall of 2008 at the University of Manitoba. It attracted 25 fee-paying students and 2,300 online non-fee paying participants, who were free to join in and become actively involved but did not have their work assessed and received no formal credit [1]. In a video that was published in January 2010, David Cormier provides a clear answer to the question: 'What's a MOOC?'. He explains that it is more than just a course; it is an 'event.' Working on a topic of shared interest by engaging with other people's work in a structured way, participants make connections to other individuals and to their ideas. Through this process, individuals learn to construct "authentic networks" that can be maintained after the course is finished. A side effect of this public, cooperative process is 'the building of a distributed knowledge base on the Net' [2].

The structure and operation of these MOOCs are heavily influenced by 'connectivism' a 'learning theory for the digital age' that Siemens proposed in 2004. It highlights the importance of interconnected personal networks for locating up-to-date information and amplifying learning.

Connectivism is the integration of principles explored by chaos, network, and complexity and self-organization theories. Learning is a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing [3].

At the heart of connectivism, says Stephen Downes, is 'the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks' [4]. The first MOOC to attract widespread attention was Sebastian Thrun's 'Introduction to Artificial Intelligence', a 'bold experiment in distributed education' that was offered through Stanford University in 2011. Although free and open to anyone who wished to enrol, it offered no recognized credits. It attracted 160,000 registrations from 190 countries, and more than

23,000 completed the course, which required ten hours a week of study, regular assignments and two exams. [5]. A technology columnist for The Guardian was so impressed with Thrun's open course that he heralded the beginning of the 'desktop degree' [6]. Speaking at the 2012 Digital, Life Design (DLD) conference, Thrun explained that this experience was transformational for him, as well as for many of the students who sent him e-mails, and he felt compelled to leave Stanford to develop this new educational model further through Udacity.com, a for-profit Internet start-up that was launched in February 2012 [7].

Soon, other high profile MOOC platforms were competing with Udacity for attention and students. Two Stanford Computer Science professors, Andrew Ng and Daphne Koller, started Coursera, a 'social entrepreneurship company' in April 2012, backed by US$16 million in venture capital. It launched hosting courses from six elite universities. By February 2013, the number of institutional partners had grown to 62 [8]. By making courses in a wide range of topic available to millions, they claim to be 'changing the face of education globally' [9]. edX, a collaboration between the Massachusetts Institute of Technology and Harvard University, also launched in April 2012. Rather than choosing the venture capital route, the two institutions contributed US$30 million each to set up a non-profit, open-source learning platform to create 'a new online-learning experience' and to 'research how students learn and how technology can transform learning–both on-campus and worldwide' [10]. By February 20, 2013, edX announced that ten higher education institutions had joined the 'X University Consortium', and that total course enrolments had reached 900,000 [11].

The emergence and quick growth of Coursera, Udacity and edX led The New York Times to declare 2012 to be 'The Year of the MOOC' and Anant Agarwal, the president of edX to call it 'the year of disruption' [12]. The term 'CMOOC' began to be used to refer to those that followed a connectivist, distributed, networked-based approach, with the label XMOOC (after edX) used for those that used a more traditional, lecture and quiz-based model. The number and variety of MOOC platforms has continued to increase, with many new providers launching outside the United States. These include Open2 Study (Australia), FutureLearn (UK), OpenupEd (pan-European) and iversity (based in Berlin). By September 2013, one conscientious blogger was able to list 40 MOOC providers [13].

Although the originators of the first (Connectivist) MOOCs acknowledge that Coursera, Udacity, the other large, private platforms provide access to education to many non-traditional students, they are troubled by their traditional pedagogical approach and their profit-driven mission. Stephen Downes comments that 'they resemble television shows or digital textbooks with – at best – an online quiz component' and he is critical of their lack of innovation. Downes also expressed concern about the transfer of funds and control to private online MOOC providers, arguing that it is critical to have 'a public hand on the tiller' [14]. Fortunately, there are signs of innovation within the public system, as the examples below illustrate.

Phonar

Phonar (Photography and Narrative) is an undergraduate photography class coordinated by Jonathan Worth and Chantel Riekel that has been offered to fee-paying students at Coventry University in the UK since 2009 [15]. Through the strategic use of blogging Google+, Twitter and other social media platforms, the course has also been opened up to anyone who wants to access the presentations and other resources online and engage with the teachers and students as non-credit participants. The use of a short handle for the course, together with a hashtag and year (e.g. #phonar13) makes it possible to find and track course resources and discussions, which are distributed across a wide variety of different online sites and services.

Through weekly tasks, guest lectures, seminars and workshops, Phonar investigates notions of 'trans-media' and how it can be applied to modern photographic practices. Dealing with the challenges and opportunities facing researchers and practitioners in the image-making professions is a significant undertaking, and the coordinators did not want to be limited by the experience that they and their students could bring to the class. So, rather than simply sharing resources with the world beyond the classroom, as is the case with many OER (Open Educational Resources) initiatives, they chose to engage with interested individuals outside the confines of the classroom. They believe that 'by drawing on the cumulative knowledge of our entire class-community we can come to a better understanding together' [16]. As Jonathan Worth explains: 'I curate a journey through a structure of learning, providing contextual links between specialist contributors'. He uses Twitter as 'a listening device' and a means 'to tune the network'. The aim is to create an open, inclusive conversation about image-making and image-sharing practices. With each iteration of the course, 'the journey is different […] and each year it accrues a long tail of content' [17].

ds106

Ds106 is a fifteen-week online course about digital storytelling that is offered to fee-paying students for credit by the University of Mary Washington in Fredericksburg, Virginia. The course helps students to "frame a digital identity" and to "develop skills in using technology as a tool for networking, sharing, narrating, and cre-

ative self-expression" [18]. As an experiment in open, connected and social learning, the coordinators, Jim Groom and Martha Burtis, decided to open up the course to others for free in 2011. Groom sent out an invitation over Twitter. The 75 for-credit students soon were joined by about 250 others, who immediately began contributing to the course website. An open invitation to "submit an assignment" drew 200 posts before the course had actually started. In week two, Groom, who didn't want to conduct synchronous sessions using Illuminate, commented on Twitter that it would be great if ds106 had its own internet radio station. A course participant promptly built one, and it has been a airing student made shows, discussions and music ever since. This was soon followed by ds106 TV for live online video broadcasts. During 2011, the course website aggregated 3,530 posts and 7,080 comments, and attracted 22,598 visits from around the world. Other course-related content appeared on YouTube (160 videos), Flickr (813 tagged images) and on 177 course blogs that were created by some of the 366 registered participants from US, Canada, Portugal, Australia, UK, Indonesia, Japan, Spain, New Zealand and elsewhere [19].

Students felt empowered by the idea that they could intervene, contribute to the design of the course, and subvert the media. As Groom explains, they were "pushed out of the idea that this is your class" and found themselves participating in "a community that came out of nowhere" [19]. Non-credit participants, who are encouraged to "join in whenever you like and leave whenever you need", continue to be crucial to the development of ds106 as a dispersed learning community [18]. As with phonar, the fees paid by the for-credit students (along with the government funding that is attached to them) cover the cost of the course, which can then be opened up to others, who contribute creatively, rather than financially.

DOCC2013

The DOCC (Distributed Open Collaborative Course) is a recent variant on the MOOC. The first DOCC, DOCC2013, was a joint effort by feminist academics from (initially) 15 colleges and universities across North America [20]. Over ten weeks, from September to December 2013, each coordinated a fee-bearing, for-credit course at their home institution that fit within the overall topic of 'Dialogues on Feminism and Technology'. Collectively, the institutions contributed twelve core 'video dialogues' which served as shared learning objects for the different courses. These were also published on a Vimeo channel and elsewhere online, so they could be reused for teaching and research by other academics and accessed by interested members of the public [21]. A shared project called 'Storming Wikipedia' engaged students across all of the different 'nodal' courses in

the authoring, editing and revising of Wikipedia entries relating to feminist efforts in science, technology and media. In this way, students connected with other students across institutions as they worked in the open on a project that improved and built on a public resource [20].

The DOCC2013 organizers echo Siemens' Connectivist ideas, when they state 'expertise is distributed throughout a network, among participants situated in diverse institutional contexts, within diverse material, geographic, and national settings'. They underline the fact that these participants 'embody and perform diverse identities' as they interact, both offline and online. The explicit use of feminist thinking, which is outlined in a published White Paper [22], provides another perspective on learner-centered pedagogies, collaborative approaches to the creation of knowledge, and the 'transformational practices of design and media making' [20]. Like phonar and ds106, DOCC2013 accommodates self-directed learners outside the classroom, who are directed to several sites where they can access resources and participate in the discussions. The organisers point out that participants do not 'receive knowledge' from DECC2013, as they might expect to from the high profile XMOOCs. Rather, they are invited to design and direct their own learning experience through their use of course materials in collaboration with others [23].

Like the CMOOCs and XMOOCs before them, the DOCC format is quickly developing. While DOCC2013 was underway, innovative scholars associated with HASTAC. org were already planning the "#FutureEd" initiative, a mash up between a Coursera MOOC [24], connected place-based courses, and related events and discussion groups [25]. The goal is to fuel a global discussion about the issues and opportunities relating to the future of higher education.

Discussion and Conclusions

In her article 'Design, Change and politics' Anne-Marie Willis cites Herbert Simon's definition of design as an activity that seeks to 'change existing situations into preferred ones'. As she points out, '[t]oday it is the nature of change that is the issue' [26]. All too often, the 'changes' we see in our institutions of higher learning are little more than minor variations on traditional, established business models and pedagogical practices. More substantial change will require learners, teachers and administrators to initiate and support substantial, sustainable innovation. Those who are working in higher education, especially those of us who are fortunate enough to hold a (reasonably) secure academic appointment, have both the ability and the responsibility to act as positive change-makers from the inside.

Many observers outside of the academy have expressed their concerns about the sustainability of high-

er education in a continuing climate of financial austerity following the recent global financial crisis. Connectivist cmoocs and privately-owned xmoocs provide possible models for rethinking higher education. Smaller-scale, place-based initiatives in public institutions demonstrate that innovation does not necessarily require additional government funding, venture capital backing, or the replacement of physical universities with virtual campuses. Although Phonar can be described as a connected course, ds106 as a distributed course, and docc2013 as a collaborative course, to varying degrees, they all exhibit these three crucial characteristics. The change-makers behind these brave and exciting experiments are role models we can learn from. Whatever concerns we may have about the opening up higher education (for our students, for life-long learners, for the market), the future of higher education will continue to be tested and debated. A productive conversation has started. This is a space to watch – and to jump into and occupy.

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Caoimhe Mc Mahon

Back to School: Contextual Inquiry and Design for Learning

Abstract

There exists a lack of appropriate contextual research on today's learning environments that can be accessed by those designing for learning and those making decisions about the purchase of task furniture. There also currently exists a disconnect between cutting edge ergonomic research and the solutions being provided by those designing for learning. Often designers, architects and those purchasing task furniture do not fully understand learning, the learner and the learning environment. Conversely, it has been reported by those in the manufacturing and design community that schools and educational bodies will only purchase the cheapest and most conservative task furniture solutions available [1]. Ultimately this lack of relevant information and breakdown in communication has had a negative impact on the learning experience and well-being of students and educators alike.

This paper will attempt to describe design research activities undertaken as part of the ongoing TFE Task Furniture in Education project, a Marie Curie FP7 (IAPP) Industry-Academia Partnerships and Pathways funded programme, which is based in the National College of Art and Design (NCAD), Dublin, Ireland. The aim of the project is to use design led research activities to join the dots between governing bodies, educators, students, designers and ergonomists and improve the resources available to those who wish to engage with designing for learning.

Introduction

This paper will focus on the outputs of the first year of the TFE project, with particular emphasis on the outcomes of the Scoil Mhuire study, a pilot study undertaken in an Irish primary school where design research methods and the introduction of a highly finished prototype were used to build up a picture of the needs and aspirations of the educator and learners. It will then be outlined how this simple, cost effective piece of design research uncovered several key insights that had a significant impact on the subsequent direction of the TFE project. 'Task Furniture' here refers to furniture, fixtures and equipment that support the task of learning. This includes seating, work surfaces, storage, display, lighting and acoustic solutions.

Although the project takes inspiration from alternative educational models its focus is on public formalised education systems within primary (students aged 4–12) and secondary education (students aged 13–18), which conform to a set curriculum, examinations and assessment procedures.

This paper will not focus on the ergonomic impact of the introduction of the Perch prototype, but instead will examine how the introduction of an alternative furniture solution uncovered conflicting user needs and attitudes within the learning environment.

1.1 Background

Research and legislation on the area of task furniture for education is in its infancy when compared with the study of task furniture for adults in the workplace. The majorities of studies to date have been conducted from an ergonomic viewpoint and have investigated the working postures of learners in a lecture-based classroom setting [2]. These studies focus on the forward and backward postures associated with reading, writing and listening activities which do not reflect current shifts in pedagogy which aim to foster the acquisition of key skills such as critical thinking, self-directed learning, creativity, communication, collaboration, problem finding and problem solving [3].

Guidelines for posture in the learning environment are based on the right-angled posture currently found in these publications, a posture which has evolved rather than being scientifically proven to be advantageous [4]. Studies such as these, along with anthropometric data handbooks, have historically formed the basis for the design of task furniture and the focus of design-led literature on the design of school furniture [5].

Current anthropometric data on students has been shown to be outdated [6]. The literature also states that designers do not trust data that has already been through interpretation [7] and that current human information sources are not adequately engaging and inspiring designers [8].

1.2 Process & Methodology

A user-first and inclusive design approach underpins the TFE project as a whole and this methodology was applied to the Scoil Mhuire study. The researchers were mindful of the fact that children and young adults are distinct user groups with a variety of physiological, psychological and sensory needs – they are not miniature versions of adults. It was also important to be aware of the other stakeholders in the research site, for example, educators and parents.

The Scoil Mhuire investigation was one component of a yearlong 'Learn' phase for the 4 year TFE project. The 'Learn' phase was to be followed by 'Ideate', 'Make' and 'Test' phases in years 2,3 and 4. The overall aim of the 'Learn' phase was to use primary and secondary qualitative and quantitative research methods to immerse, understand, see, interact, analyse, broadly explore and map the current landscape of design for learning. This phase was divided into 3 stages – Groundwork, Fieldwork and Analysis. The Scoil Mhuire study formed the initial part of the Fieldwork phase. During the Groundwork stage the team familiarised themselves with the subject area through a range of bottom-up and top-down research approaches by conducting a literature review, expert interviews and initial field visits.

