Association of Architectural Educators

2nd Annual AAE Conference 2014
Living and Learning

The University of Sheffield – 3rd to 5th September 2014

Proceedings

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Keynote Speakers
Ruth Morrow
Neelkanth H. Chhaya
Vinesh Pomal
Yui Tezuka


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Acknowledgments:

A conference of this scale requires the support of a great many people and there are therefore many people to thank. Our thanks go to: the keynote speakers who travelled great distances and took great care to engage with the conference and tailor their talks to our themes, questions and our curiosity; the 149 conference participants who took risks, explored, experimented and provided the matter and ideas for rich debate and inspiration; the administrative and technical staff of the School of Architecture, University of Sheffield, for all of their behind-the-scenes essential support - especially Janet Richardson for financial administration, Martin Bradshaw for organising and supporting technical equipment and James Bower for tireless printing and binding; the conference committee who each contributed an essential ingredient which shaped the conference in some way; those who kindly agreed to chair the various sessions; James Brown for his gallant volunteering, way beyond the call of duty, in the final stages of preparation; The University of Sheffield for agreeing to host the conference and Sheffield Hallam University for hosting one of the keynote talks; conference sponsors/supporters Ashgate, EDDICT, RIBA Publishing, Vectorworks, TRADA and Wiley as well as the aae itself; the wider group of Sheffield School of Architecture staff and aae members who reviewed papers and gave their moral support; and finally the student volunteers who made a whole range of creative, organisational and technical contributions and who provided the glue that held the whole thing together.

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aae2014 conference: Living and Learning

Hosted by the University of Sheffield School of Architecture, 'Living and Learning' explored the notion of 'liveness', not just as experienced through live projects, but expanded to consider different forms of community participation and civic engagement, material and constructed interventions. The conference offered a platform for critical reflection on the most recent wave of 'live' innovations in design studio teaching and beyond. Centred on architecture education, contributions were invited from any disciplinary context which might offer insight and spark critical debate.

Potential questions to be explored included:

- What are the various understandings of the term 'live' in relation to pedagogy?
- What is the theoretical basis for 'going live' in our teaching?
- Where are the parallels with other disciplines and how might these challenge or enrich our practices?
- What are the different motivations for 'liveness' and how does it operate at different stages of architectural education?
- What does 'live' mean in online, digital environments?
- How do the responsibilities of 'liveness' co-exist with risk-taking, play and experimentation?

Challenging the traditional conference model, re-inventing it as a social and spatial event, 'Living and Learning' developed a more varied feast of exchanges and offerings, with reading groups, performances, workshops and other activities taking place alongside more conventional conference activities. Events were held both within the University, its Architecture School and elsewhere in the city, aiming to engage a wider audience of students and members of the public in the debate around architectural education.

The various kinds of contributions included:

1) Peer-Reviewed Papers: Reading Group
Individual papers submitted for peer-review were explored at the conference through round-table reading groups. Participants were given the opportunity to read papers beforehand and then discuss two or three papers following five minute introductions by the authors.

2) Peer-Reviewed Papers: Thematic Symposium
Symposia were constructed around themes and included a series of presentations (2-4) which summarised the associated peer-reviewed papers, stimulating discussion and/or related activity as part of the session.

3) Magic Moments
An opportunity to share moments in teaching that have worked really well, through a show-and-tell. Where appropriate, this was extended into a workshop that allowed the participants to also try out an activity/technique; whether as learner or as teacher.

4) Art Piece: Performance/Installation/Critical Art Piece
An arts-based comment or exploration of some aspect of 'live' learning and teaching. Any medium could be proposed.

5) Going Live
A 'long thin' workshop, which aimed towards the development of a learning and teaching resource or output of some kind. Going Live called for the sketch of an idea for a new resource or output which might then be further developed and populate with colleagues during the conference. e.g. a web platform ready to take examples offered by the conference delegates during coffee breaks and lunchtimes; a polemical written piece of work with multiple authors etc. Participants were invited to offer a workshop to kick-start the initiative, or simply announce it during a plenary session, then have a presence in shared spaces and invite participation.

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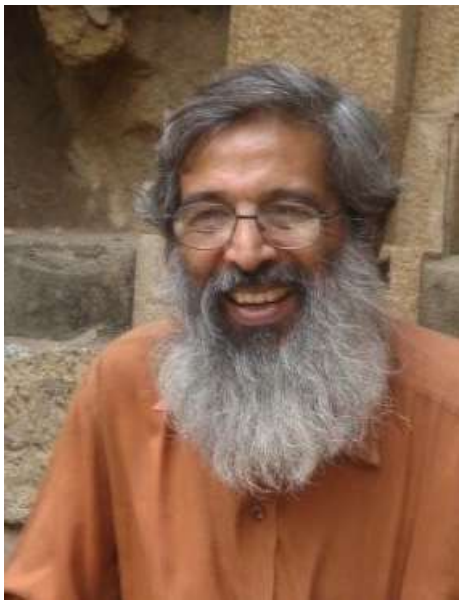
GOING LIVE/WORKSHOPS

0.1 Keynote Speakers

Ruth Morrow

Ruth Morrow, Professor at Queen's University, Belfast, has been recognised for innovative approaches within Architectural Education and Research. She is an engaged contributor to strategic discussions about the nature of architectural education and research within the profession. Her recent work focuses on applied research based on an understanding of creative processes, inclusive strategies and pedagogical methodologies. Despite a strong commitment to theoretical and revisionist thinking, she finds, as an architect, she can only make sense of and resolve concepts within the realisation of the idea, hence her research is invariably project based, underpinned by an activist and collaborative instinct. She is the co-founder of the spin-out company Tactility Factory and curatorial advisor to a Belfast-based arts organisation PS2. She is currently chair of the RIBA President's research awards and director of the new interdisciplinary Masters in Sustainable Practices at QUB.