Following the Groundwork phase, several sites were selected for indepth observations and research activities. Scoil Mhuire was one of these sites, which would act as the first cycle in an iterative action research methodology – planning, acting, observing and reflecting [9].

The first aim of the Scoil Mhuire study was not to assess the Perch prototype from an anthropometric or postural point of view but to document the placement of the prototype in context in order to inform activities during the next stage of the Fieldwork phase. The second aim of the study was to create a bank of raw data that could be drawn upon at later stages of the project. These aims were inspired by approaches from the realm of research through design, particularly the field of HCI [10].

Design research activities drawing on design ethnography methods [11] and the approach of research through design [12] were employed to uncover insights relating to human behaviour in the current learning environment and the impact of the Perch prototype.

1.3 Fieldwork

The study consisted of a 3-day immersion in the research site by the designer of Perch and the TFE researcher. This was followed by a 6-week longitudinal study of the prototype in the classroom. The study was preceded by email correspondence and a number of face-to-face meetings with the class teacher and the principal of the school. The appropriate written consent was obtained from the school, the parents and the students themselves. The school itself was in a rural setting in southern Ireland. In the class selected to participate in the study there were 18 students, male and female, ranging in age from 9 to 11 years.

Over the course of three days the following activities took place:

DAY 1

Ethnographic observations of a standard school day and the current use of the learning environment (see Figure 1).

Bodystorming involving the designer and TFE researcher sitting in the current furniture throughout the school day.

Semi structured contextual interview with the class teacher on the topic of her current learning environment.

DAY 2

Peer-to-peer interviews which resulted in the creation of mini-documentaries by the primary school students. The students used Flip cameras to interview each other and give their views of their classroom and individual learning spaces (see Figure 2).

DAY 3

The introduction of the prototype in the hallway outside the classroom. Students were introduced to the Perch system in pairs, asked to complete an activity for 10 minutes and give feedback on the system.

DAY 4

Installation of the prototype and video cameras before the school day. 8 cameras were deployed.

A front view, side view and overhead view of the Perch system was obtained (see Figure 3).

A rear view, side view and overhead view of 2 workspaces of the current furniture was obtained as a comparison. (see Figure 4)

6 week longitudinal study begins, 1 hour of footage to be recorded on each camera each morning.

Weeks 1–3

For the first 3 weeks the two tallest students in the class were recorded on the Perch system. Simultaneously the two smallest students in the class were recorded on the current furniture.

In parallel to the study of the prototypes a remote research activity pack, similar to a cultural probe, was given to each student to record personal information, daily activities and their world outside school (Figure 2). The students brought a video camera home with them in order to record their home study environments and personal spaces (see Figure 5).

Figure 1. Scoil Mhuire – current learning environment
Figure 2. Peer-to-peer inter-views in progress
Figure 3. Front view of Perch prototype in situ (image taken from video still)
Figure 4. Side view of current task furniture (image taken from video still)
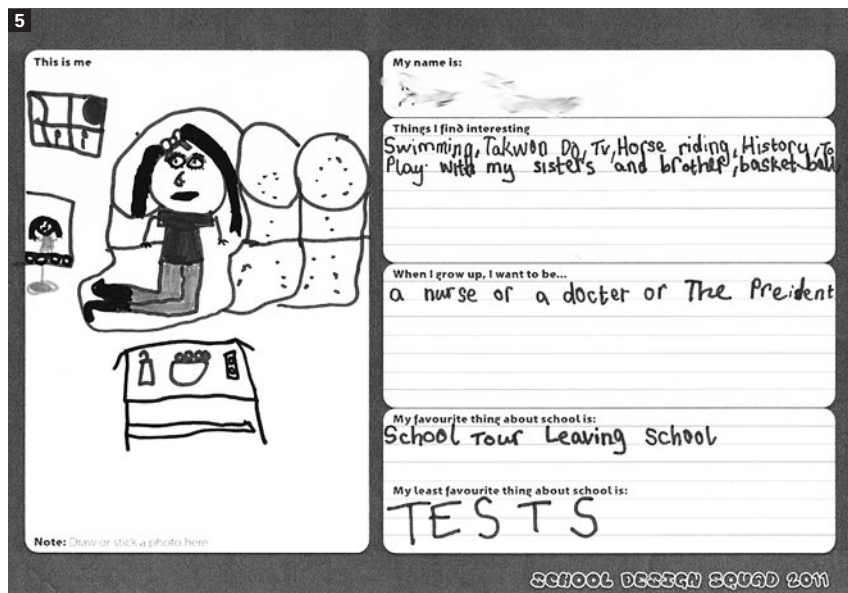**Figure 5.** Snapshot of a page from a remote research activity pack

WEEKS 4–6
For the first 3 weeks the two tallest students in the class were recorded on the Perch system. Simultaneously the two smallest students in the class were recorded on the current furniture.

Semi-structured exit interviews were conducted with the teacher and the 4 students directly involved in the longitudinal study.

2. Analysis
The material gathered during the study was analysed and key themes and findings were extracted from the data.

2.1 'Hard' vs. 'Soft'
From the student's perspective, control over their own space and comfort emerged as their biggest concern. Discomfort surfaced as a common topic, students discussed not only back pain but also pain experienced in their elbows and thighs. They discussed and demonstrated their strategies for improving the comfort in their environment such as placing their coat on their chair when they arrived in the mornings.

The idea of the school furniture being 'hard' and the desire for a 'soft' learning environment was mentioned in several contexts by multiple students. The idea of a 'soft' learning environment was for the most part linked to discussion of 'furry' items and 'cushions'. However, on first sitting on the Perch prototype one student described the seatpan as 'soft'. The seatpan, is not 'soft' per se, but has flexible areas. This exposes an area for further investigation of what comfort means to students – are they looking for 'soft' and 'furry' environments or surroundings that are flexible and adapt to accommodate their needs?

2.2 'Bouncing' vs. 'Focus'
From the teacher's perspective, concentration and focus had been compromised by the introduction of the Perch system, although she stated that she had noticed that the students were not as hunched over their work. In her exit interview she mentioned that:

> 'there was a lot of bouncing up and down … it must affect their concentration if they're so busy bouncing they're not 100% focussed on what you're doing'
> – Ms. O'Neill, 3rd & 4th class teacher,
> Scoil Mhuire, Ireland

At a later point in the interview she stated that, on reflection, perhaps the students' need to move was greater than her need to have stillness during class. This insight opens up the potential for questioning the current perception of what constitutes focus and attentiveness in our learning environments.

This study had certain limitations which must be acknowledged. Although an attempt was made to minimise the impact through the introduction of remote research activities and a longitudinal study, the presence of the designer and the researcher in the classroom and their interactions with the students and teacher may have had an effect on the material collected. Another limitation was the fact that we could only monitor one set of the Perch prototypes and one set of the current furniture. These were all factors to be taken into consideration for the next cycle of research.

Conclusion
At the conclusion of the Learn phase of the TFE project the key insights were that the chair and desk should no longer be at the core of design for learning, there is no such thing as one ideal posture, TFE should aim to challenge the traditional 'sit up straight and pay attention' mindset and that movement and activity should not be an 'add-on' but integrated seamlessly throughout the school day. These were informed in part by the findings from the Scoil Mhuire study. The project has since progressed to launch a competition entitled 'Moving Education' which aims to engage third-level students in the design of innovative task furniture solutions for earning, raising awareness of the importance of movement in the learning environment, fulfilling the requirements of the FP7 project proposal by reviewing the most current thinking, undertaking contextual inquiry and translating this research into tangible outputs which will ultimately provide a resource for the task furniture industry and improve the learning experience for students and educators.

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Carolina Obregón

The Future is Now: Designing a Sustainable Fashion Program for an Age of Austerity

Abstract

Fashion education in Colombia has recently transitioned from technical to professional programs. I designed the new curriculum for a professional program that opened in 2014 at Universidad Jorge Tadeo Lozano in Bogotá. Based on previous research and work in sustainable design education, and inspired by new courses in sustainable fashion elsewhere, I designed 30 courses with sustainability as the linking objective throughout the curriculum. The curriculum seeks for students to innovate and look for design opportunities within the community at large with a focus on local economic and social problems.

Fashion design students often feel disenfranchised in relation to greater issues of society and would like to contribute but are not sure how to do it. This new program looks at how fashion design can confront the critical issues of the larger society and come up with solutions. For example, the program looks for students to work together with people from the community who participate in the design process so both learn skills with the University's technical training program. By fostering an open, creative and energetic environment the students and community will benefit from a platform of collaboration, active participation, improved design, production and manufacturing processes. This in itself is a bold change from a 'silo' mentality.

Introduction

The program, Design and Fashion Management, starts out with one premise: fashion education today must change their view of a linear mentality and work within a sustainable foundation. Based on my experience in designing a new sustainable fashion curriculum, this paper will address two questions: How can design education bring local communities together to work on projects that improve their own standard of living and benefit the environment? And how can we change pedagogical content and delivery methods to attend to the contemporary problems of austerity and climate change?

The program has support from the University directives that want to see this as a pilot for incorporating a vision, theory and practice of sustainability into other curriculums. I suggest Latin American universities have the possibility of being at the forefront of a sustainable shift in education. Our current era of austerity and climate change can take advantage as a way of forming future-oriented designers that have as their priority a concern with the environment, society and the economy. Fashion designers educated through a sustainability curriculum will see themselves as agents of change that can be part of the solution. The local community's involvement is intended to create jobs to make an ecologically sustainable design process viable.

Following An Industrial Fashion Education

With the trend of globalized mass fashion industry fashion design students are faced with a world affected by an unstable economy, ecological devastation, faster production processes, unethical working conditions and a throw-away society [1]. Hence, some design universities have taken into account that design is at a breaking point. Education in design is adopting changes by creating masters programs and including courses in the curriculum which educate in the long-term consequences of how anything that is created designed, processed and realized has consequences which will transform the environment.

Trends in education should be promoted in order to begin changing the current industrial paradigm at root. It is essential to support new designers with sustainable processes in order to create a more holistic industry from its core. Teaching about consumption, working conditions, and creative manners to approach fashions industrial processes in turn, can bring more prepared designers to real cause and effect realities.

Although there is increased awareness of sustainable issues, an overall gap is felt in the educational curriculum where fashion students still need to connect to a wider scope of the design profession in order to understand the triple bottom line [2].

Within the world of sustainable fashion and academics, Kate Fletcher, founder of the *Slow Fashion* move-

ment, suggests that education works best when it not confined to a classroom. Most importantly, the building of knowledge is best achieved through experience, with the bringing of real-world knowledge and academia to the community to become catalysts for discussion. Fletcher reinforces the use of design in closed-loop systems, such as 'cradle to cradle', instead of cradle to grave, but she says, 'It doesn't acknowledge we need to make sacrifices, we need to steer cradle to cradle projects, direct them with tough moral questions'[3]. Clearly, it is crucial to include a sustainable fashion education within the status quo: a shift in paradigm; a shift of mind related to how fashion designers in the present relate and understand the environment for the future.

Universities face an interesting moment of how to address the necessities of future fashion designers. Schools could take into consideration the impacts of fashion designers as a whole and generate creative solutions in the classroom. Graduates, who can participate in these new educational initiatives, will fill key positions in fashion industry jobs and can be new leaders in the change of paradigm.

A Sustainable Fashion Design Program

Countries such as Finland, Denmark, Germany, the Netherlands, Austria, and Sweden lead the way in design method development and eco-design education [4], Colombia is following in their footsteps. Having this in mind, Universidad Jorge Tadeo Lozano, in Bogotá, has seen an opportunity of being in the forefront of creating a sustainable fashion education by embracing a curriculum that has a sustainable thematic through all of its classes.

'World history offers many examples of societies with environmentally sustainable structures and communities which have endured for thousands of years' [5]. Colombia offers this knowledge and highly unique setting which enables a sustainable education that looks into its roots, traditions and local resources.

Inspired by my research and potential that Colombia has to offer, with its traditional and artisanal processes, natural and biodegradable materials, and human resources, I designed a new undergraduate, four-year fashion program, with a sustainable theme through out all its courses: *Diseño y Gestión de la Moda* (Design and Management of Fashion). It will be the first fashion program in Colombia to give a significant role to sustainability in all its courses.

Why does a sustainable fashion program would work in Colombia? Because despite austerity, it shows that it is not such a bad thing, people have learned to become resourceful and use to their advantage what they have: biodiversity, traditional craft techniques, manufacturing processes and human capacity are ideal for innovation and sustainability. In addition, apparel and textiles are major industries in the Colombian economy and have high export growth, reaching more than 5% of the total exports with 130,000 people employed directly in the industry [6].

The four-year program based in Bogotá, will follow eight semesters and is composed of 30 courses, starting in August of 2014. Its main focus is on how things are done, emphasized through its processes and materials. Most importantly, the social and human aspects are vital in order to look holistically at the fashion process, as in a systemic thinking approach. The subject plan is structured around a credit system, valued in accordance with the complexity of the academic activities of each subject and methodological emphasis, such as a seminar, lecture, class theoretical-practical workshop and elective credits, allowing flexibility in the curriculum and enhancing students autonomy.

Although the program is structured from a classic fashion design plan, the uniqueness is in its social aspect. The highlight of the program is in how Universidad **Jorge Tadeo Lozano is shifting the current para**digm of a silo mentality into one where the students become agents of change, for example by training young people from high-risk communities who want to learn a trade in fashion such as sewing and patternmaking. In turn, it hopes to give young Colombians the opportunity to train in a skilled occupation and learn a craft or technique that in the future may bring financial security. It will enable fashion design students to work with the group of young technicians, in order for them to accentuate their technical skills and start actively learning how to direct a fashion team from the beginning of their education.

Through the work of a University-Workshop program, it also maintains the connection between different social strata and enables both groups to interact outside their own communities. In *In the Bubble, Designing in a Complex World* [7], Thackara describes taking a creative method into educating within design by changing the way of doing things in a sustainable economy, where culture and education are the protagonists creating change.

A common thread throughout all the courses is creating a sense of community where the human factor and the environment are key to the pedagogical process. Designers today should change their view of the production processes and learn to work with local and natural materials that do not affect the environment. By the application and utilization of endemic fibers, dyes and processes from Colombia, students will be able to practically use indigenous materials in their fashion collections.

The Professional and Technical Fashion Workshops highlights of the program is training young people from high-risk communities who want to learn a trade in fashion such as sewing and patternmaking and giving

them an opportunity to train in a skilled profession at the university. It will enable fashion design students to work with the group of technicians, in order for them to accentuate their skills and start actively learning how to direct a fashion team from the beginning of their education. The collaborative school-workshop program wants to educate students, as they understand how they can affect their community and the environment in every step of the process. Within this collaborative, transdisciplinary approach of teaching, students can benefit from practical learning and research, developing innovation within design.