Neelkanth H. Chhaya

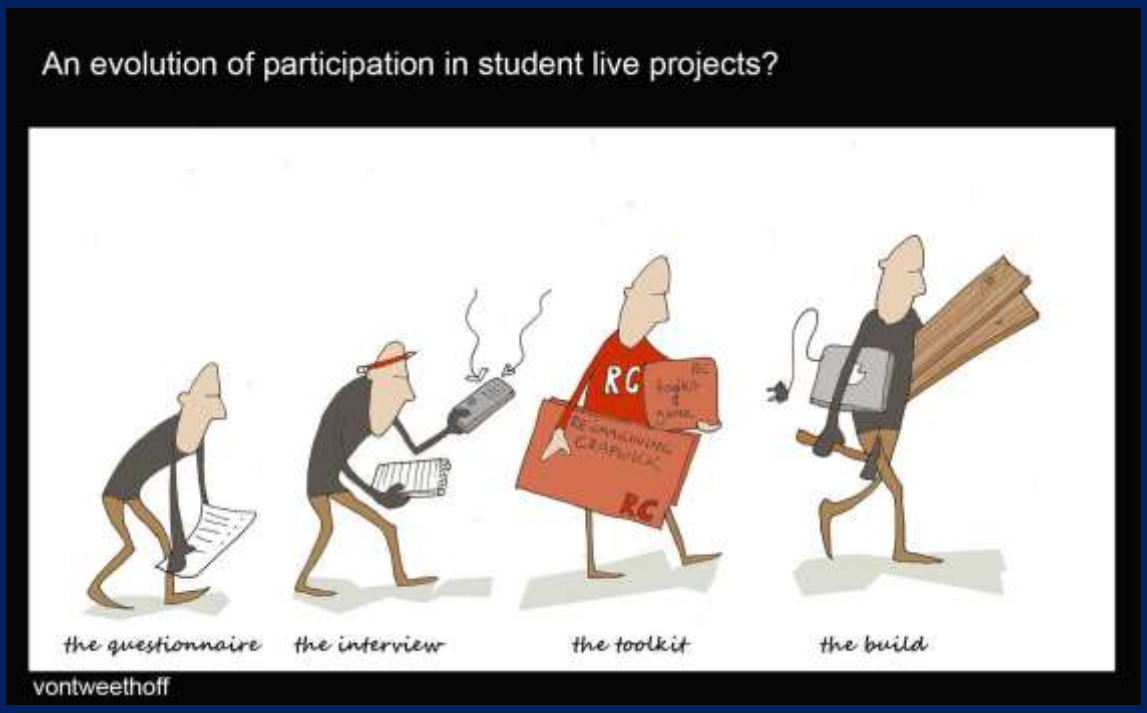
Neelkanth H. Chhaya has been a practicing architect and academic since 1977. His practice has emphasized the adaptation of built form to physical and social contexts. He is deeply interested in the cultural factors that affect architecture, especially in societies of rapid change. His projects have won major national awards, and he has also won several architectural competitions. In recent years, he has been involved in participatory rehabilitation housing projects as well as mass housing projects in Urban areas. He is very interested in traditional and artisanal knowledge in the area of built environment. He has taught at the University of Nairobi, at the Institute of Environmental Design, Vallabh Vidyanagar, and at CEPT University, Ahmedabad, where he taught for 25 years. His work has been exhibited at two special exhibitions, ”4X4” and ”Alternative Practices”, both at Mumbai. He has been a speaker at conferences and discussions on architectural education, urban design and landscape architecture.

Vinesh Pomal

Vinesh is a co-founder of the Architecture Students Network (ASN) where he has been responsible for arranging two conferences on architectural education. The ASN:Forum 2013, held in London allowed students to voice their concerns to a panel of professionals. More recently, Lines Drawn 2014, held over a weekend at the Centre for Alternative Technology in Wales allowed students to discuss where their education should be going. He has also spoken at various SCHOSA events and sits on the RIBA's Equality and Diversity committee Architects for Change representing the ASN. Vinesh completed his architectural education at Portsmouth School of Architecture and qualified as an architect in January 2013. He is currently working for Levitt Bernstein in London. Whilst at Portsmouth, he was president of the student society, marketing assistant and arranged numerous talks and debates including the school's first postgraduate show in London. He has a particular interest in the profession of architecture with focus on marketing and communications and ensuring the views of the younger generation are heard.

Yui Tezuka

Yui Tezuka is an architect and educator, based in Tokyo, Japan. In 1994, together with her partner, Takaharu Tezuka, Yui Tezuka established Tezuka Architects. With spatial designs that are skillfully integrated with the outside environment, their designs range from private houses to community buildings. Their most important works are the Roof House, in which daily life expands onto the roof, and the Echigo -Matsunoyama Museum of Natural Science, which can be buried under 5m of snow. The Fuji Kindergarten takes the form of a 200m-circumference oval-shaped roof space. In their Woods of Net, 320 cubic metres of timber members are used, with no repetition found among the 589 members. Tezuka Architects' work has been described as emphasizing human activity and connectivity. This conference offered an opportunity to hear how this ethos and approach to the design process informs Yui Tezuka's teaching practice.



READING GROUPS

0.2 PAPERS

Night at the Museum: Battle for the Future of Architecture

Mia Papaefthimiou

Universität für angewandte Kunst - Architekten am Graben, Vienna

Introduction

In the context of the current 2014 Architecture Venice Biennale, entitled *Fundamentals,* the paper critiques the way architectural culture and practice is represented and framed through the curatorial approach of grand international exhibitions such as the Biennales. During a global period of fragility – economic, social, cultural and political - it is crucial for the future of architecture to rethink the prevailing curatorial perceptions and ethics. The title of the paper, based on the 1993 children's book by Milan Trenc[1] and then movie trilogy *Night at the Museum*, where all the exhibits come to life at night, is a playful metaphorical manifestation of the above argument. Architectural exhibitions have the potential to act as a great medium for dialogue, communities' engagement and participation, social awareness, as well as laboratories for promoting new architectural practices and so much more. Therefore, the paper, by acknowledging exhibitions' power in the production and presentation of architectural culture to wider society, emphases the need for live, engaging and critical curatorial practices away from categorisations, visual and aesthetic traditions. The paper acts as a platform for dialogue about the future of architecture and its curating as praxis of social change.

Architectural Exhibitions

Architectural exhibitions play a rather important role in the production of architectural culture and the way architecture is (re)presented. Grand international exhibitions mediate the local, national and transnational and most important Biennials, link the local to the global within the field of symbolic struggles for legitimation[2]. According to Till, MoMA's 1932 *Modern Architecture: International Exhibition*, and the first Venice Biennale of Architecture, *The Presence of the Past* in 1980, were key canonical exhibitions so closely linked with two key architectural movements of the twentieth century - modernism and postmodernism[3]. Despite their short nature, both exhibitions had an impact which extended well beyond their tenure. Another prominent example is the MOMA's *Deconstructivist Architecture* exhibition in 1988 which raised the profile of architecture; the curator's and of course the architects' exhibited. The exhibition ushered in a media age in which the proliferation of architecture in the press begins to elevate its cultural capital[4].

Interestingly enough, twenty-five years after the *Deconstructivist Architecture* exhibition, and during the panel discussion of MOMA's anniversary event, Mark Wigley posed a worthy of note question with an even more noteworthy answer by Tschumi: "Could an exhibition similar to *Deconstructivist Architecture* happen today? Does today's architectural climate invite a genre-defining moment?" Tschumi replied that there is nothing today to battle for, like postmodern architecture twenty-five years ago, but then he offered that an exhibition today would be called *Iconism*, addressing the obsessions of architects to make icons[5].

One of the seven architects presented at the 1988 exhibition was Rem Koolhaas; director and curator of the 2014 Architecture Venice Biennale. *Fundamentals* consists of two main interlocking exhibitions; *Absorbing Modernity 1914 – 2014* and *Elements* which together aim for a modernisation of the core of architecture and architectural thinking[6]. *Absorbing Modernity* is an invitation to 66 national pavilions to show the process of elimination of national characteristics in favour of a universal adoption of a single language - modernity, while *Elements* pays close attention to fifteen fundamental elements of a building as chosen by Koolhaas. Elements include: the floor, the wall, the ceiling, the roof, the door, the window, the façade, the balcony, the corridor, the fireplace, the toilet, the stair, the escalator, the elevator and the ramp[7]. 'Fundamentals will look at histories, try to reconstruct how architecture finds itself in its current situation, and speculate on the future', said Koolhaas[8]. The curator also argued that the Architecture Biennale was becoming very similar to the art Biennale causing a kind of blur. Therefore, this year's exhibition will move away from 'presenting objects and presenting architects' and will instead show the original research Koolhaas and his team carried out over the last year[9]. The above statement together with his curatorial programme for the exhibition provokes thinking on what the Dutch architect and founder of OMA, considers modernised architecture and his views on the future of the discipline.