In the course titled: Raw Materials, will study local, natural and biodegradable materials, consequently opening the possibilities of replacing conventional fibers with fibers friendlier for the environment. Student's collaboration and application of natural materials within local climate and culture in a significant and constructive way [8] is where Colombia can enhance the educational experience.

Colombia offers an immense possibility of exploration in this area, such as working with natural fique fibers.

Fique fibres originate from the leaves of Frucraea spp., a plant indigenous to the Andean regions of Colombia where they are the material of choice for the manufacturing of twine, rope and packaging materials for agricultural applications such as coffee sacks [9].

The fique fibres are found in Barichara, in the northern part of Colombia, founded in 1705, and declared a unesco world heritage site. The organization *San Lorenzo de Barichara* has created a paper workshop, where fique and pineapple paper is developed and processed. Students will have an opportunity to travel to **Barichara** and work with the artisans from the organization. The pedagogical content and delivery methods will come from collaboration between artisans and students by sharing knowledge and valuable personal experiences. To attend the contemporary problems of austerity and climate change, the program will connect to the power of the fashion industry and bring resourceful strategies for economic growth, protection of culture, wellness and independence of the community [10]. Universidad Jorge Tadeo Lozano is looking to achieve principles such as: 'educate, enrich, empower and enhance', where 'giving back is the new luxury'[11]. In fact, in the Fashion Design course, students will work closely with the rural community in Cucunubá, Cundinamarca, which has continued and widespread traditions in wool fabric and artisanal design [12]. The course seeks to highlight and foster craft traditions seeking social and economic benefits for the community and the students. The value of Colombia in sustainable fashion is recognized for its traditional natural materials; therefore it is

crucial to provide this knowledge to students. This program seeks to analyze and put in practice processes, which usually begin empirically, in an intuitive, local and smaller scale. In the course of dyeing and printing, colour techniques will be studied using endemic and biodegradable dyes. Students will study the ecosystem of the region, seeking to maximize efficiency in the use of water and energy. A crucial part of the course will research biodegradable alternatives and bio-eliminable colors based on the whole spectrum of development and innovation from dyes and fibres that are found in Colombia. The aim is to evaluate and explore the ability to effectively design, produce and deliver a natural dye. Throughout the courses students will conceptualize, analyze and implement ways to incorporate sustainable fashion in the production processes and ecological materials of Colombian origin. Through a detailed and thorough analysis of these processes and materials, students will also learn the technical aspects of sustainable fashion and they will also have to study systemic thinking and consumer behavior.

In studio classes in fashion design, a sustainable approach will apply a systemic thinking methodology. This course surveys sustainable fashion terminology and properties enabling students to make appropriate choices to design a sustainable fashion project. The course combines theory and design perspectives to issues of sustainability. They will use design methodology as systemic thinking, empathetic design, co-design and collaborative design. The course uses pbl-methodology (Problem-Based-Learning), supported by theme lectures, working in teams with case studies and design tasks. Project work includes several stages such as: research, insight, ideation, concept creation and prototyping.

Design and Fashion Production students will include several points of understanding to analyze the problems, solutions and approaches to sustainability in the design and development of products and services. Therefore they will implement sustainable methodology as: Natural capitalism, Ecological efficiency, Cradle to Cradle, Ecological effectiveness, Biomimicry, Life Cycle Analysis, Social Return on Investment and Total beauty [13].

Quality Control will teach international quality standards and labeling necessary to define an item as sustainable. It will include csr (corporate social responsibility) considering how clothing is manufactured from an economic, social and political standpoint. An important part of the course is to understand the economic infrastructure and impact of manufacturing in Colombia and abroad, and the implications of local and external sourcing. Also they will focus on studying environmental and human right violations in the industry. When considering a holistic view, students will start to ask tough moral questions in regards to their practice.

Conclusions

Students of design, given the opportunity to comprehend the full process of creating, marketing, discarding clothing, and consumerism, will be in a stronger position to build best practices into the departments and companies they will work for in the future. Designers and design educators should respond to the call for sustainable development in terms of what design can do [14]. Because of the educational trends outlined, the fashion program at Universidad Jorge Tadeo Lozano seeks to implement a curriculum where the ultimate goal is to form designers who are committed to the social and environmental well-being of the planet. The support of the institution by including the community is a major part of their mission. In Colombia we are learning to appreciate the biodiversity and richness that the country has to offer, not only in fibres and materials, but also in the quality of our traditional crafts and techniques. The program is committed in rescuing these processes, as they are the key to the foundation of a sustainable fashion curriculum. The importance lies in reflexive learning, where students understand what they do in their everyday lives will affect the environment [15] increasing awareness of environmental impact to create responsible environmental behaviour.

Focusing on real issues and working with other less fortunate members of the community by engaging students, where learning is viewed as trans-disciplinary, interaction with others and with the environment is common [16]. Consequently, shifting how we work with others enhances the learning experience. A crucial aspect of sustainable education is the ability to cope with uncertainty, which represents a challenge for higher education. The program hopes to educate well-rounded fashion designers who are real agents of change, hence they can continue being creative, innovative and sustainable when confronted with problems of austerity. The collaborative school-workshop program looks to obtain fashion designers who understand the importance of working with local communities together to improve their own standard of living and with those they work with.

One of the most important aspects is to create awareness among the students, as they understand how they can affect their community and the environment in every step of the process. Within this collaborative, trans-disciplinary approach of teaching students can benefit from practical learning and research, developing innovation within design.

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Nadia Elrokhsy, Cary Ng & Eulani Labay

Living More With Less: A Studio Designs for Efficiencies and Beyond in the Built Environment

Abstract

Students and faculty at Parsons The New School for Design, took a first step at integrating strategic design methods and tools to explore designing for sustainability in interior design. Going beyond environmental design and efficiencies, the course was designed to challenge our notion of interior design praxis and pedagogy, by considering the following questions: 'How can we explore what conditions are needed/desired, encouraging the interior designer to question more broadly the role she/he plays in the evolution of the design brief, itself?' And more specifically, 'What designed conditions [1] would support civic engagement in 'living more with less?'

This essay presents the framework and the lessons learned in the implementation of a studio course focused on the impact of interiors on civic life, questioning what we consume, in what manner we do so, and the reasons why. The discipline of interior design, along with its related fields in the built environment, can contribute and support a move away from behaviours, habits and rituals that further our propensity for consuming more products, while designing the conditions for more successful collaborative interactions and experiences between people that reflect more adaptive and resilient strategies of sustainability.

Keywords: design education, transdisciplinary design, sustainability, behavior change theory, digital modeling, interior design, interior architecture

Introduction

As global and national policies addressing climate change are slow to evolve, let alone keep pace with this plane-tary crisis, cities are implementing local initiatives to try and make some headway in building resiliency for its citizens. Additionally, economic disasters, stemming from an appetite for over-consumption and desire for owning more, have also highlighted the need and benefits of local and alternative forms of exchange – collectives and cooperatives, shared and collaborative trends, as well as design for social innovations, which are often enabled by digital technology [2]. At the scale of the discipline of design, designers and educators of the built environment have been increasingly focused on acquiring the necessary knowledge and skills in designing for reductions in material and end-use impacts on the environment (design for efficiencies). Responses to environmental impacts through a 're-designing of the extant' [3] are critical to mitigation, but dependence on these strategies would be missing the prospect of bolstering initiatives that strengthen our social fabric and build resiliencies on many fronts.

This paper is a reflection on how faculty and students of the Interior Design (ID) Studio 2 course, within The Parsons The New School for Design's Associate in Applied Science program, took a first step beyond a predominance for efficiencies and environmental design towards re-defining the role of interior design as facilitating more sustainable patterns of behavior.

Background and Framework

On July 9th 2012, New York City Mayor Michael R. Bloomberg announced a competition seeking innovative ideas in housing models to serve the city's growing small household population [5]. The adAPT NYC competition brief specifically requested proposals 'composed primarily, or completely, of micro-units' apartments that range from 250 to 350 square feet in size, and inclusive of a kitchen and bathroom [5]. Micro-unit apartments were not allowed by the existing New York City zoning regulations, so the competition's goal was to have examples of 'compliant and livable' units in the smallest possible size [5]. The results of the competition were exhibited in the Museum of the City of New York. Submissions included various studies in adaptable design, multifunctioning pieces and carefully customized built-ins that respond to various aspects of residential life [6].

Given the civic focus of this interior design course, our section chose to redirect solutions away from the predominance for more compact insertions in favor of supporting trends that build a more socially connected

lifestyle that would serve the growing population of single and two-person dwellers, such as shared and collaborative existences of co-housing.

The Interior Design (ID) Studio 2 course description is as follows:

> ID *Studio 2 focuses on the impact of interiors on civic life (Our section's central question will be: What conditions would support civic engagement in living more with less?). Students will address the function, aesthetic, equipment, material, and lighting needs of these complex programs. Program research, space planning and building codes are discussed. ID Studio 2 provides an opportunity for students to appreciate the potential benefit of digital modeling tools on the development of design. The studio meets three times a week, one of these sessions with a 3ds Max software instructor* [7].

The section-specific extended course description is as follows:

> *Class Section Description –*
> *This course builds on the knowledge and skills acquired in the requisite course ' PAID 1028, Environmental Design for Interior Designers.' With a focus on issues of sustainability, a design-for-change in urban living is explored through the lens of interior design, while incorporating methods and tools from other disciplines to inform the design process. Additionally, we will use the skills learned in the co-requisite 3D studio course as a way of expressing a story about the users' experiences and the potentials in alternative ways of living* [8].

Following an initial investigation into the design of two common spaces for an urban social club, the theoretical and methodological frameworks for explorations in urban co-housing were introduced. Two project framing workshops were prepared with the help of a research assistant from the MFA in Transdiciplinary program within the School of Design Strategies, Parsons The New School for Design (see Figure 1).

Workshop Preparation for Studio – Based upon the research project 'Amplifying Creative Communities in North Brooklyn' [9] coupled with the exploratory methods of the Parsons DESIS Lab [10] we gathered case studies in trends and social innovations, as well as various tools that would prompt class discussions around issues related to shared and collaborative experiences.

Workshop One – Challenges and Opportunities in Shared and Collaborative

There are plenty of examples of improvised sharing within the context of residential life. However, it was daunting for students to imagine that people would desire to live in a purpose-built co-housing condition,
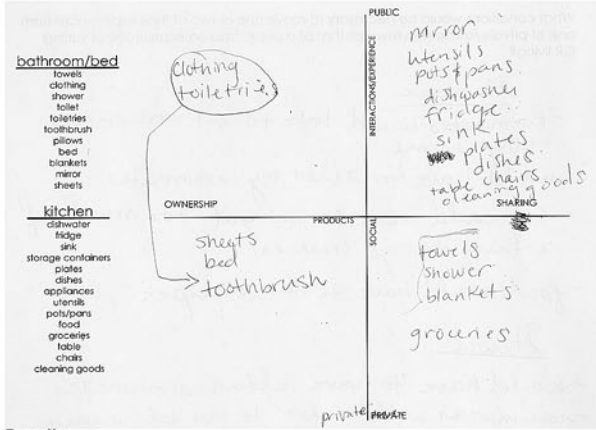

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5

Context:
This person lives in a house with 2 roommates. They are all renting.

Results:

Groceries/Food:
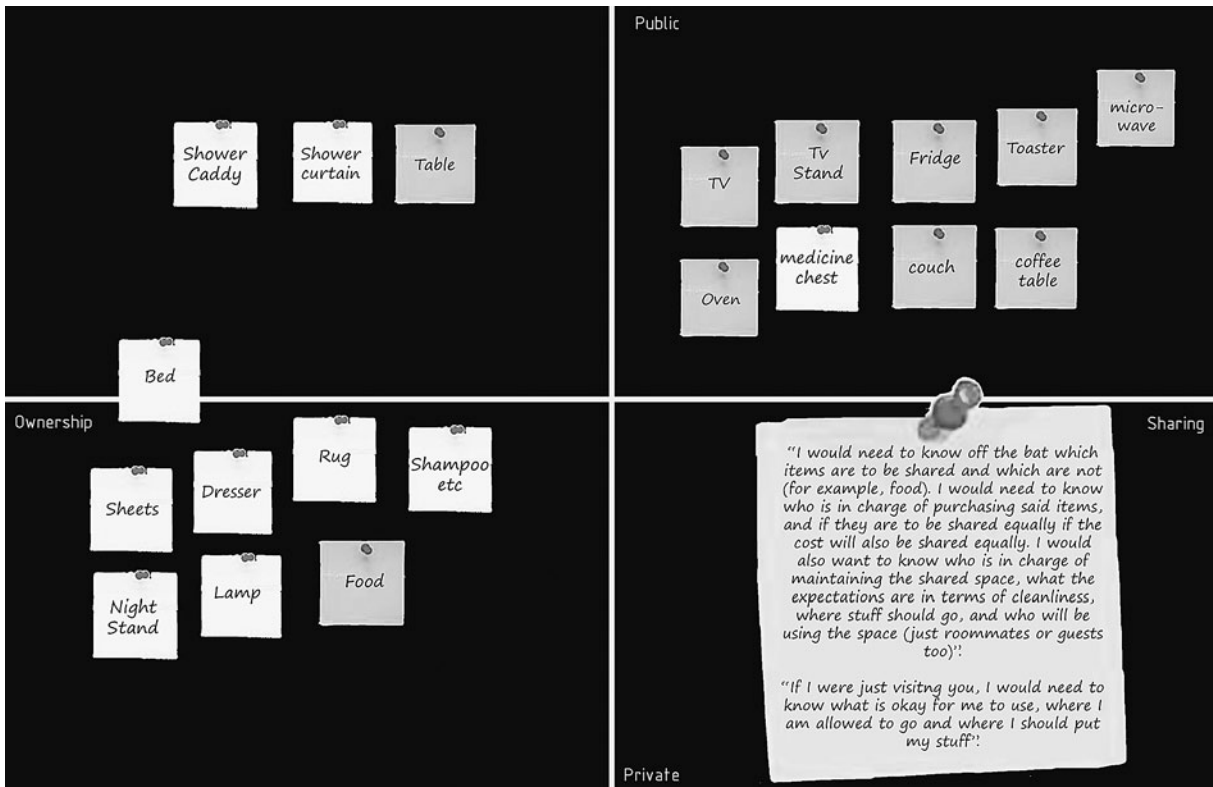- roommates would have to eat the same things as me
- would have to trust my roommates
- would not eat too much of certain foods (cookies)
- food would have to be cheaper

Shower:
- would have to have clean roommates
- roommates would have to wear shower shoes and trust that they would
- they would have to help clean the shower on a regular basis

6

where many of the actions – bathing, cooking, dining, lounging, exercising, reading, working – would be designed to occur in shared spaces and with collaborative efforts. Therefore, during the first weeks of the project, students were exposed to writings and concepts on human practices and behaviors [11; 12; 13] exploring histories and studies in habits and rituals around our home life.