Attention is paid to the fact that in the selection of the above fifteen elements of architecture, one of the most fundamental elements is excluded, or rather not even

considered. In the era of globalisation – arguably what Koolhaas is calling modernity – detaching architecture from its land – or in modern terms, real estate[10] – it only serves to divert society's attention away from the real political and social issues. In the words of Patrick Schumacher from Zaha Hadid Architects commenting on the Biennale: "architects are in charge of the form of the built environment, not its content"[11]. Following Schumacher's way of thinking, some would argue that Biennials are just about architecture, excluding anything to do with urbanism, landscape, economic and social crisis. The Biennials of course fit the dominant model of the experience economy, as they are a great tool to market nations and practices internationally[12]. It seems that today they function more like media, rather than a form of critical practice. Architectural exhibitions as a genre have inevitably largely borrowed from the well-established paradigm of Fine Arts displays, which focus on product over process. Duchamp's disconnected urinal presented in 1917[13] questioned the object of art within an art exhibition. In 2014, an architectural exhibition including a presentation of a series of toilets should offer a deeper critical dimension than just its profane essence. A real toilet, like all the other elements in Koolhaas' list, is simply an interface connecting a building to sewers and municipal regulations and taxes. With every flush, a toilet re-enacts primary architectural distinctions, which are arguably more fundamental than are the toilet's elemental characteristics[14]. It is important to note here that this paper has no intention to make a critique on Koolhaas as an architect or/and curator specifically or anyone else in this regard, but rather to open up a discussion about current perceptions and ethics on architecture and its future.

Going back to the question posed by Wigley at the *Deconstructivist Architecture* panel discussion, it seems that the battle for today's architects - and arguably curators - will be against what Tschumi and his fellow protagonists have accomplished in the last few decades. With many of the today's iconic buildings designed by architects from that exhibition – including Koolhaas and Hadid – it seems that the panel has ironically provided its own end at the anniversary of their exhibition, calling for new architectural and curatorial practices to step up with alternatives promoting live culture instead of cultural objects.

Battle for the Future of Architecture

In order to start any kind of discussion about curatorship, the past, present and future of architectural culture and their in-between relationship, it is important to define the cultural and ethical context of the discussion. There is a significant distinction between the curatorial field in architecture as a cultural production and as a technical service with entertainment value. According to Benjamin's 'cultural producer', curating architecture as cultural production implies considering conditions that the media society disregards as redundant[15]. Moreover, it implies considering the need for architecture to create critical, social and political value suggesting the need for architectural discourse to generate relevant narratives as well as the ability and the will to expand the field outside itself. Therefore, when one talks about curating architecture, one should think about the mediations of a changing profession. During the heights of the modernist period, academia and media contributed to establishing a definition of a successful cultural practice that needed no questioning - some would argue that the current international star-system is the end product of this process. However, this paper argues that nowadays, under the constant shift of economic and cultural consumption, architects have to rethink their values and contributions to the profession and society. As an immediate consequence, in an image-dominated world where critical discourse fails to influence the public, the role of an architectural curator needs to be clarified in some of its values and ambitions.

A curator has a social and cultural responsibility to present an exhibition as a critical device which helps reorganise and restructure the meaning and general perception of architecture and its practice. In this sense, making an exhibition is critical research and a learning process. On the contrary, thinking of an architectural exhibition as only a promotion of a certain practice, a certain author or a certain tendency, like the *Deconstructivist Architecture* exhibition, becomes an insult to a culturally demanding society. Architecture and everyone involved in practicing, educating, presenting, curating and/or writing about architecture, is accountable to promote and deliver cultural production; accountable as an ethics of praxis.

The 2013 Lisbon Architecture Triennale, entitled *Close, Closer*, supports the paper's argument from a perspective different to that of the 2014 Venice Architecture Biennale. Lisbon's Praça da Figueira, a historic centre of the city and the main site of the exhibition, was one year ago the location of massive protests against austerity-focused economic policies. Against the backdrop of economic hardship, the exhibition consisted of a series of workshops, performances and other public events, making it seem more like a work in progress instead of a final product. The diverse programming took more from a strain of socially engaged art practice than the large, Venice-style installations. The work aimed to draw visitors into discussions about the political and social potential of design, asking how architecture and architectural thinking can be used towards ends beyond building[16]. This curatorial approach reflected the realities and context of a country with one of the highest ratios of architects per inhabitants in the world and 40% of graduate architects being unable to find work[17]. Beatrice Galilee, chef curator of the Triennale commented that the aim of the curating team was to present architecture as not just an object to be mediated, but as the act of mediation itself[18]. Lisbon

Triennale relied on debate, performativity and the gathering of several international agents to boost the contact of agents, authors and the public, trusting in both professional networking and in interpolation for general citizens and public. The multidisciplinary curating team of the 2013 Triennale declared that tectonic, technical, representational and conventional notions of architecture were going to be deliberately avoided, as well as big names. According to Tiago Mota Saraiva, this exhibition was the first Triennale that would not present a Portuguese architect; and that alone was completely revolutionary[19]. Therefore, the shift in the curating approach and ethics in the last Triennale is explicit: the agency shown through the engagement and socially-based programme can itself be seen as architecture today and not just the methods to frame and represent it.

Conclusion

Curatorship has become a focal point as much in the dissemination of architectural culture as in the production of architecture itself. Curating architecture both as a practice, but also as a field of research, seems to have reached a state of disciplinary legitimacy. However paradoxical it may be, exhibitions in general and specifically Biennials, still act as an important medium through which to introduce social and political strategies[20]. As a public platform for dialogue, it resonates both within the architecture communities and within the broader constituencies of society[21]. As an act of representation, this conventional curating approach neglects what is inherent to architectural practice: the potential for transforming environments into embodiments of architectural thinking and experience[22].

Therefore, it is impossible not to agree with *Fundamentals* at this year's Architecture Biennale. The time has certainly come to get back to basics. Why not start with architecture and why not do so by adding historical perspective, learning from the past of architecture and its curating practice? The fundamental condition that exhibitions have in common with architecture is that both deploy space in operative and symbolic ways; exhibitions mediate objects in space. When exhibitions are conceived as sites that extend beyond a purely didactic representation and display of objects, they create the circumstances for a more-than cognitive experience for visiting publics[23]. In this way, the exhibition is both part of the act of signification, and an experience of it, becoming, in the words of Michel de Certeau, a 'spatial practice' of the narrative structure in which it takes part[24]. The challenge is curating as a practice which disturbs the ways we see and understand architecture. This position is both informed by interdisciplinary theoretical research and by innovative curatorial practices which underline critical positions and produce active spaces.

The paper acts as an open platform for discussion, exchange and further research for the future of architecture and its curating.

Please join the discussion by following the blog Night at the Museum: Battle for the Future of Architecture at: http://curarchitect.wordpress.com