The first workshop was designed to look at some of the challenges in not owning, but sharing residences. Students interviewed each other, as well as their family and friends, and captured reflections on personal experiences of residential sharing and mapped their results on *polarity maps*, which maps extremes in two conditions. In this instance the two conditions were own versus rent and private versus public (semi-private) (see Figure 2; 3; 4).

Developing *Polarity Maps* In Class – students worked in small groups of three and used Post-it™ notes to brainstorm examples that were then shared into one whiteboard class map.

At the end of one week students had over thirty reflections on what objects and conditions people might want to own versus rent, and use privately versus use collaboratively based on their interviews (see Figure 5; 6; 7). Furthermore they identified clusters of similarities and differences and began to identify where their realm of influence might be, shifting actions and objects from one quadrant on the polarity map to another. The second workshop and related exercises took these initial studies and coupled them with opportunities of current social trends and innovations around shared and collaborative lifestyles that design could further. These assignments would be used to guide students in the development of a design brief for co-housing models in the context of the city.

For a homework assignment, students elaborate on the polarity maps with friends and family.

Workshop Two – Trends and Triggers

Workshop Two presented examples of various social trends, demonstrating alternative practices in the supply and consumption of goods and services. The examples were carefully chosen to emphasize sustainable systems of exchange. Videos, blogs, and other published stories highlighted examples of local, shared, and collaborative scenarios for living and working within urban areas – roof garden collectives, bee-keeping sites, skill-share, farmers markets, Community Supported Agriculture (CSA) sites, urban farms, as well as co-working spaces, pet-sharing and improvised co-housing, etc. – and the digital technologies utilized to support many of these trends were identified [14; 15; 16; 17; 18; 19].

These examples of 'collaborative consumption' [2] illustrated the motivations and conditions (goods and services) that made these alternatives possible and successful for its users. According to BJ Fogg's Behavior Model when motivation and ability are simultaneously coupled with devices that remind us to take action – a trigger – then the desired behavior will be more likely to occur [20]. Articles and websites on co-housing provided examples of protocols, such as contracts and agreements for member participation and housing operations, as well as the lessons learned over the various histories [21]. Students began to envision who their potential urban co-housing users might be – the potential client profiles, 'personas, [22: 178] – and the systems and settings that would need to be designed for that cohort.

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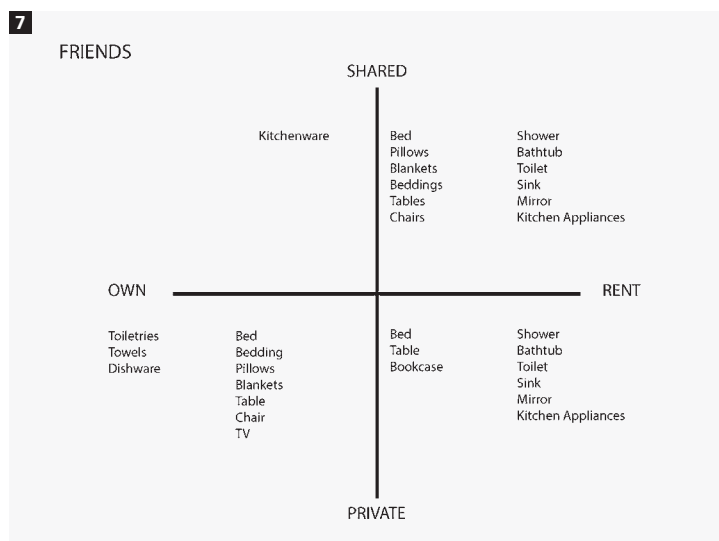
EULANI LABAY

The homework assignment uncovered problems with the terms used for the two extremes, so changes were made and re-mapping occurred.
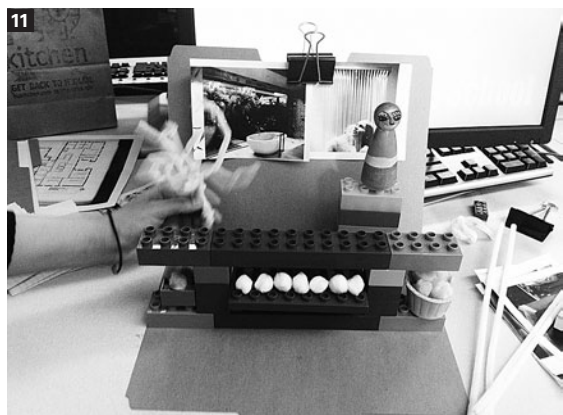
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Our next step was to introduce the project site and integrate design strategies that would address the challenges and opportunities identified in the workshops.

Prototyping Scenarios Toolkit
This modified Parsons DESIS Lab toolkit exposed interior design students to strategies that would assist a design team in developing and discussing ideas quickly, and with materials that would encourage designing for detail. The interior design students preferred the items that had little to no color, citing sophistication in presentation as the reason for their preference.

The project's building site was an existing multi-family dwelling building within New York City. In plan, the

existing H-shaped building was divided into separate wings down its center, with the exception of common basement, lobby and roof areas. This divided context allowed the class to consider possible 'conversations' between the existing multiple-family dwelling occupants and the, adjacent, one and two person dwellers living in the purpose-built urban co-housing.

With a primer in service design thinking [23], introducing this value this field of design has to offer designers of the built environment, students rapid prototyped various site-specific stories through creative play using three-dimensional toolkit of Legos, Playmobils, and ad-hoc pieces of craft materials. They modeled various scenarios in sustainable consumption practices around food, energy, and water employing the assets of the neighborhood – locally sourced foods, mass-transportation alternatives, bike paths, and passive strategies for the acquisition of water and energy. These surroundings were seen as places that would supplement an urban cohousing existence, as well as be the stage where alternative lifestyles would be played-out, triggering conversations between the co-housing dwellers and their surrounding neighbors (see Figure 9; 10; 11).

Developing Stories Through Play
Students worked in groups and chose an action – dining/eating or cleaning/bathing/washing – and considered the objects, spaces and places in the building and beyond that could be enlisted in support of more enjoyable and sustainable systems of production and consumption in the co-housing lifestyle of the city.

Students of ID Studio 2 were, simultaneously, instructed in digital modeling in the Drawing Interiors 1: 3D course.

Course Description

The Digital Modeling section of ID Studio 2 covers 3D modeling and digital representation with 3ds Max, Vray, SketchUp and Rhino. Students will use modeling software as a design tool to generate design variations, explore spatial relationships, and experiment with storytelling techniques. Advanced representation skills such as computer rendering will be used to communicate design intention, character, and aesthetic qualities [24].

Here, representation was used as a tool to animate an imagining, scripting multiple views of creative and alternative conditions, that express various interactions and the conditions where they occur.

The challenge of instructing students how to use digital design tools in the context of sustainability, or design that is centered on shaping and complementing human behavior, is to find new ways to explore the implicit and embedded narratives that influence individ-

ual decisions [25]. Building on conceptual frameworks of re-thinking representation, to shift the focus in drafting and computer-aided modeling from isolated forms to measuring and mapping contextual relationships [26: 24], we also incorporated some of the tools and practices used in film and 'game design' to view design as narrative architecture. These studies in sequenced events put an emphasis on the user's comprehension as spatial stories are enacted and evoked [27].

Storyboards and sequential wireframes, along with conventional architectural projection drawings, were used to map and plot structures. These types of representation drawings exposed students to tools that other design disciplines use, similar to how use-case scenarios, 'play-testing', and level creation documents map out a game [28: 43–45, 91] and create a feedback loop for the designer to analyze flows and decision points [29: 62–66]. One of the hurdles of learning digital modeling tools is to know when to switch between, and appropriately combine, simulated and stylized levels of representation. Whereas advanced simulations that calculate the sun's light energy are essential to studying environmental factors, such as physically accurate light distribution and interaction with material finishes, stylized levels of representation are necessary to abstract a scene for more immediate narrative purposes.

Design that explores our understanding of the users needs and desires relative to social practices requires self-projection and empathy [28, p. xxvi, 123], and through the digital model, the story and the characters become a device to discover space and gain perspective in the design process. The task of digital modeling becomes less about generating renderings, and more about creating visual prototypes that test concepts and contextual relationships through its users and their stories.

The student work

Student outcomes presented solutions for living collaboratively through a sequence of stories alongside plans, elevations, sections and efficiency calculations for their designed conditions. They were required to present at least two specific 'day in the life' stories; one in the voice of an occupant within a co-housing unit and one in the voice of someone invited to visit an occupant of the co-housing spaces. The narrations were evidence of what students imagined enjoyable, co-housing, settings could leverage, cultivating change over time through design.

Examples of student outcomes show creativity in concept building for the context, as well as creativity in methods and tools used to explore and influence conversations around the challenges and opportunities in designing for sustainability to a larger audience, such as the citizens of New York City.

Mini City Project

Some students adapted the notion of the micro-unit to develop micro-personal spaces within the larger shared and collaborative existence of the co-housing model. This project created a streetscape on a typical co-housing floor, pulling private spaces away from the windows and allowing for more daylight into the core of the space. At night, the 'box' rooms become ambient lights for circulation and quiet lounging in the in-betweens. Additionally, at the end of a day, colored lights can be switched-on, signaling 'passers-by' that the occupant within a room is open and available for socializing.

The story presented captures a sequence of events experienced by a resident and her dinner guest, where harvesting from, and lounging in, the roof garden adds to the ambiance of the meal. Each student had to incorporate a spreadsheet study of efficiencies and environmental design, comparing, per floor, the typical living conditions of the co-housing unit to the adjacent traditional multi-family dwelling units.

The Habitat

Again, the private spaces for sleeping and working were micro-personal spaces. However, this project studied the design detailing of highly adaptable spaces to suit a diversity of personal needs and desires, similar to the design considerations seen in the adAPT NYC competition submissions.

The stories presented explore the experiences of the resident as well as that of a visitor. The shared elements are visible to both residents and visitor. This project introduced events that would support alternative economic exchanges, such as skill share night.

A few projects had a 'movement' or 'wellness' thematic and designed features throughout the unit to support the NYC 'Active Design' initiative [30]. Additionally, many of the projects had large open cores with private rooms located against the perimeter window walls, unlike 'Mini City.' Therefore students were allowed to consider skylights or open internal courtyards to bring-in daylight for the top floors. Despite much discussion about the sun's energy – heat and light – many final images favored placement of large spans of glass in the core area, allured by the sun-drenched results that the digital rendering provides.

The Brooklyn Valley

One student took the study of digital technologies that are designed to support social practices as a core thematic and included the design of game. Similar to the video game "Tetris" [31] her objects and sites for check-ins and updates on consumption practices was a way of building triggers into the co-housing systems that were designed to remind and motivate sustainable practices in the day and the life of a resident. Her story told the

12

Floorplan

- Sleeping/lounge space
- 13 people
- 1 guestbox
- Playbox
- Sofaboxes
- Roads
- Japanese bath house
- Cooking areas
- Modular dining

HENRIETTE KOCKUM

Visitor storyboard

13

HENRIETTE KOCKUM

It's an early morning and Julia has invited her friend Carl over for breakfast. He has ordered pastries from a local bakery and she's suggested adding some berries from the rooftop garden

They go to the lounge to eat the food and lay in the sun for a bit. Carl then asks to see Julia's room since he hasn't seen it

14

HENRIETTE KOCKUM
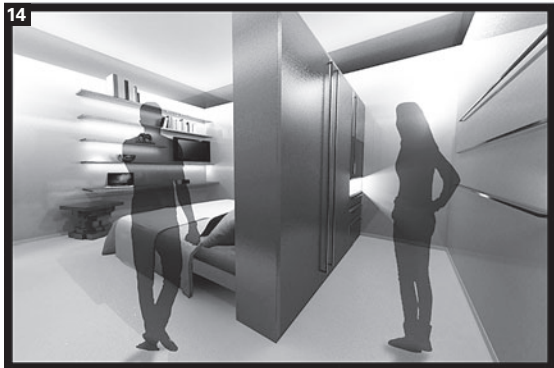
Julia shows Carl her box. He thinks it's small but is surprised by how little we in reality need. He is impressed that Julia lives in such a minimal way and by how nice it is

Carl wonder if everyone's boxes are the same so Julia takes her to a neighbor. She sees that the green light is on so she knows she's available. She shows Carl how she has personalized her box. They all talk for a while and then Julia and Carl decide they want to catch up on their own so they go someplace else

HENRIETTE KOCKUM

15

Quantitative Study

Existing space

Space Analysis - Carpetable area measure (wall area not included)

Space	SF/Person	SF/Bedroom	SF/Living Room	SF/Dining Room	SF/Kitchen	SF/Bathroom	# of person
6A		235.875	268.75	65.015625	65.015625	75	1 to 2
6B		199.75	269.375	92.4375	65.015625	48.675	4 to 6
		227.23				49	
		152.625					
6C		205.5	292.3375 combined		168	40	1 to 2
6D		228	285 combined		53	40	1 to 2
6E		247	258	100.4	72	40	3 to 4
		164.10625					
6F		234.5	275 combined		88	40	2 to 4
		157.5					
6G		237.5	266.4375 combined		193.5	54	1 to 2
6H		232	256.25	88	74	43.5	13 to 22
At 13 persons	480.561202	2521.58625	2171.15	345.853125	778.53125	430.175	Total Sq.Ft. 6247.29563
At 22 persons	283.967983						
Public Hall/Corr	102	164	100	172	30	568	
Private hall	702	21	105	88	240	180	
	21	84	180	69	96	21	
	72	42	25				
Total Sq. Ft	897	311	410	329	366	201	2514

New space

Space Analysis - MINI CITY

Space	SF/Person	SF/Bedroom	SF/Living Room	SF/Dining Room	SF/Kitchen	SF/Bathroom	
Queen box		162.75				81	Smaller bathrooms
Queen box		162.75				35.16	
Queen box		162.75				60.14	
Queen box		162.75					
Twin box		104.2496					Stalls
Twin box		104.2496				21.645	
Twin box		104.2496				21.645	Sink/Vanity area
Twin box		104.2496				800	
Twin box		104.2496					Bath house
Twin box		104.2496				1358	
At 13 persons	786.019015	1380.7472	4,441.25	1018.16	1000.5	2377.59	Total Sq.Ft. 10218.2472

Water Efficiency – they can adapt from the LEED CI WE template:

Fixture	Toilet - flushometer	Sink Faucet	Shower	Bath	Bath/Shower combined	Kitchen Sink	Slop sink hallway
Existing	9	9	9	6	5	2	8	1
New	7		6	8	2	0	2	1

Energy Efficiency

	Refrigerator	Stove/oven
Existing	8	8
New	3	2

16

North

Floorplan

SARAH GREENFEST

Bedrooms

Interactive Forest

Movement Room

Bathroom

Skill Share Classrooms

Entry Hall/ Equipment Share

Kitchen

1/16" = 1'-0"

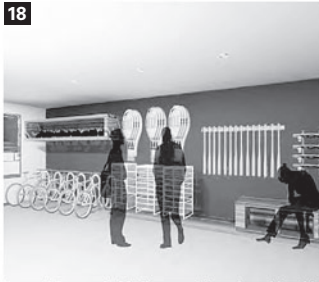# A Residents' Journey

17

SARAH GREENFEST

Frankie walks down the hall on a Saturday afternoon, spots Jenna in the Movement Room and decides to join her.