References

[1]Trenc, M. (1993). *Night at the Museum.* Woodbury, NY: Barron's Educational Series. ; Levy, S. (Director). (2006). *Night at the Museum* [Motion Picture].
[2]Marchart, O. (2014). *The Globalisation of Art and the "Biennials of Resistance".* Retrieved 05 15, 2014, from Cumma Papers #7: http://cummastudies.files.wordpress.com/2013/08/cumma-papers-7.pdf
[3] Till, J. (2009). 'Please do not touch'. In S. Chaplin, & A. Stara, *Curating Architecture and the City* (pp. 246 - 248). London: Routledge.
[4]Pennec, S. (2013, 10 24). *Exhibiting Architecture: A Paradox?* Retrieved 07 16, 2014, from Domus: http://www.domusweb.it/en/op-ed/2013/10/24/exhibiting_architecture_a_paradox_.html
[5]Hill, J. (2013, 01 28). *Deconstructivist Architecture, 25 Years Later.* Retrieved 04 20, 2014, from World-architects: http://www.world-architects.com/de/pages/insight/deconstructivist-architecture-25
[6]*Fundamentals Biennale architetture 2014*. (2014). Retrieved 04 08, 2014, from La Biennale: http://www.labiennale.org/en/architecture/index.html
[7]*Fundamentals Biennale architetture 2014*. (2014). Retrieved 04 08, 2014, from La Biennale: http://www.labiennale.org/en/architecture/index.html
[8] Hobson, B. (2014, 06 06). *Rem Koolhaas' Elements exhibition in Venice aims to "modernise architectural thinking".* Retrieved from Dezeen: http://www.dezeen.com/2014/06/06/rem-koolhaas-elements-of-architecture-exhibition-movie-venice-biennale-2014/
[9]Hobson, B. (2014, 06 06). *Rem Koolhaas' Elements exhibition in Venice aims to "modernise architectural thinking".* Retrieved from Dezeen: http://www.dezeen.com/2014/06/06/rem-koolhaas-elements-of-architecture-exhibition-movie-venice-biennale-2014/
[10]Martin, R. (2014, 12 05). *Fundamental #13.* Retrieved 06 15, 2014, from The Design Observer Group: http://places.designobserver.com/feature/real-estate-and-the-responsibility-of-architects/38450/
[11]Winston, A. (2014, 03 18). *"Architecture is not art" says Patrick Schumacher in Venice Architecture Biennale rant.* Retrieved 05 14, 2014, from Dezeen: http://www.dezeen.com/2014/03/18/architecture-not-art-patrik-schumacher-venice-architecturebiennale-rant/
[12]Vandeputte, T. (2012, 10). *Sites of Experimentation: In Conversation with Joseph Grima.* Retrieved 06 07, 2014, from OASE Journal for Architecture: http://www.oasejournal.nl/en/Issues/88/SitesOfExperimentation#061
[13]Gayford, M. (2008, 02 16). *Duchamp's Fountain: The Practical Joke that Launced an Artistic Revolution.* Retrieved 06 05, 2014, from The Telegraph: http://www.telegraph.co.uk/culture/art/3671180/Duchamps-Fountain-The-practical-joke-that-launched-an-artistic-revolution.html

[14]Martin, R. (2014, 12 05). *Fundamental #13.* Retrieved 06 15, 2014, from The Design Observer Group: http://places.designobserver.com/feature/real-estate-and-the-responsibility-of-architects/38450/

[15]Benjamin, W. (1998). The Author as Producer. In *Understanding Brecht.* London: Verso.

[16]Hanley, W. (2013, 11 22). *Exhibitions Review: Close Encounters at the Lisbon Architecture Triennale.* Retrieved 02 2, 2014, from Architectural Record: http://archrecord.construction.com/news/2013/11/131122-Exhibition-Review-Close-Encounters-at-the-Lisbon-Architecture-Triennale.asp?WT.mc_id=rss_archrecord

[17]Moreira, I. (2013). *'Post-something' - actions and voices of a generation under 35: the Lisbon Architecture Triennale 2013.* Retrieved 06 12, 2014, from Urbanista: http://www.urbanista.org/issues/local-eyes/features/post-something-actions-and-voices-of-a-generation-under-35-the-lisbon-architecture-triennale-2013

[18]Wilson, R. (2013, 09 18). *Zoom in or Zoom out? Close, Closer: The Lisbon Architecture Triennale.* Retrieved 05 05, 2014, from Uncube: http://www.uncubemagazine.com/blog/10764219

[19]Sacchetti, V. (2013, 07 20). *We don't always need to build.* Retrieved 05 05, 2014, from verasacchetti.net: http://verasacchetti.net/?p=84

[20]Pennec, S. (2013, 10 24). *Exhibiting Architecture: A Paradox?* Retrieved 07 16, 2014, from Domus: http://www.domusweb.it/en/op-ed/2013/10/24/exhibiting_architecture_a_paradox_.html

[21]Pennec, S. (2013, 10 24). *Exhibiting Architecture: A Paradox?* Retrieved 07 16, 2014, from Domus: http://www.domusweb.it/en/op-ed/2013/10/24/exhibiting_architecture_a_paradox_.html

[22]Carter, J. (2012). Architecture by Design: Exhibiting Architecture Architecturally. *Media Tropes eJournal Vol III, No 2*, 28-58.

[23]Psarra, S., & Grajewski, T. (2000). Architecture, Narrative and Promenade in Benson + Forsyth's Museum of Scotland. *Arq 4, no. 2*, 123-136.

[24]Certeau, M. d. (1984). Spatial Stories. In M. d. Certeau, *The Practice of Everyday Life* (p. 115). Berkeley: University of California Press.

Visualising the Unbuilt: Design Investigation in Architectural Pedagogy

Augmented Reality creating live investigation in architectural studio learning

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Introduction

Research into the use of augmented reality in the learning environment is relatively emergent in the academic arena. However, the possibilities for exploration of spatial, geometric environments abound. The boundaries of augmented reality in the academic field are now being explored at an ever increasing level, allowing for 'live' investigation of design. As the pedagogical landscape is now changing in terms of cohort requirements, as a reflection of new societal goals, the pedagogy of 5 years ago has already begun to change. What is expected in today's pedagogic environment is now different, with leaner's requiring a change and deeper learning.

In this paper we present the second phase findings of an educational project focusing on the use of augmented reality in the design process of an architectural student. The initial study seeks to evaluate the use of AR as a tool in the design stages, allowing effective exploration of spatial qualities of design projects undertaken in the studio. The use of augmented reality facilitating in both pedagogic and didactic in the use and application of this exploratory tool within the architectural studio. The learning process is guided by the exploration and detection of a design idea in both form and function, the virtual environment can provide such a dynamic environment (Mantovani, 2001). This is further reflected in the constructivist theory where the learning processes use conceptual models, which are used to create incremental stages that become the platform to attain the next (Winn, 1993). Traditionally, drawings, sketches were transferred to the 3D format of models. The ability to move seamlessly from sketch idea to augmented model has emphasised a step change in the pedagogical landscape in the architectural studio. The interface of augmented reality allows for faster comprehension of design ideas, the visualisation allowing for intuitive and instructive learning to occur. In this paper we present the conclusions of the second phase of an educational project focusing on the use of augmented reality in the design process of an architectural student. The study further explores the use of AR as a tool in the design stages, allowing effective exploration of spatial qualities of design projects undertaken in the studio. The use of augmented reality facilitating in both pedagogic and didactic use and application of this exploratory tool within the architectural studio. This is further reflected in the constructivist theory where the learning processes use conceptual models, which are used to create incremental stages that become the platform to attain the next (Winn, 1993).

Aim

Design thinking and the journey we take towards a solution takes what Cross refers to as 'middle path' and is primarily concerned with appropriateness, understood as that fragile quality which is achieved when the best of human intentions are realised within the constraints of reality (Cross, 2001). The current dichotomy emerging in studies on the use of visualisation in the design process would suggest there remains confusion as to whether design is thinking or doing? This summary of findings attempts to observe and correlate the itterative learning 'loop' of thinking and doing, which forms a critical part of the self learning and reflective feedback that is fundamental to acquiring knowledge.

The study assesses second phase of analysis of using AR within the architectural studio. The initial findings of thinking and doing into 'design thinking' where the augmented reality models are used to explore and raised queries from the cohort, that the learning journey may never have anticipated without the use of augmented reality. The initial research tracked emerging routes of learning and their linear/ timeline occurrence in the learning journey are also noted and assessed in relation to the traditional studio based expectations of and the qualitative differences when choosing augmented reality as an exploration tool in the architectural studio environment as against non AR tools, such as physical model building or manual sketching.

What is Augmented Reality, What is Virtual Reality?

The use of both Virtual Reality (VR) and Augmented Reality(AR) need to be contextualised and understood in order to clarify the focus and aim of this study. When posed to the cohort in the initial study, both augmented reality (AR) and virtual reality (VR) were often seen as or taken as the same tool. It is true that both are considered immersive, however, it is only virtual reality

that is deemed truly 'immersive' as it allows to user to only see and experience the virtual world, with no visual 'connection' to external stimulus. Whereas, when using augmented reality the user is allowed to experience the 'altered world' and the existing real world environments simultaneously. The augmented model is accessible and visible as an object 'superimposed' over or within the real environment surrounding it.

The use of AR in academia has began to occur in early pedagogic research by academics such as Shelton and Hedley. They used the 'tool' of AR in the teaching of their undergraduate students, which included simple rotation of images and shapes that represented the planets and their relationship to the sun. The 'tool' of AR allowed the cohort to experience how planets and objects aligned in a format that was not only 3D, but could be 'walked around' and experienced from many differing viewpoints almost simultaneously by the cohort. This used AR to allow for new levels of learning that were outside of those studied and formalised by Schon and Bruner. This allowed for the learning experience to be autodidatic, in that the student using AR learns about their design during their journey without the formal interaction of the studio tutor, in reality the student becomes 'self-taught'.

Introduction

The augmented models that are used allow for the synergy of both physical and digital modelling and exploration to occur seamlessly, the student explores the unbuilt 'models' their schemes, allowing for abstraction and learning during the creation of the artefact in its form and spatial expression. This readily accessible and seamless environment allows for a greater accuracy and finer levels of manipulation to be achieved and to be synchronically manipulated in a blended and deeper learning journey.
It is now understood in academia that the pace of technology in the learning environment is impacting of the differentiation between digital physicality and physical digitality. These previously separate domains are now becoming increasing integrated and the clear lines

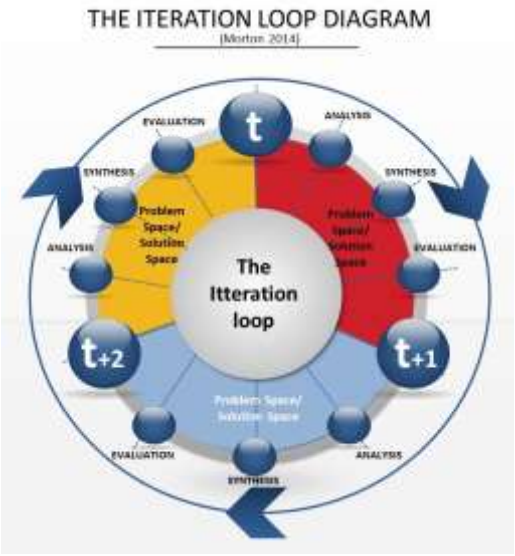

Fig. 1. Multiple Iterations occurring within learning journey evolution. (Image: D.Morton)

between the two are now blurred. There is concern amongst many teaching in architectural studios within academia that this integration will bring with them a new era of exploration within studio design, that of synchronic exploration of building form using both traditional and increasingly digital methods, this goes against the long held traditional norm of non-digital methods of pedagogy in the studio environment. There is a new pedagogic classification occurring when we use BIM and AR modelling in architectural teaching, that of 'depth of learning'. The initial study findings indicated that when using the BIM model, the cohort were able to explore more 'what if's' in rapid succession which, in-turn, enriched the final learning journey and its pedagogic outcomes. Using AR the learning was deeper still; the connection with the model was far more immediate, seeing the model in a real world setting seemed to communication between student to student or student to tutor dialogue. Both perception and interpretations of the models studied were richer in detail and created a new critique dynamic.
The learning via abstraction using AR to explore the model(s) allows for a critical synthesis of these cognitive skills, as interactions with the model are simultaneous with posed design iterations of the student that allow multiple design iterations to be abstracted and used to achieve constructs towards the final artefact. The levels and details of these explorations can be seamlessly and simultaneously reviewed and assimilated in parallel.

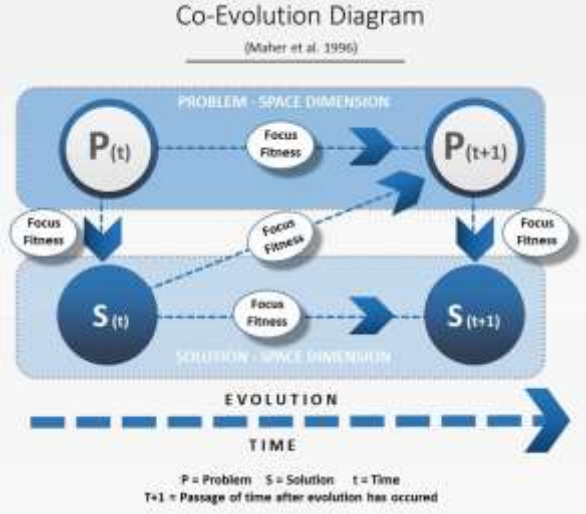

Fig. 2. The Co-Evolution Diagram of Maher et al (1996) (Image: D.Morton)

The three stages of analysis, synthesis and evaluation of the base iterative 'loop', has evolved via the emergence of a digital domain in the studio, to include the concept of problem and solution space proposed by Maher (1996). Maher's concept suggested the idea of movement from problem space to solution space as the learning occurred. This second stage study confirms the original findings, that utilising AR allows the problem finding – problem solving phases of the design journey to be far more acquiescent. The point in tim within the journey at which the design can be explored in spatial and conceptual levels can be achieved at the identical point in time within the journey. Such plurality of abstraction indicates a fundamentally altered concept than the traditional abstraction -representation within Maher's original construct of the iterative loop of learning. Such opportunities in abstraction and understanding of concepts and their forms within buildings offers many benefits and a richer appreciation of the artefacts being created within the academic studio.

This paper investigates the original study's findings of AR implementation in curricula by using both an initial survey and then structured interviews of current graduates from the School of the Built and Natural Environment, Semester 2, January to June 2014. The paper is structured as follows, first, we have an over-view of technological change literature will be presented and will introduce the concept of AR in curricula. Next, we will describe the how the data is collected and analysed in this study. Then we explain the results of this study. Lastly we will conclude the findings.

Methodology

This exploratory study has been carried out in a field of research that is still emergent. The ongoing research follows a heuristic approach to evaluation, which consists of an iterative process of analysis, design and re-test phases. This approach has been adopted for this research as there are no current guidelines as to how AR should be tested and what data should be achieved in both type and amount. The cohort were introduced to AR using basic, freely available software from AR Media. This approach was used as it allowed for rudimentary methods of interfacing with their building models.

The data for this second study mirrored the original study and was captured in two stages. Seminar sessions were used to review and explore the building model via the use of AR, the findings made by the cohort and the dialogue of these sessions were captured and analysed. The same cohort were also asked to capture their learning journey, findings and how the model was navigated and explored. This ongoing research follows a grounded theory methodology using observations and interviews over 8 workshop/ studio sessions to allow the studio dynamic to be captured faithfully in terms of the resulting integration of AR for design exploration in the academic studio. The specific objective of this study was to establish those challenges and the potential benefits of using augmented reality within the learning journey of the cohort studying this module. The study included a questionnaire to the 45 students studying the Virtual Project module. The final submitted number of questionnaires totaled 41.