He heads back to his bedroom where he finds his roommate Ray hanging out with their neighbor Jasper on their pull out table and stools .

Frankie tells them he is heading to the movement room to workout with Jenna.

Nadia Elrokhsy, Cary Ng & Eulani Labay
Living More With Less: A Studio Designs for Efficiencies and Beyond in the Built Environment

43

A Residents' Journey

Ray and Jasper decide they want to go for a bike ride so they head over to the equipment share to borrow bikes. There, they spot Suzy coming back from a run.

Suzy heads into the kitchen and spots Alice emptying the recycling bins.

Then Suzy sees Carla and Jose preparing dinner.

She helps Carla and Jose to finish preparing, then they all sit by the junk-yard table and wait for dinner to cook — they love communal dinners.

SARAH GREENFEST

A Visitor's Journey

While signing up for a skill share class in the lobby one day, Ivan bumps into his friend John. "Join me to a skill share class tonight and we can catch up," he tells John.

Ivan meets John off the elevators on the 6th floor. "What's this ipad on the window?" John asks. Ivan explains that it's used to help keep the community organized — residents can sign out equipment, volunteer to cook dinner, check what their chore for the week or register for a skill share class. Ivan also points out the rolling community news ticker above the coat hooks.

Ivan and John wait for their class to start on the multi-color modular couches. Ivan tells John the pieces can be arranged however he likes!

SARAH GREENFEST

A Visitor's Journey

It's time for the class! John and Ivan are pumped to learn about wilderness survival skills from expert hiker, Louise.

After the class John takes Ivan to the Interactive Forest to hang out and catch up.

John and Ivan catch up while watching football on the graphic grassy patch. John is memorized at all the fun places there are to hang out around the floor. "This place rocks!" he tells Ivan

SARAH GREENFEST

21

SOCIAL- ENVIRONMENTAL- ECONOMIC Monitoring Systems ©

SEE Tetris
A Less IS More Lifestyle

With SEE Tetris, each block is not simply a mindless color. Blocks graphically represent:

Earth/Oxygen/Social, Water/ Environmental, Electrical/ Economical.

Residents can digitally track conservation of SEE by:

1. Using less of a resource.
2. Repurposing and reusing a resource
3. Avoiding the need to utilize a resource
4. Creatively organizing an event where they train/educate others about bartering and resource/saving,

SEE Water-Resistant Watches

Are assigned to residents digitally records SEE Tetris based on scanning at activity points. Ex. Shower scan-in
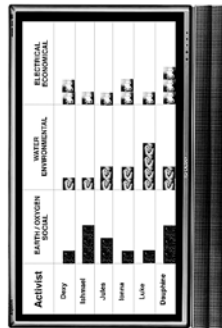
Visitors get to utilize day cards. These also digitally reflect on the monitoring screens.

SEE TV SCREENS

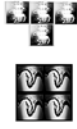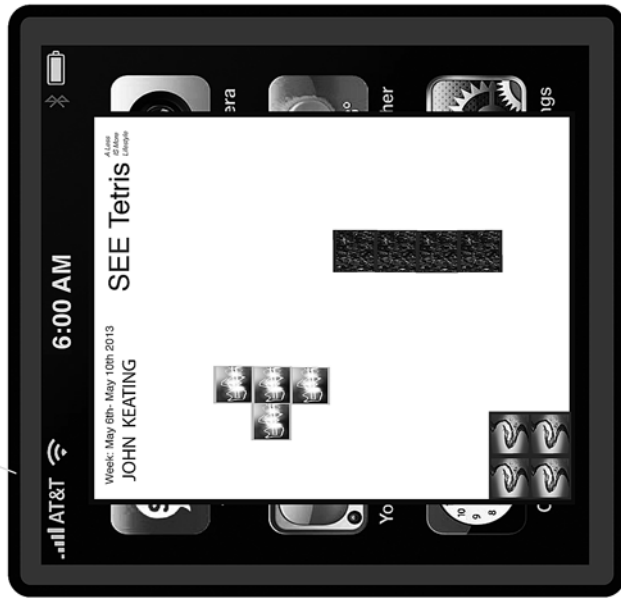The SEE Watches act as recording agents, transfering information and data to:
1) Internal Storage 2) SEE TVs

At the end of each month, the top two residents who reserved the most amount of resource, gets to choose a celebration style event of his/her choice.

Activist	EARTH / OXYGEN SOCIAL	WATER ENVIRONMENTAL	ELECTRICAL ECONOMICAL
Davy			
Ishmael			
Jobs			
Isina			
Luke			
Dauphine			

Unused usage of a resource recorded daily, results in a bonus of no block.

Saving water registers 4 blocks into 2.

Ishmael saved water, so he is awarded even blocks

On Monday, JOHN decided he did not need to shower for 8 minutes alotted, so he chose to swipe out at 5 minutes. As soon as he did, the showerhead turned off, and the system electronically noted Ishmael's opting out.

A bartering event about Lavander.

On Tuesday, JOHN attended a bartering event in the common space 'submarine'. He used the soap he made. On Wednesday morning, he awoke still carrying the lovely fragrence. He decided showering was not necessary that day.

Restocking the kitchen basket wall with produce

JOHN has a craving for a fresh cucumber and tomato sandwich. The kitchen is stocked with Rye bread, and homemade cream cheese, but no cucumbers or tomatoes. Ishmael ventures to the rooftop, and retrieves vegetables to restock the kitchen basket wall.

Restocking the vegetable baskets registers the resident under two resources

Saves Earths- Utilizing green garden, creates oxygen.

Saving electricty- No need to burn carbon dioxide via car

.ıll AT&T 📶 🔋
6:00 AM
Week: May 6th- May 10th 2013
JOHN KEATING

SEE Tetris
A Less IS More Lifestyle
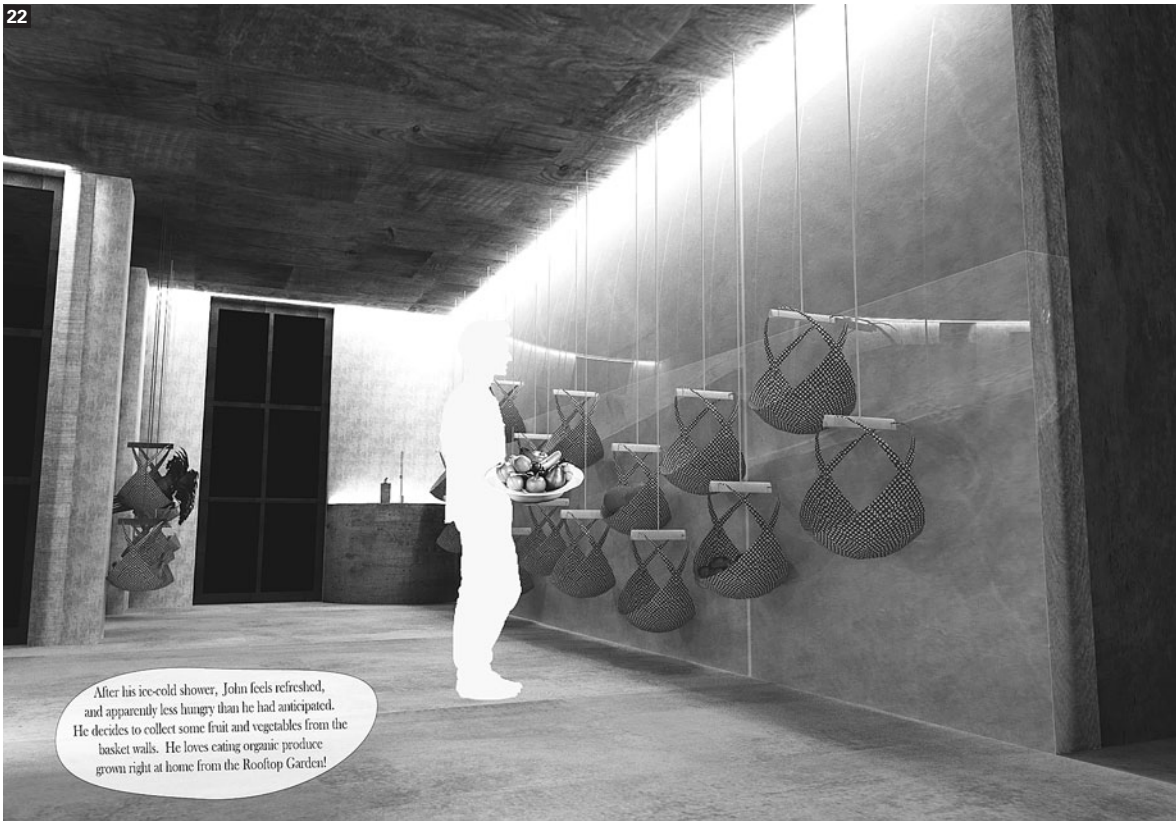
VINITA BAKHALE

After his ice-cold shower, John feels refreshed, and apparently less hungry than he had anticipated. He decides to collect some fruit and vegetables from the basket walls. He loves eating organic produce grown right at home from the Rooftop Garden!

Before John can enter the showers, he scans his S-E-E Watch to unlock the bathing door.

He sets up his new change of clothes and shoes he picked up at the laundy station.

John scans his S-E-E Watch over the shower monitor to activate the shower.

John does not feel the need to shower for 8 minutes, so he scans out at 6 minutes.

What a record! SEE Monitors take notice of John's ability to save a resource.

After the Fabric Barter session at the Benches, Dexy takes June to the Lounge, where John is currently ecstatic about winning S-E-E's most resource-conscious inhabitant. Fellow residents congratulate him. A feast will be held in his honor at the end of this month.

VINITA BAKHALE

sequence of events over the course of an evening and beyond, imagining the potential achievements in efficiencies when competition for 'best-in-house' motivates newcomers, as well as long-time residents.

Conclusion

Students of this course are Associate in Applied Science (AAS) degree candidates in the Interior Design program at Parsons The New School for Design, a two-year course. Typically, these AAS students have previously acquired undergraduate degrees and from a wide range of disciplinary backgrounds. They have expertise in areas that enrich class discussions when investigating the challenges and opportunities that certain design propositions might or might-not offer its users.

When contributing to the evolution of complex systems, and designing for *more* enjoyable lives with *less* (or no) detrimental impact, it is essential that an initial phase of questioning a given context occur – a *pre-positioning* phase [8 391]: What needs to be designed? Who has a stake in what changes occur? What interactions could design facilitate? It is, without doubt, the interior designer's role, and within their realm of influence, to be a part of this phase of positioning the design brief around a specific context, which require extended temporal and spatial considerations to support successful experiences over time. In this course, students

explored this re-thinking of their role, inserting themselves at the "fuzzy front-end" (FFE) [32] of the project phase and not, simply, the space planning and selection of furniture, finishes and equipment (FFE). The program Director, Johanne Woodcock, understood the value of exposing students to various practices of the design process and supported the faculty and students throughout the semester. The course afforded an opportunity for faculty and students to challenge our notion of the interior design praxis and pedagogy.

Students were aware that their nascent experience with the design process was both an advantage and a challenge in this unique studio. They were, especially, curious about the distinctions in the methods and tools used during the creative process. They questioned these experiences relative to their expectations of what might be experienced in the workplace. Therefore it was critical to expose, as well as have students uncover, examples of these strategies applied in creative process of various fields of design, as the course evolved. Our line-up of final guest critics included a member of a well-know international design firm, and one of a few firms that have, recently, begun to consider what is possible under the umbrella title of 'design strategist.'

The following list of reflections reveals certain insights and questions that we will consider for further iterations:

1. The adAPT nyc competition provided an example of how the *pre-positioning* phase gives design the space to consider what other systems, such as zoning codes, may need to be changed before 'interior' lifestyle changes can occur. id 2 students were encouraged to explore what changes in codes or zoning would be needed to allow for urban co-housing versus micro-units.

2. The benefits of identifying and exploring emerging trends through 'personas' (user-centric profiles) are apparent in micro-focused design programs. For projects with a larger scope, how do we manage the development of user profiles that accommodate multiple of points of view, creating a useful 'public' profile, as was the case in this civically focused design course?

3. While the class as a whole had many ideas of possible scenarios, most of the students came up with just one or two initial design partis. How can we make better use of visioning exercises to generate dozens of spatial possibilities, for each student?

4. Integration of service design thinking into the interior design process was successful, in part, due to the introductory workshops. Students quickly recognized examples of collective consumption, relating many examples to their own experience and recognizing the social capital and services necessary for their continued success. The greater challenge was in having the time to design the "material evidence" that would support their initials ideas of incorporating extended realms of service design systems (potential for exchanges between the neighborhood and outside stakeholders, for example). How can we introduce product-service systems design thinking to students of architecture and interior design in a more succinct way? What might become their respective areas of expert contribution/boundaries?

There wasn't enough time to reflect, extensively, on this work during the cumulus Dublin presentation, but one question asked if the interior design students were comfortable in with the civic nature of the project, which was an excellent question, and one that should have been included in our semester's student course evaluations. However, students, faculty and guest critics, alike, expressed their enthusiasm for the expansive view that a 'civic' focus requires and for the opportunity that it offers in helping interior designers redefine their role as integral facilitators of change. Many of the cumulus Dublin presentations and workshops, from its keynote speakers, and on, explored research and development that questions the role of design in a complex and rapidly changing world. It is our goal that, like the conference itself, the lessons learned and presented within

this paper will spark further interest in sharing and expanding on strategies in the designing for sustainability realm – living more with less.

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Andrea Wilkinson

Designing for New Contexts; Equipping Students to Respond

Year upon year, thousands of design students graduate with a highly specific skill-set involving familiarity with HTML 5 and coding languages and the ability to export media to industry standards. These skills are what industry asks for and are based on historical models of media use and consumption as well as the traditional school-to-workplace trajectory. However, if design is to continue to remain relevant amid the growing numbers of programmes and graduates, and is to maintain influence outside the confines of traditional media, the educational scenario of tomorrow requires a model that educates students to be perpetually inquisitive, to equip students not only with basic quantifiable skills, but to equip them with the ability to use these skills to respond and adapt to their environment. This paper presents this conflict and offers a case-study of how the shifting of contexts suggests a model that can be used within design education. By reflecting on the design process and success of this case one can infer why working with such situations should be not only encouraged in design curricula, but mandatory, especially if design (in all of its iterations) is to develop into an discipline which contributes to society instead of merely creating content for it.

## Reflecting on the state of design education today (and yesterday)

Design education is at a crossroads. It is no longer good enough to be teaching the same curriculum that was offered a few years ago or in the same manner. In her essay 'How High Do We Set the Bar for Design Education?' Professor Meredith Davis reflects that the teaching approach in most design schools 'discourage systems-level thinking by asking students to design products (a book, brochure, multimedia presentation, etc.), usually outside the context of the systems to which they belong and even, in some instances, outside the context

of use' [1]. This lack of context or reference waters down the impact that a design might have and turns design students into makers linked to expected results instead of placing their creative process (the act of designing) into an integral role within a system.

Although there are basic design theories and principles that students should know, it is necessary to revisit the content and delivery of design teaching. Young people of all ages are media savvy; they are media-makers and media consumers and live in a world of crossover, where media is simply media, not a defined medium. Design no longer fits within traditional labels such as advertising, illustration, product design, film, photography… art. Although there will always be a need for specialised focus within these areas (typographers concerned only with type or product designers focused primarily on ergonomics), each of the specialisms will have to relate themselves and be aware of the modern expectations of context, connectivity and use.

Alongside this, educational institutions continue to promise and promote a rigid definition of media and designer, selling designer dreams to young people through marketing schemes. A good example is from The Portfolio Center in Atlanta: 'Welcome to the school that takes the poor, the confused, the artsy fartsy, right brained type people who are loved, but not understood, and turns them into some of the best-paid, hardest-working, smartest-thinking communicators on the planet' [2]. School websites offer potential students examples of successful graduates working in all areas the creative industries and for the parents of potential students, institutions offer assurances through a list of job profiles; which suggest that as a direct result of a particular design/art degree programme, their child will get a job. This promise of a future as a designer is also being achieved on massive, global scale. Even a decade ago, AIGA, the professional association for design [3], was questioning the number of students being churned out in graphic design programmes across the country, with estimates that there were as many as 40,000 students being released into the US job market each year, with the market only supporting 200,000 graphic design practitioners [4].

The bigger picture; the integration of skills

If design education struggles with how best to educate the student of today (what fundamentals are needed, what applications should be taught, what methodologies
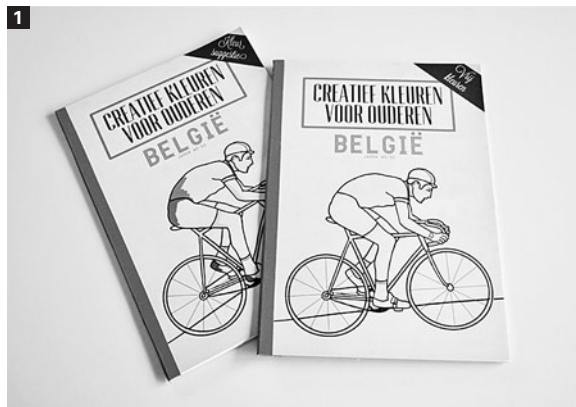
are necessary); the discipline itself is no longer conveniently segmented into traditional media. This leads directly to the recognition that 'mainstream creative industries' [5] can no longer be the sole focus of design education. Even some industry professionals are frustrated at this narrow (or consequently too generic) form of education with the designer Gadi Amit commenting that 'some of the design schools… have no real design process education, while others have *only* process education… Most students can claim some familiarity with design research but few have any sense of design integration… the ability to integrate seamlessly (into) all levels of creativity' [6].

Amit's definition of integration supports the notion that designers can be active contributors instead of laypeople who are only able to work within the confines of a pre-determined brief. However, few would agree that design schools should stop providing the skills that students want and that the creative industry calls for. What is proposed is that during their time at school students be given issues, situations and contexts which sit outside of these understood domains.

A Case Study: Designing the Personal

'Designing the Personal' [7] offers one such example of working within new situations and contexts. Since 2011, the Social Spaces research group at the MAD-faculty in Genk [8], Belgium has worked on funded research projects around the subject of dementia. These projects have included design research involving ethnographic research in home-situations and care facilities, generating paper prototypes with care workers and developing interfaces. In the autumn of 2011 the school offered each of the research groups a chance to offer a course/module based on the current research that was being undertaken. Since then, each year, Masters students from various design backgrounds (photography, graphic design, interaction design, television/film, animation and product design) have been working on the subject of dementia under the supervision of the de-

signer/researcher team of Andrea Wilkinson and Niels Hendriks.

A confrontational, hands-on module, 'Designing the Personal' works to de-stigmatise the elderly and care facilities as well as dementia as a condition and works within a qualitative theme; to make the life of someone with dementia more pleasant. It also attempts to be immersive. Although students supplement their experience with desktop research, students also spend the night in care facilities, play games and eat together with people with advanced stages of dementia.

The process is purposefully very open. The students develop projects based on their direct experiences, observations, reflections and research. There are three distinct features to the module: 1) The process does not begin with a defined end-goal or supposed media outcome and the students are not limited to their domain, they simply respond with whatever tools they understand and find relevant. 2) The students have to define their own area of focus based on direct observations. Although projects may deal with similar themes, each project is individual and specific to the student's observations and reflections. 3) The project is participatory; those impacted by the issue are included in the design process. This includes the people with dementia, their loved ones, healthcare workers, neighbours and so on.

These atypical real-life situations turns students from brief-driven creators into responsive contributors, providing them with an opportunity to see their capacity as designer expand to become innovative problem solvers. Using the skills that they have either from their own discipline or their own interests they are successfully able to create (and visualise) products (or concepts) that directly respond to the socially critical issue of dementia.

The stories of students

The following projects illustrate the breadth of projects generated by these students. Although some stay within their domain and skill-set, others branch out and

mobilise their understanding of other domains to respond to the issues at hand. The experience of the student as well as the person with dementia, in whatever capacity he/she is able to contribute, is reflected in each project (Figure 1).

Sara, graphic design student

Sara worked together with her grandfather who has Parkinson's dementia. This requires that he exercise the motor control of his hands on a daily basis. These exercises are supported by sheets from colouring books provided by the care-staff, and although he enjoys this activity, his children and grandchildren find the drawings too childish.

Sara's project was a colouring book based on the simplicity of a children's colouring book, but with imagery and themes her grandfather would enjoy and his family would better appreciate. In this case, objects and imagery from Belgium in the 1950s (Figure 2).

Jonas, graphic design student

Jonas' project was based on several observations he made at a care facility in his hometown. He noticed that some of the people with dementia refused to eat, specifically those who could not communicate on their own. He did additional research and found that often this has to do with the food being too warm or too hot. In one of his observations he was quite shocked to see a caregiver check the temperature of food by placing her finger into the food before serving it.

His solution hoped to change how temperature was registered by creating a temperature sensitive plate that reveals a very small outline of colour around food that is too hot or too cold. His prototype worked and showed the possibility of reworking existing technology for this specific use (Figure 3).

Ilse, photography student

Ilse was moved by observing how caregivers responded to people in a later, or final stage of dementia who
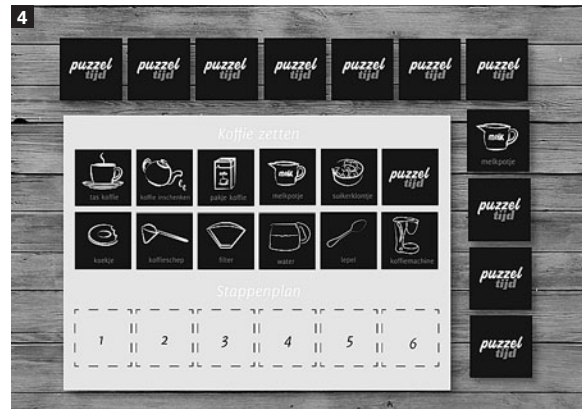
no longer have the ability to communicate, feed themselves and have very limited motor movement. She noticed that after long periods of time, people confined to their bed became agitated. To combat this agitation, care workers often turned on the television. However, after a period of time, it appeared that the television seemed to provide too much stimulation, and again the person with dementia became agitated.

Ilse's project offered a simple way to provide a relaxing form of visual stimulation and movement in the form of a mobile. It created small shifts in light, colour and movement with very minimal investment from the caregiver, thus fitting into their regular routine; a simple tap from a nurse kept the mobile going for up to 20 minutes (Figure 4).

Goele, graphic design student

Goele designed this project together with her grandparents. Previously her grandmother had done all of the household chores as well as making the meals. However, since she was diagnosed with dementia, it was no longer possible for her to do some of these basic routines; frustrating her as well as her husband. Since her grandmother used to really enjoy playing cards, Goele developed a card-game that enabled her grandmother, with the help of a family member or caregiver, to make coffee.

The 'game' in this way became a mediation tool that focused on the task instead of her problems with memory. A fantastic quote from this project came after testing the prototype, Goele's grandfather commented 'that's the first time in two years that I've enjoyed a cup of coffee made by my wife.' (Figure 5).

Elena [9], interactive design student

During the project, Elena met a woman in a care facility that loved to cook. The woman was still able to communicate really well, but due to dementia was no longer able to read ingredient lists or make calculations thus limiting her ability to prepare food or bake.

Elena researched simple recipes that required few or no sequential steps. She then created a measuring cup that visualised all of the amounts of necessary ingredients to make a recipe that would allow for the woman to cook with minimal help from family or caregivers (Figure 6).

Blossom, graphic design student
Blossom had always had a great relationship with her next-door neighbour but from the moment that her neighbour was diagnosed with dementia and moved into a care facility, she no longer knew how to spend time with her or what to discuss. Through her research she found that this is a common issue for the friends, children and grandchildren of people with dementia; often people find it difficult to visit simply because the topics that were once important are no longer relevant.

Her project was a pack of simply themed cards. On the front of each card was a very clear image of a simple item, enhanced with the scent of the item, for example grass, coffee beans or onions. On the back were suggestions for conversation starters that would allow people of all ages to have simple verbal interactions with their loved ones.

From *what you know* to *what you can do with what you know*
It is not only design education that is facing the challenge of maintaining currency and the action of learning; education in general has problems with the acquisition and application of knowledge, as Harvard Innovation Education Fellow Tony Wagner points out: 'Today knowledge is ubiquitous, constantly changing, growing exponentially… There's no competitive advantage today in knowing more than the person next to you. The world doesn't care what you know. What the world cares about is what you can do with what you know' [10].

For students, 'Designing the Personal' turns design (knowledge) into a vehicle of response (an action) and changes how they think about their environment, their role as a designer as well as the importance of users. For students about to graduate, it gives design a new relevance. Although somewhat difficult in the beginning to explain or even to convince care facilities to participate, after the experience the caregivers and management always welcome the project back. For them, this module integrates design into care from the inside-out instead of what they see as the standard approach in which the generation of objects, tools and processes are created from a distance.

What Wagner terms 'what you can do with what you know' is precisely what design (in its broadest sense) can offer society and industry at large; the ability to work across media, to work collaboratively across disciplines, the ability for design itself to take initiative, for things to be created in a participatory and inclusive manner. The challenge for design education is to meet this potential by expanding the curricula to include undefined briefs, relevant local and wider issues, to provide situations and contexts that equip students with the ability to respond to their immediate environment as well as supporting them with methodologies which makes this response possible. Developing and training future designers who have relevant skills and seek out issues and are able to create meaningful responses to these issues will turn design from an industry which serves the needs of only clients to an industry that contributes in unexpected ways.

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7 In 2013 the name of the module was changed to Participatie op Locatie, which literally means *Participation on Location* as the module was held in its entirety within a care facilty.

8 MAD-faculty (Media, Arts and Design Faculty) is a collaboration between the design schools of the Katholieke Hogeschool Limburg, Genk and the Provinciale Hogeschool Limburg, Hasselt.

9 This example comes from a student project submitted as part of the *Design for the Forgotten: Dementia* workshop, a 5-day workshop held on the 12–18 May, 2013 at the Hochschule füer Gestaltung Schwäbisch Gmünd, Schwäbisch Gmünd, Germany as part of the 9th International Seminar Week

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Negotiating Pedagogy: Collaborative Learning in the Real World

Architectural education at the Cape Peninsula University of Technology (CPUT) in Cape Town, South Africa is undergoing a change in content and delivery methods. The Design-Build Research Studio (DBRS) was established in 2011 to support this change, by addressing the ethical responsibility of designing to stimulate growth and renewal in South African socio-economic realm. This is in line with contemporary approaches to research and teaching, which are increasingly focused on the inclusion of local communities in collaborative design projects. This collaborative approach makes clever use of resources, including community, academic and professional knowledge enabling relatively quick and effective solutions.

The traditional architectural studio is outdated, and unsuited for today's challenges. It is too abstract, subjective, vague, and generic to address sustainability, climate change, and developmental or socio-economic issues. We agree with Salingaros and Masden [1] that the learning experience must be specific to students' immediate and local context, and live and design-build projects enable the production of locally relevant knowledge to support such learning experiences. We can define live and design-build projects as 'a type of design project that is distinct from a typical studio project in its engagement of real clients or users, in real-time settings. Students are taken out of the studio setting, and repositioned in the 'real-world'. This external involvement tends to result in students producing something that is of value to the client, which might range from ideas, feasibility reports, or research, to a completed design scheme, a design-build construction or other intervention [2]. The live project opens up possibilities to 'develop and value non-academic forms of knowledge: ways

of knowing that involve personal experience, consciousness-raising, subjectivity, or relational connections' [3].

Through design-build projects students learn the practical measure of architecture: the properties of materials, how materials work together, and traditional / regional construction techniques [4]. The CPUT students were exposed to these aspects during a design-build project at the St. Michael's Multi-Grade School in Grabouw near Cape Town, where they designed and constructed an outdoor classroom, walkway extension and container library.