The New Iterative Loop: The 'Thinking and Doing' via Augmented Reality

The study of design activity has grown progressively over the last 30 years. During this period a rather small number of studies have been undertaken. These studies were often small in scale and remain untested, as their findings were not verified in repeat studies. The initial study 'How Augmented Reality can be used as an exploratory tool in the design learning journey' (Morton, 2014), found that the problem finding - problem solving phases of the design journey to be far more acquiescent, as many levels of exploration of a model can be explored and then abstracted in parallel. This mirrored the findings of studies by Cross (1999), which concluded that there are distinct phases of activities within the design learning journey. Cross developed this further by formulating three phases of cognition; (1) Formulation, (2) generation and (3) process, with these phases allowing for an clear identification of design as a process in the context of academia.

Immersion and Synthesising of Design Ideas: Exploring the Unbuilt

The process being observed in this study is the process of design, the creativity that drives the progression and the activities that are involved. Creativity itself is often

stated as an event of singular occurrence. However the 'creative leap' is often debated in academic theories and academic research as a manifestation of a series of smaller events that culminate in the 'leap'. The findings of this second study suggested that the creativity of building the AR model is at times a diversion to true creation in the learning journey. The concern is that the use of software packages like AR are setting out the parameters that the designers have to follow, should this not be the other way around? The majority of software today is sold on the premise that it aids the designer in their creative process, however the question that needs to be explored is does it? The software being used today in the majority of architectural academic studios is driven by basic geometric form, with proportional rules and constructs to allow us to build and morph shapes together to create our own form specifically for the project at hand. What these software packages do not have is the knowledge and behind the forms and what they are to become in the model, be it a beam, column, roof element or floor, they symbolically express shapes and forms, that have no rules other than that of geometry.

Conjectures and Refutations In a Digital Design Journey: AR - a Design Tool that Requires Prior Knowledge of Concept

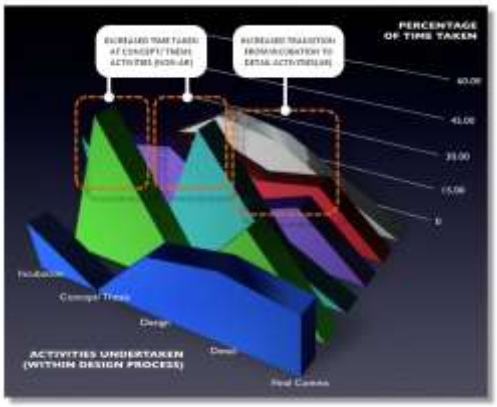

Fig. 3. Results from study: AR decreased the overall percentage of time taken by cohort to 'present' their schemes. As the outputs were accrued from design iterations of the AR model. (Image: D.Morton)

The study demonstrated a pedagogic journey undertaken by the cohort using AR that reflects a problem finding – problem solving structure. The AR environment created an immersive journey that allowed for collectively seeking, and synthesising information from the model. The use of AR also allowed increased frequencies of opportunity for reflection and abstraction of the artefact in model form. However, 67% of the cohort noted that the software only allowed modelling using basic geometric forms. For example, circle, square, triangle which did not 'support' the the expression of ideas in the way simple sketching or hand drawing may allow. When this finding was explored further with the cohort, the data suggested that a large majority of the cohort deemed the AR exploration to inhibit the creative design journey at some levels of abstraction.

The cognitive steps taken by the students in 58% of the cohort studied follow a linear progression similar to Piaget's constructing operational thinking findings (1979). However, although the progression is linear using AR, the progression is a series of parallel linear progressions. The student creates abstract concepts and articulated intuitive progressions from which they begin creating constructs that arch between these parallels.

When asked, 73% of the cohort sited the software as a 'barrier' to exploration of their designs when moving from initial spatial and abstract forms into more detailed modelling of their schemes, the geometric forms available in the software were deemed 'too generic' and 'lacking flexibility' for modification, to be used within the students design proposals. Yet these findings were in direct conflict to what was being viewed in seminars and workshops for the module being studied. The visualisations were seemingly convincing and used generative forms that were complex and proportionally correct. On further examination and discussions with the cohort, it became apparent that a number of students were creating visually stimulating design ideas and forms, whilst at the same time unsure of how such forms would work.

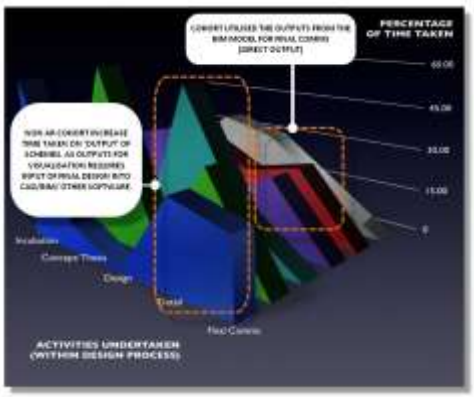

Fig. 4. Results from study: Greater percentage of time taken of overall learning journey at the earlier stages of concept/thesis activities. (Image: D.Morton)

Conclusion

Creativity within the digital studio: do digital design tools require new concepts for learning?

Almost two decades on from the original studies into the 'digitial pedagogic shift' in the academic studio and the use of augmented reality in teaching has imbedded

itself deeper into the exploratory landscape of academic studios, than initial suggested by Oxman in 1996. The tools available to the architectural cohort are creating a seemingly digital future landscape within both the pedagogic and studio context. This digital domain affords the cohort benefits of increased levels of investigation at micro and macro scale, which can be considered in parallel and at multiple accessible stages of the design process. However, the activity known as 'design cognition' with pioneering studies undertaken by Eastman (1969) have now created a new learning journey paradigm. The digitally of the studio increases the ability to abstract, a key skill in design. However, the same digital tools are now the possible visualisation of a proposed scheme is now possible, with outputs for crits being visually authoritative and seemingly correct. Although visual output is key, these outputs are rather more of a distraction and cover designs that in some cases lack constructional conviction or possibility, what Hertzberger (1991) called 'fake creativity' rather than 'real creativity'.

The use of AR in the design journey allows, as discussed in initial findings of this study, for exploration by abstraction. The understanding of exploration in the metaphoric and metonymic forms have been observed and analysed for over 50 years. In 1968, Arnheim first considered the concept of visual reasoning in architectural design. Three decades later, in 1995 and 1999, Goldschmidt continued these observations into reasoning and visual relationships of design elements. More recently Oxman (2002) continued the enquiry into design discourse, with research indicating that domain knowledge can be employed in virtual design, within the architectural context of design. Oxman has established that digital media has made significant impact on design processes and methods of pedagogic discovery. Prior knowledge of concept is essential to allow the cohort to govern themselves and their outputs from digital tools such as AR. Without this knowledge, the outputs cannot be questioned and abstracted further to enhance the design process.These findings echo the original studies of Cross (1977) and Whitehead and Eldars (1964), that digital tools can be effective, but require further development to align themselves with the of the architectural design process in order to become effective tools or become devices that merely inhibit design process and become what Hertzberger (1991) referred to as 'fake creativity'.

These digital tools are effectively Maslow's hammer (1966), where there is an over-reliance on familiar tools, 'I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail'. Is their an over reliance of such digital tools in the architectural academic studio, with little understanding of the forms that the model is symbolically expressing, such as functional requirements, materials and the technology needed to construct such building artefacts.

References

Ambrose, Michael (2009) Agent Provocateur — BIM and the Design Studio: Questioning Roles of Abstraction and Simulation in Design Education ACSA Annual Conference: The Value of Design; p.85

Billinghurst, M., (2003) Augmented Reality in Education, New Horizons in Learning IX (1)

Bruner, J (1961) The Act of Discovery, Harvard Education Review, 31 Pages 118-2002.