Simply put, when students participate in design-build projects, they build what they have designed. Hence design-build fosters a more intensive relationship between designing and building, by facilitating a hands-on, full-scale investigation of built form [5]. Design-build takes students from individual work in studio to collaborative work on the building site, where they experience real-life engagement with context, community and technology. Collaborative work is facilitated through various media, ranging from computer-aided modeling to cardboard models, hand-drawn sketches and group discussion (Figure 1). As the students know that they will eventually have to build what they propose, most of their ideas are practical and executable.

The students also source materials themselves, and include as many locally produced and recycled materials as possible. Once on site, problems with details and materials are solved in real-time, testing the students' ingenuity and improvisational skills (Figure 2). During the work undertaken at the St. Michael's Multi Grade School, students concluded that 'there is a clarity on site about solutions to problems, which one might not have when working at the drawing board' [6].

Salingaros and Masden also state that construction can only accomplished through group effort, which shows students that architecture is not the exclusive domain of one person's ideas [7]. Through live projects, students collaborate to find a real life solution, but unlike design-build projects the outcome is not a structure built by them. During 2012 a recently graduated student, Olwethu Jack, contacted the Department of Architectural Technology in order to present work that he had become involved in at the Community Organisation Resource Centre (CORC). CORC is a non-governmental organisation that provides support to networks of urban and rural poor communities who mobilise themselves around their own resources and capacities. Their

interventions are designed to enable communities to learn from one another, thereby creating solidarity and unity in order to facilitate engagement with formal institutions, especially the state [8].

During 2012 CORC supported the community of Mshini Wam, an informal settlement in Milnerton, Cape Town, who had initiated an innovative approach to the in-situ upgrading of their dense informal settlement. Working closely with the Informal Settlement Network (ISN), supported by CORC and iKhayalami, the community collaborated with City of Cape Town officials, engineers and field officers to upgrade their informal settlement [9].

This approach is referred to as 're-blocking', and defined as a community-led in-situ re-arrangement of their informal dwellings in accordance to a community design framework which opens up safer and more dignified public spaces (referred to as courtyards). The community is in charge of physically implementing such projects and more than fifty short term job opportunities were created during the re-blocking of Mshini Wam, through the Expanded Public Works Programme (EPWP) in partnership with the City of Cape Town. Re-blocking also allows better access to services, and to further protect against fires in Mshini Wam, the community is hoping to use fire-resistant materials when rebuilding their houses. The City of Cape Town will part-

ner to provide sewer and water lines, as well as electrical poles and electrical boxes for each family [10].

Through the re-blocking and community mobilisation processes, topographical, institutional and social issues are overcome. Hence, re-blocking is more than just technical solutions to improving access to services. It is about a community process that starts with the empowerment of women through savings schemes, the cohesion and unity of community working together on a broad-based project, and the formation of partnerships with government and other stakeholders in the long-term development of the settlement [11].

CORC approached CPUT in 2013 to participate in a re-blocking project for a community in the informal settlement Vygeskraal in Athlone, 15 kilometers east of Cape Town, with a population of 546 inhabitants living in 245 shacks (Figure 3). Vygeskraal is located on a piece of land that belongs to the City of Cape Town – a space that people have appropriated and claimed as their own. Albeit the settlement exists as an 'other' space, a strong sense of community thrives via the residents' common goals to create better living conditions for themselves.

The government assumed an 'enabling' role in the project by providing the community access to resources and infrastructure, which they could otherwise not provide for themselves. This approach or partnership

Figure 1. Lessons in design, construction and social practise at the Design-Build Research Studio in the Department of Architectural Technology at CPUT.
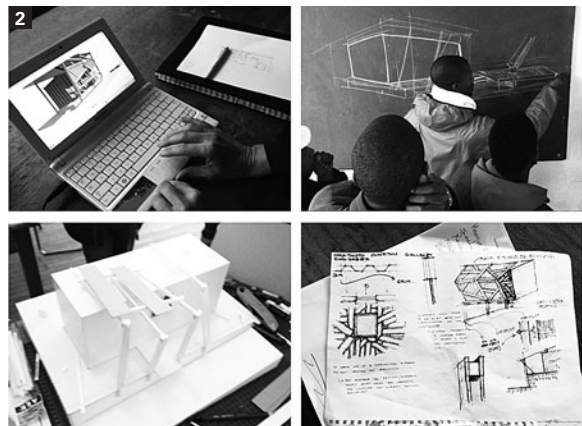**Figure 2.** Multi-media design exploration using computer-aided modeling, group discussion, cardboard models and hand-drawn sketches.
Figure 3. Teams of students design and then build components using locally sourced materials.
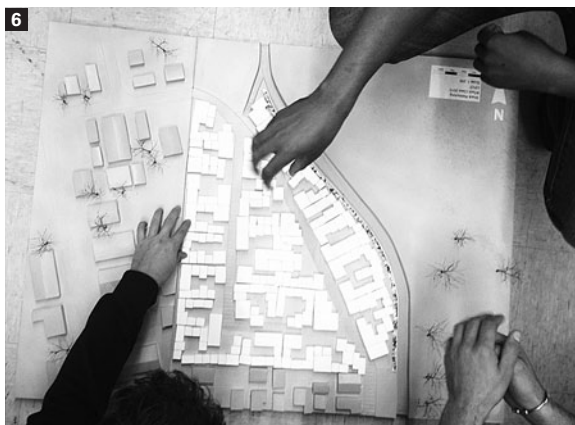
Figure 4. Aerial view of the Vygeskraal settlement

Figure 5. Site visit with students at the Vygeskraal settlement.

Figure 6. Participatory design approach facilitated by models.

Figure 7. The representatives of the Vygeskraal community and CORC with the students at the final presentation.

Figure 8. Participation in the design process in the studio: students and community representatives exchange ideas by using drawings, models, and electronic media.

model is assumed by the government and communities in order to work together in planning and decision-making for long-lasting results [12]. In the Vygeskraal project, the concept of limits may also be identified, as the government supports community participation by allowing residents the freedom to make decisions and choices by respecting agreed parameters to work within [13].

Because the collaborative project entailed involvement, partnership and ownership by the community, the re-blocking initiative included the residents of Vygeskraal, CORC, City of Cape Town and the CPUT. The

brief was determined by CPUT, CORC and the community representatives for the two-week project undertaken by the Bachelor of Architectural Technology students in March – April 2013. The aim of the reblocking project was for students to assist the residents of Vygeskraal with capturing their development goals toward the upgrade of their existing informal settlement.

As a live project, a number of questions were raised in terms of how to approach the design process, interactions between the students and the community, and the actual site of the informal settlement. Thus, further collaboration was called upon from Jhono Bennet (Uni-

versity of Johannesburg) who guided the participants in an introductory workshop that included precedent and talks by himself, Olwethu Jack (CORC), and the Vygeskraal community representatives. Also, although the students were initially required to help the community in mapping the settlement and measuring the informal dwellings, CORC expedited the process by providing the students with the relevant information – which afforded the students more time to interact with the community and focus on generating collaborative options for improving the settlement's dwellings, infrastructure services and surrounding environment.

During the visit to the informal settlement for data-gathering and on-site analysis (Figure 4), students experienced the extreme living conditions that the community was subjected to, as well as the everyday challenges of accessing clean water, sanitation, and protection from flooding and fire. By engaging with the community, the students became increasingly aware of the community's urgent need to create shelter – thereby initiating the design process. The students also realised that they had to approach the project differently from the conventional architectural design practices in many of their previous design projects, which were often driven by their preoccupation with spatial expressions of form-making. Their collaborative approach (Figure 5) aimed toward a more user-friendly and demystified design process to allow for the direct involvement of the community in the decision-making process [14]. By employing Hamdi's trickle-up effect, agency was given to the community representatives to lead the design process from within its self-organised system, thereby making small changes within the re-blocking initiative in order to elicit a big change [15].

The participatory approach allowed students to work with people who have a variety of skills – thus, knowledge construction was maximised via collaborative methods [16]. Attributed to distributed problem solving [17], the project outcome could not be preconceived but rather, it constantly evolved – the collective efforts of the participants via studio workshops and feedback sessions allowed various design solutions to be continually developed. By engaging the design principle of rules and elasticity [18], the salient information (e.g. circulation, services, topography, and temporary accommodation) was considered as the initial project parameters and building blocks for the design; upon which new information (e.g. making provision for additional families) was added, refined and evaluated by considering the use and suitability of the resultant possibilities; including the flexibility for design elements to be added (e.g. vertical landscaping and the community meeting space) that could further enhance the quality of the environment at a later stage in the community's development (Figure 6).

The community representatives were grateful and satisfied with the design process and outcome. The students' final presentation to them included a slide-show presentation, process video, design proposal posters, a site layout model, and a construction detail model. The status of the re-blocking project as of mid-May 2013, is that the City is formalising the framework, and developing a policy document. Although the quality of the re-blocking design is yet to be determined by the actual environment for which the design is intended to perform [19], the collaborative re-blocking project achieved both material benefits (infrastructure, site and dwelling layouts), and the social development of the people (empowerment and independence). As Moser suggests, successful community participation is both a 'means' (mobilisation to get things done) and an 'end' – a meaningful process [20]. Thus, meaningful architectural design and development lies in collaborations with the communities of informal settlements, which have the potential for socio-economic change.

Although in these live and design-build projects only one community at a time benefits greatly from the project, the most profound change that occurs is probably within the learning of the students. Not only do they learn about design and technology, as they would with any normal studio project, they are made aware of the possibilities that relatively small interventions can have on whole communities. For the community it might be a once-off experience, but for the student the possibility of working on these projects in the future now becomes an option. The more students are exposed to this kind and way of work, the bigger the probability that these future practitioners will engage in similar meaningful projects (Figure 7).

Architectural practice is inherently not an individual endeavor. However, collaborative practice is not often taught actively to students: 'too often architectural education establishes a set of remote values which then go to define the profession; these centre on the myth of the architect as individual, male, hero-genius clinging to a set of ideals that are often removed from the concerns of the everyday world. In contrast, the Live Projects develop collaborative techniques and skills in communication and participatory practice – all approaches that are essential and absolutely relevant to the future practitioner' [21]. Steve Badanes, design-build architect and educator agrees that 'unfortunately, our education systems tend to utilise competition far more than collaboration as a means of developing young minds… competition does make it easier to assign grades' [22].

The DBRS will continue the practice of the live project and will aim to integrate it into the curriculum in a meaningful way. Research into the methodology and practical execution of the live project needs to continue, since there is 'a lot of romanticism in the idea of 'par-

ticipation' and 'empowerment' and there are many challenges in practice' [23]. The live project should not be the studio as we know it (i.e. just practiced in the field) – but rather, it should demonstrate and signify a new way of participative practice.

Some of the benefits as well as the challenges of the live project are well known. The benefits include heightened student motivation and enthusiasm, learning about collaborative work and the challenges include difficulty with obtaining funding, time constraints and inaccessible administrative systems of educational institutions. Yet one of the most important aspects of the live project – the 'how to take this into future practice' – has not really been researched and needs some further investigation. This will enable better integration and a specific place in the curriculum, rather than projects that happen on an ad hoc basis; thereby providing a definitive platform for collaborative projects from which students, practitioners and communities can benefit.

We conclude with Salingaros and Masden: 'if we are to establish a new direction in architecture it will be necessary to turn architectural education on its head, working from the concrete (objective) toward the abstract (subjective). This reform would reverse the existing trend, wherein students are taught unconditional abstraction (subjectivity) and work toward an ineffectual concreteness (objectivity)' [24].

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DpsdBeyond: A Student Initiative for Open Learning

Abstract

The DpsdBeyond initiative was created in order to bridge the two most contradicting aspects of the Greek design students' mindset, design theory and design practice. Launched in October 2010, DpsdBeyond became the platform that facilitates the sharing of knowledge among design practitioners, involving students as well as experts of various scientific disciplines. It operates on the premise of creating and sharing new knowledge in design in an open collaborative way; this process aims to widen the participants' horizons and enrich their perception. The initiative has organised a variety of different events that aim to create and spread new knowledge and good practices, and include lectures, workshops and fundraising events. Finally, the process of creating a solid documentation of the pedagogical model employed by the initiative has been undertaken. Throughout this process, a dynamic student network emerges, which provides access to more, better and wider knowledge on design and design-related issues. Furthermore, and because of the lack of national design identity, the actions of DpsdBeyond and other design-related Greek initiatives appear to be forming and outlining a potential Greek design community.

To fully understand the initiative one must first become familiar with the context of design in Greece at this time of crisis. Firstly, Greek design lacks a solid historical foundation and is currently trying to emerge. This is further elaborated by the fact that the first, and only, design faculty was established on the start of this millennium. The effect of this is not only a lack of national design identity, but the lack of knowledge of a designer or design engineers professional competencies. For a comprehensive review on Greek design, craft and fashion history see Yagou 2012 [1].

The next important factor that triggered the emergence of the DpsdBeyond initiative is the unprecedented age of crisis and austerity that Greek society is going through. The continuous cut-backs on university funding has pushed them to the state that either the quality of studies will be reduced or different models of education will be employed in order to support the traditional teaching process and stabilise, or even raise, the quality of studies offered. Finally, the initiative aims to act as a platform that spreads the message of hope by diffusing design-related success stories, an answer to the highest unemployment rate in the Eurozone and an antidote to "Brain drain".

A. Introduction

This paper aims to present and inform about the values behind the DpsdBeyond, a student initiative created in the Department of Product and Systems Design Engineering on the island of Syros, Greece. This paper is organised in a way that will cover both the how and the why this initiative has taken the form it has today. In the first part, the context of Greek design culture as well as the sociopolitical issues that triggered the emergence of the initiative will be documented. The initiative will be presented in the second part, which includes a discussion about the base values of DpsdBeyond, as well as the goals and the means to achieve them. These areas of action will be tied with the current situation of crisis and austerity. On the third section of the paper, the novel knowledge model that has been created through the initiative will be presented and documented. The paper will conclude with a discussion about the future endeavors of the initiative.

The current situation of Greek society is grim to say the least. At the same time the policy of austerity, cut downs and privatization employed by the Greek government has failed to address the humanitarian crisis brought forth through an economic depression which has evolved to a psychological depression of a whole nation. Unemployment has reached 27.1%, the highest in Europe [2] and youth unemployment has reached 64.2%. This has caused a massive wave of emigration: a recent study has shown that 120.000 graduates of higher education have left Greece since the start of the crisis on 2010 [3] and this number is speculated to be closer to 150, 000 [4].

The changes in society caused by the crisis are leading towards a paradigm shift, and all those system failures are bringing about what has been identified as a profound political and economic change (Wood, 2008),

a significant structural change [5], a social revolution [6] or the 'Third Industrial Revolution' [7]. We argue that this shift in the way we view society had been planted some time before the collapse of Lehman brothers, an event that heralded the beginning of this age of austerity.

On the night of December the 8th of 2008 a policeman shot and killed a 15 year-old boy, Alexis Grigoropoulos. This causes nationwide riots that lasted for weeks. This event was the first step of a process that created a disillusioned generation deeply critical of the status quo. This shift can be made even clearer by looking at the results of the past two elections, where we see a shift from a two-system party (centre right and centre left) towards a six-party system with a staggering rise of the left and the far right. This shift is taking place not only in the ballots but also at the streets. We must note here that this is not a Greek phenomenon but a global one. From the #occupy movement to the Arab spring and from the indignados to the Gezi Park in Istanbul a paradigm shift is brewing and this grassroots revolutionary transition has been identified and is being studied [8].

As a reaction to the murder of Grigoropoulos, on the island of Syros, the students of the Department of Product and Systems Design Engineering (DPSDE) organized the ReAct festival, a three-day self-organised event that aimed to communicate the need for radical change in Greek society. This need was communicated through art and design. ReAct festival aimed to bridge the gaps between the minds of people, to help them communicate, in every way they saw fit. Communication and co-operation were regarded as necessary in order for people to solve the common problems that they face. This openness and exchange of information, combined with the awareness that we have to be the change we want to see in the world, fertilised the seed that gave birth to the DpsdBeyond initiative a few years later.

Faced with adversity we chose to use design to improve ourselves, our university and our profession and hopefully create some positive change in society. We believe we exist in a design-driven world, and, as designers, we choose to find creative solutions to the problems that destroy our sense of well-being.

B. The DpsdBeyond initiative

The initiative was launched in October of 2010. It was created to bridge what, for Greek students of design, is perceived as the two contradicting aspects of design: design theory and design practice. In the beginning, it was operating inside the university to share design-related knowledge between students by engaging in peer-to-peer learning and workshops. Once an internal, open pool of knowledge was created and nurtured, the next step was to invite design professionals to give lectures or organise workshops. The aim of this learning process is to widen students' horizons and enrich their percep-

tion. Additionally, this interaction with design practitioners connects the internal network of DpsdBeyond with other professional networks.

At the moment, we are providing an experimental platform for the creation of networks between students, academics and practitioners of design, by using peer-to-peer learning models and distributed learning methods in general, as opposed to the traditional one-way student-teacher relationship. The very goal of this process is the co-creation and sharing of new, open knowledge relevant to design.

DpsdBeyond's platform relies on the voluntary participation of all stakeholders involved (university, practitioners, local community, etc.). Self-determination and self-organisation are key concepts to this grassroots initiative. Anyone that wishes to offer in this context is more than welcome to do so. Thankfully many have answered the call – students, professors, administrative stuff of the university as well as design practitioners – and we are obliged to them.

The main objectives can be summarized as follows:
- to shift the paradigm of knowledge acquisition from examiner-examinee model into a cooperative and participatory model based on peer learning and equality.
- to make knowledge open to everyone that need it and to help shaping such a mentality in future Greek design community.
- to facilitate the creation and connection of networks between academia and practitioners and arch over design theory and design praxis.

Our ambition is to inculcate the mindset of open knowledge sharing by creating an ever-growing base of individuals, a common consciousness, a consensus among all the stakeholders, in order to provide a platform for lifelong intellectual and social development. To create structures that will promote solidarity and collectivity in order to help individuals, collectives and community to develop intellectually.

Courses of action

The Initiative's goal is to transform the theoretical academic knowledge acquired by students during their tenure in the Department of Product and Systems Design Engineering everyday though workshops and lectures. This knowledge is transformed into 'hands-on experience' by the students themselves working in a participatory collaborative way. Additionally this process leads to the creation and strengthening of a professional consciousness and awareness that is necessary both now and in their future.

The DpsdBeyond Initiative would like to communicate towards every possible direction this alternative

approach to knowledge, skills and experiences enrichment. In this model students are participating actively in shaping their own education. Given, however, the power structure of Academia, in order for this approach to function, the stakeholders beyond students have to be convinced and actively participate and spread the word of this co-operative model of action. DpsdBeyond is active since October 2010 within the Department of Product and Systems Design Engineering, has gone through a period of continuous feedback evaluations and transformations and has finally reached its current form and defined the tools that better help to meet the initiative's goals.

The DpsdBeyond initiative's Toolkit

DpsdBeyond organises student presentations on a specific topic of the student's choice. That is, students who are fluent on a specific design related topic, would hold a presentation sharing and discussing their new knowledge on the topic.

DpsdBeyond invites Greek professionals to the island of Syros to present their frame of mind, innovation thinking, showcases, timeline of success or tools used. After the presentation, students get a Q&A session and at most times this is the most interesting part of the presentation

DpsdBeyond organises workshops that are either carried out by students or professionals and their topics vary, depending on the current emerging needs of the student's community. These workshops either take place the day after the presentations or last longer and they aim at the improvement of hands on skills, the enrichment of such experiences through design and the emergence of new, tacit knowledge on design.

Masterclasses that are taught when the initiative invites a professional to the island of Syros. Such events take place the next day of the lecture and involve the professional presenting a case study or working on a conceptual project so that the students can see and experience the whole process through the professional's point of view.

These four pillars of the initiative's actions take place within the University campus and are primarily aiming at students of the department. Most of the presentations are live streamed online so that people who are not located in the island can have access to knowledge.

DpsdBeyond uses a website (www.dpsdbeyond.gr) to maintain asynchronous communication with design students and people who are interested in the initiative's actions. The website features original content articles, critiques and presentations on current trends, breakthroughs and innovations in the area of design.

After the site's recent remake, attempts were made to offer practical access to the dpsdBeyond toolkit to anyone interested. This open toolkit offers all the necessary tools and methods in a simple comprehensive manner. The goal of this toolkit is to offer the possibility to anyone interested to organise a dpsdBeyond-style initiative, lecture or workshop. Through this toolkit the DpsdBeyond initiative implements the very principles of the initiative's actions to the website, communicating the openness and setting the paradigm for students to follow or even alter in terms of cooperative open design.

Funding tools

DpsdBeyond initiative is a self-organised and self-funded initiative. In order for the initiative to run and be able to host events, offer accommodation to visitors, maintain the website and promote itself in a way that would guarantee recognition among Greek design circles that would, in turn, ensure that professionals will be willing to participate and enhance DpsdBeyond's network of knowledge pools, certain funds are needed.

DpsdBeyond carries out self-funding projects in order to raise money for the initiative's actions. These projects are designed and executed by members of the initiative and are primarily low production DIY projects, sold later to initiative's friends and supporters.

In this way, DpsdBeyond manages to cover the expenses of each following semester and continue offering its services to the student community without lowering the standards set through previous years. The main goal of these project however is not the creation of a desirable product to fund the initiative. The first goal is to engage in a process of creating artifacts that will lead to a better understanding of the physical tools used to create them and thus the emergence of tacit knowledge. The success of this process is more important than the positive evaluation of the produced artifact. This makes it necessary to use different production methods in every iteration of this funding process as using the same method over and over again would diminish the emergence of new knowledge.

C. The dpsdBeyond knowledge model

As stated earlier the goals of the initiative are associated with challenging the hierarchy and openness of knowledge in academia. To achieve these goals a new, distributed knowledge model has to be adopted. Openness was a very important characteristic of this model.

There are two main functions within this process. The first is the distribution of personal knowledge associated with design. Everybody knows different materials to different degrees. Especially in design, due to its interdisciplinary character, the knowledge that is gained through practice and by coming into contact with different materials is a valuable resource. This is achieved by presentations or workshops organised by the initiative and is under the scope of the lectures given both by students and professionals. The rigorous

documentation and sharing of the knowledge created through this process makes it openly available to anyone who needs access to it. This process of presenting and discussing different approaches to design, both practical and theoretical, offers the following benefits:

Spread the knowledge on that area to a wider audience: Knowledge is not a homogenous entity and there is no standard of measurement that can be applied to it, since no objective basis of the price of knowledge exists, its exchange value tends to zero when it is freely accessible [9]. Sharing and exchanging this kind of open knowledge leads to the improvement of all stakeholders. The increased value due to new competencies is a "common" shared by the design community of the department of product and systems design engineering and its alumni.

Provide feedback and alternative ways of thinking to the knowledge carrier: Sharing knowledge within a large group connects it to greater variety and can lead to the emergence of new knowledge. This can be achieved either through criticism and feedback or by grounding the proposed model to different approaches. Criticism can be viewed as an insult to the presenter in Greek culture. Through dpsdBeyond we try to foster a culture of critical thinking and constructive criticism in order to provide better feedback and promote teamwork.

Raise the awareness on certain design topics: One of the main goals of the DpsdBeyond has been to compliment the department of product and systems design engineering by presenting material that is not covered in the curriculum, but is needed by practicing designers. Design is an interdisciplinary ever-evolving activity and as such there are always new topics emerging. The role of dpsdBeyond in this regard is to present alternatives not present in the curriculum, thus raising awareness about them, and to act as a filter and a buffer for the addition of new materials to the department's school's programme.

This process creates a knowledge pool, a shared common understanding about design, its methods, tools and professional practices. This knowledge pool is created by the convergence of many different networks and is based on the transition from personal knowledge to a state of openness and co-operation.

This process leads to the creation of knowledge pools not only within the university of Product and Systems Design Engineering, but also amongst members of the Greek design community; a network of peers is emerging. On university level, this network results in collaborative projects with all the stakeholders bearing a better understanding on design-related issues and approaching a higher level of awareness regarding design, methods, tools and professional practices. Thus, the level of academic studies is improved, the existing education-

al model is enchanted though the introduction of alternative models, and even more participatory and self-organised events are generated.

At this point, there is an active external network of friends and supporters which has been developed through the initiative's guest lectures and events. However, the potential of this network is even greater when it comes to actual peer networking, a state in which students, professionals, practitioners, alumni and even local community engage in the creation of creative communities aiming to solve real-life problems. This is made possible through the diffusal of design-related knowledge in the Greek society leading to a win-win situation for all stakeholders, a situation where designers are employed and the world becomes a better place through the creation of creative communities engaging in participatory social design.

DpsdBeyond initiative acts as the bridge through which stakeholders meet, communicate, exchange knowledge, ideas and widen the cognitive models. Through the events that the initiative hosts, students of the Department of Product and Systems Design Engineering are given the opportunity to meet with professionals, discuss about their working experiences and the tools of the trade, and socialise.

DpsdBeyond provides the opportunity to students to suggest a professional they believe would provide an interesting perspective on design. DpsdBeyond would then provide the student the know-how and support the student during the whole procedure in order to create the proposed event. Throughout this procedure, DpsdBeyond offers help, support and advice to the event organiser. In this way, one of the main goals of the initiative is fulfilled: students are becoming stakeholders of the initiative and communicate its purpose. The process discussed above results in creating a new bridge between students of the Department of Product and Systems Design Engineering and design professionals. This new branch of the network is co-owned by all the participants of the event. In time, DpsdBeyond will become the bridge among stakeholders as well as the facilitator of such bridging actions and thus, help the network spread, the knowledge be enriched and the communication become easier and unobstructed.

It becomes clear that DpsdBeyond facilitates the emergence of a new and fresh design community that involves faculty, students and alumni of the Department of Product and Systems Design Engineering and design professionals, practitioners, local communities and a wide range of supporters such as practitioners of relative cognitive and professional fields though the networking and bridging achieved. This emerging 'creative community' [10] of designers bears a higher level of awareness on design related issues, continuously enhances knowledge pools, interacts following the prin-

ciples of self-initiation, self-organisation and self-motivation and exchange knowhow, experiences, tools and skills. In that way, everyone involved has a wider knowledge base to start from and a healthier environment to evolve in.

D. The future

As stated before, DpsdBeyond could potentially create a peer network in which faculty, students, alumni of the Department of Product and Systems Design Engineering as well as professionals, design practitioners and local community could evolve in stakeholders of the initiative. If so, DpsdBeyond will have created a structure which could promote solidarity and collectivity in order to help individuals, collectives and the wider community to widen their knowledge base.

The DpsdBeyond initiative would then become the platform that introduces and facilitates a new model, given the Greek standards, for the interaction and communication among Greek designers and stakeholders by bridging and facilitating the communication, collaboration and knowledge-exchange.

The community built around the peer networks of the initiative could, potentially, evolve into a Greek Design Community.

Greece has a very short design history and lacks of design identity unlike other European countries which have a major design tradition. "The tension between tradition and modernity occupies a fundamental position in the history of the modern Greek state. The discourse on national identity and the concept of 'Greekness' has been central to this tension" [11]. This discourse is ongoing and is shaping Greek design to this day. This can also be assessed as a conflict between nationalist and cosmopolitanism doctrines. An excellent example of this is the National identity designed for the 2004 Athens Olympics and the antithesis between the opening and closing ceremonies of the Olympics [12]. In this contradicted environment a new design has to emerge combining traditional elements with innovative global trends.

E. Conclusions

First and foremost the success of dpsdBeyond lies in its ability to complement the educational process of the department of products and systems design engineering. It is a symbiotic relationship through which all stakeholders are improved. At the same time the shift from a linear relationship between teacher and student towards a distributed knowledge network helps to foster a collaborative design process as well as critical thinking.

Design in Greece presents unique dangers and opportunities. Given its blank state, it provides little to new designers. Creating a national identity, professional practices communities and all those things that are a

given in many countries is an uphill battle when coupled with the policies of austerity adopted by the Greek state. At the same time, rising unemployment creates brain drain and thus thins the numbers of professional designers in the country.

However, the fact that structures relevant to design are almost non-existent provides room for emerging ideas that are just now being widely adopted. Openness, participatory design, Alterplinarity [13], the focus towards the new economy and the shift of design towards strategy [14] are emerging properties of design and we are given an opportunity to use them as a basis of a national identity.

Necessity is the mother of all invention and dpsdBeyond is led by necessity. The emergence of dpsdBeyond is part of a bigger picture and we feel that creating applications of emerging approaches to design is the only way for design to move forward. At the same time we are witnesses to various system failures, not only associated with design, and we see the need for alternatives in what has become structural in our society. Design is a very important part of the transition towards a new society and as designers we feel obliged to move in this direction.

F. Acknowledgements

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