Clayton, M.J., O. Ozener, J. Haliburton, and F. Farias. (2010) "Towards Studio 21: Experiments in Design Education Using BIM." In K. Goosens. and L. Agudelo. eds., *SIGraDi 2010 Proceedings of the 14th Congress of the Iberoamerican Society of Digital Graphics* , SIGraDi, Bogota, Columbia,

Crook, C: (1994) *Computers and the collaborative experience of learning*. Routledge, London

Cross, N (2001) Designerly ways of knowing: design discipline versus design science, Design Issues, 17(3), pp.49-55

Cross, N (1997) 'Descriptive models of creative design: application to an example' *Design Studies* Vol 18 No 4 427–455

Cross, N and Clayburn Cross, A (1998) 'Expert designers', in E Frankenburger, P Badke- Schaub and H Birkhofer (eds) *Designers—the key to successful product development*, Springer Verlag, London, UK

Eastman C M (1969) Cognitive Processes and Ill-defined Problems: a case study from design *International Joint Conference on Artificial Intelligence*, Washington, DC

Eastman C M (1970) On the Analysis of Intuitive Design Processes, *Emerging Methods in Environmental Design and Planning,* G T Moore (ed), MIT Press, Cambridge, Ma.

Goldman, Glenn (2012) "Digital Media and the Beginning Designer." In *IEEE Computer Graphics and Application* , vol. 32, no. 2 March/April pp. 14–21.

Hertzberger, H. (1991), Lessons for Students in Architecture', (Uitgeverij 010, Rotterdam.

Maher, M L, Poon, J and Boulanger, S (1996), *'Formalising design exploration as co-evolution: a combined gene approach',* Advances in formal design methods for CAD, Chapman and Hall, London, UK

Mantovani, F: 2001, *VR Learning: Potential and Challenges for the Use of 3D Environments in Education and Training. In Towards CyberPsychology: Mind, Cognitions and Society in the Internet Age,* Giuseppe Riva & Carlo Galimberti (Eds.), Amsterdam, IOS Press.

Oxman, R (2006a) Theory and Design in the First Digital Age, Design Studies, Volume 27, Issue 3, Pages 229-265.

Oxman, R (2006b) Digital design thinking: 'Is the new design is the new peda- gogy', in CAADRIA, Proceedings of the 11th International Conference on Computer Aided Design Research in Asia, Kumamoto, Japan

Schon, D A (1983)*The reflective practitioner: how professionals think in action* Basic Books, New York

Shelton, B and Hedley N (2004) Exploring a cognitive basis for learning spatial relationships with augmented reality. Utah State University, Volume 1, Issue 4, Old City Publishing. Pages 323-357.

Zarzycki, Andrzej. (2009) "Dynamics-based Tools: An Unusual Path to Design Integration." *Asia Proceedings*, Yokohama, Japan, 2009, (DVD ROM).

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Learning from the Medics: Professionalism and Ethical Implications of 'Practicing on the Poor'

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University of Nottingham

Introduction

With the burgeoning popularity of embedding 'Live' 'Design & Build' projects within an architect's formal university training, there has been an inadvertent move towards conducting these 'hands-on' modules within the international development context. This subtle but dramatic shift by architectural educators to engage with the heavily potent politics and complexities that come with the international development sector is happening at a time when the profession and its training is in flux (in part thanks to the EU Professional Qualification Directive).

Despite this, there is a growing interest within architecture schools of running international live projects. Evaluation of these studio experiences is strongly positive for the students, but there is little, if any, assessment of the impact on the host community. Most, if not all, have failed to discuss and integrate the ethical considerations of such practices into their programmes. In comparison, our medical peers have simultaneously seen the demand for their students to take part in their equivalent 'International Health Electives' (IHE's or often referred to as GHE's, Global Health Electives) balloon. But unlike us architects, medical schools have begun to highlight the important role and responsibility the education process has in fostering and formalising professional ethical training for students intending to serve patients, in all contexts.

Why Go International?

International Health Electives (IHE's) is a term used by the medical profession and largely understood as a period of health work, where the student travels abroad, primarily to a resource-poor country to gain greater medical experience. Sometimes offhandedly referred to as 'medical tourism' its popularity has grown dramatically in the past decade. Hanson et al (2011) argues that this popularity is in response to student demand for international experiences, and as a result has overlooked critical ethical reflection (Shah & Parmar, 2011). By targeting and promoting projects that 'serve' resource-poor areas of the global South, university departments attract students. These experiences are seen as CV enablers, and although there may be students with altruistic reasons, wanting to offer their services to the under-served, the dominant reasons remain for personal student educational and career benefit, described as a "one-way opportunity" benefiting students from wealthier countries (Mutchnick, Moyer & Stern, 2003).

What you get from IHE's according to the Global Health Education Consortium (GHEC, 2011) is: self-understanding of tolerance levels; new skills and knowledge; academic credit; satisfaction that you can perform in exotic settings; finding direction for future learning. Elansary et al (2011) references previous research showing that international rotations can also foster cultural awareness, elicit a deeper understanding of poverty, and influence students to pursue careers for underserved populations.

Worryingly there seems to be little to no distinction between a 'Live Project' and an 'International Live Project' within architectural education. The major differences between working with a 'live' client locally compared with engaging in development 'poverty reducing' practices at a global scale has somehow been ignored. Architectural educators seem to have not acknowledged or realised that they are providing an 'International Architecture Experience'.

The resulting benefits of going international are thus not specifically articulated. The Architecture 'Live Projects' Pedagogy International Symposium held in Oxford Brookes (2012) summarises the general benefits of conducting student live projects as enabling them to 'gain practice-ready professional experience such as job running, as well as develop a sense of civic social engagement and gain an education that is aimed at nurturing tomorrow's citizens for lives of consequence'. The University of Brighton website, states in regards to their Live Projects 'Our aim is to foster and further develop the skills that will equip our students for the modern professional practice: creative and critical citizenship and professionalism; development of active participation regionally, nationally and internationally; intellectual agility and an openness to developing new kinds of collaborative practice in response to the needs of the changing landscape of clients, communities, developers and policy makers' (University Of Brighton, 2014). Neither, as an example, single out the obvious and fundamental differences in local vs global projects.

So What is the Problem?

Although international research programmes and international aid projects are subject to institutional review, ethical guidelines and strict donor evaluations and impact assessments, western foreign students are able to practice their vocation on scarce-resource,

vulnerable hosts, without little concern or reference to the potential harm they cause. At a practical level, an obvious criticism is that these resource-poor locations can often barely meet their own needs (hence the resource-poor bit), and certainly aren't able to function as hosts to overseas foreign inexperienced students. More importantly, major key criticisms and ethical failures from the current normative practices include:

Misrepresentation

Well-intentioned students and educators show the omnipresent ethical dilemma of practicing beyond ones abilities. This vignette goes to highlight the common mis-perception that people who live in 'poverty' will benefit from any medical or architectural service, irrespective of the experience, or lack thereof, of the provider. Hosts are rarely made aware of a student's educational and skills status, or are unable to demand better services, only going to enforce existing power relations. In a recent British Medical Journal blog (Laying the Ghost of the Empire, 2012) it reiterates: 'The local healthcare professionals sometimes perceived white skin to be synonymous with expertise, placing unprecedented levels of trust in us and allowing us to make decisions and perform procedures that would be unacceptable in the UK'. This very act of misrepresenting the skills being provided may violate the principles of professionalism subordinating ones self-interest to the interest of others.

Hubris

Without proper ethical professional training and mentorship a medical or architectural 'hubris' is likely to be nurtured. The encouragement of the 'I can save the world' mentality, by students in the global North, with grand images that they can save poor and disenfranchised Africans with little more than novice (and questionable) knowledge should be of serious concern to us all. By failing to appreciate the existential fallacy in this pedagogical approach, this saviour attitude is likely to do more to put marginalised communities at risk, and encourage a neocolonial model of dependency on foreign 'professionals' rather than building capacity locally.

Dependence

Further dependence is created by these experiences bringing with them finances (to build schools, or provide medical supplies) that helps to mask failures of the state. 'Such dependences can create feedback cycles of resentment and cross-cultural breakdowns between local partners and programmes in the global North' (Huish, 2012). Ultimately this reinforces the notions of hubris from the North by assuming our peers in the South are not capable of keeping pace with modern progressive medical progress or design technologies. This is a criticism being widely debated within the ethics of global charitable giving and the failures of development aid (Klein, 2008. Polmon, 2010. Moyo, 2011). IHE's or international live architecture projects are not, and should not be immune to the same criticisms.

Equity

International development students and post-graduates dedicate years of scholarship to understanding the socially complex nature of inequity. IHE's and international live student projects however discuss, if anything, a very limited and narrow appreciation of the structures and socio-political flaws, both past and present of the development paradigm. And as such, students who witness the severely strained conditions whilst on their foreign travels, often misunderstand the reasons for the global in-equilibrium and may, in turn, reduce their ability to measure inequalities in the North as worthy of moral attention.

Double standards

It is difficult for first and second year students to assess their own limitations, as such the medical and architecture professions require a certain level of knowledge to be attained prior to having clinical or on-site responsibilities.

Circumventing this path in resource-poor settings creates a double standard of ethical and professional conduct. The Declaration of Helsinki (quoted in Angel, 1988) states 'ethical standards applied should be no less exacting than they would in a case of research carried out in the sponsors country...human subjects in any part of the world should be protected by an irreducible set of ethical standards'. The British Medical Journal (quoted in Radstone, 2005) takes a deontological view saying that students should treat their work in the developing world no differently as they would in their home countries - it being unethical to 'practice' on a community just because it has the misfortune of being poor.

There are reasons why students, be it medical or architectural do not practice certain skills in their own community until they are fully 'qualified', are these concerns just not relevant when in the Global South?

What Have the Medics Done?

Although it may appear to be of benefit to all - simply bringing 'knowledge', resources, free labour and equipment to communities in 'need' - there may be devastating consequences. Because IHE's and the architectural equivalent are primarily learning environments for the benefit of the Northern students, it falls to the educational communities to acknowledge their role and responsibility of the impacts of these international projects.

As is hopefully evident by the reliance on medical references to these concerns, the last decade has seen a wealth of discussion and acknowledgement of the issues faced by medics practicing in an international context. Much more than could be said for us architects. That said, medics have only just begun to address these polemical issues in their training practices and begin to develop practical responses to it.

Student toolkits are now available to download from the British Medical Association entitled 'Ethical questions medical students should consider when doing electives in resource poor countries'. The Association of Faculties of Medicine of Canada released a "global health essential core competencies" guidance for all IHE programmes to follow (AFMC Resource Group, 2010), advocating 'all medical graduates should understand the major factors that influence the health of individuals and populations worldwide'. The Working Group on Ethics Guidelines for Global Health Training (WEIGHT) also developed a set of guidelines for field-based practices (Crump et al., 2010).

But, as Huish (2012) argues, 'if the goal is to have practitioners act as [global] agents of change', then why not consider an entire undergraduate degree, or specialised stream in International Development Studies, Political Economy or Anthropology before engaging in international development practices. 'If global health inequity is to be treated on the same moral standard as other medical specialisations, then programmes should expect students to bear the same level of deep understanding to the discipline'. Cannot the same logical argument be applied to architecture where we constantly reiterate to our students the importance of understanding the context and clients' needs prior to designing a building. Should we not then be providing educational pathways to allow for international development design specialists?

Conclusion

The obvious solution is just not do these international student programmes. But what about the genuine concern for a more socially driven architecture that so many students have good intentions towards. The opportunity to serve an underserved population (the other 90%), the desire to help still remains.

While university led architectural international live projects are beginning to provide students with the knowledge and practical construction experience to put their design ideas into reality, they must remember that they also bear the responsibility of training their students in a framework to approach these experiences in a principled and professional way. It is necessary that the educators running these programmes provide adequate and formalised preparation for both architectural design, the ethical challenges of working in resource-poor settings and acknowledgement of their potential devastating impacts.

If these programmes really must continue regardless of their resulting negative effects, they could do well to explain not just what the problems are perceived to be, but more importantly, how these scenarios came about. Modules could begin by illuminating the complexities and criticisms of international development, engage in moral ethics and then discuss the power inequalities and possible role of architecture as an agent for social justice. Students would gain a better grasp and understanding of the solidarity and respect between people, regardless of the setting. Assumptions would be updated and a much more emancipatory approach to global design challenges could be explored.

Perhaps students and their educators would also begin to realise that their agency may be better placed and served in the communities that 'can tell them to go to hell' (Illich, 1968).

References

Ackerman, L., 2010. The Ethics of Short-Term International Health Electives in Developing Countries. Journal of Behavioural Science and Medical Education, 16(2): 40-43

Angel, M., 1988. Ethical imperialism? Ethics in international collaborative clinical research. New England Journal of Medicine, 319: 1081-3

Association of Faculties of Medicine of Canada Resource Group, 2010. Global health core competencies. Retrieved from http://globalhelatheducation.org/resources_OLD/Documents/Primarily%20For%20Faculty/Basic%20Core_Competencies_Final%202010.pdf

British Medical Journal Blog, 2012. Laying the Ghost of Empire. Retrieved from http://m.bma.org.uk/news-views-analysis/live-and-learn/2012/november/electives-laying-the-ghosts-of-empire#

British Medical Journal website. Ethical questions medical students should consider when doing electives in resource poor countries. Retrieved from http://m.bma.org.uk/mobile/practical-support-at-work/ethics/ethics-tool-kits/students-tool-kit/medical-electives-in-poor-countries

Caldicott, C., 2011. Ethics lie in the situation and in the response. Medical Education, 45(7): 658-660.

Crump, J. & Sugarman J. & WEIGHT, 2010. Ethics and best practice guidelines for training experiences in global health. The American Journal of Tropical Medicine and Hygeine, 83(6): 1178-1182.

Elansary, M. & Graber, L. & Provensano, A. & Barry, M. & Khoshnood, K. & Rastegar, A., 2011. The Ethical Conundrum of International Health Electives in Medical Education. Journal of Global Health, Spring Edition.

Global Health Education Consortium, 2011. The collection of global health learning modules. Retrieved from http://globalhealtheducation.org/modules/pages/forms/default.aspx

Hanson, L. & Harms, S. & Plamondon, K. 2011. Undergraduate international medical electives: Some ethical and pedagogical considerations. Journal of Studies in International Education, 15(2): 171-185.

Hyde, R., 2012. Future Practice, Conversations from the edge of architecture. London.

Huish, R., 2012. The Ethical Conundrum of International Health Electives in Medical Education. Journal of Global Citizenship & Equity Education, 2(1).

Illich, I., 1968. To hell with good intentions. An address to the conference on InterAmerican Student Projects (CIASP), Mexico.
Klein, N., 2008. The shock doctrine: the rise of disaster capitalism. Penguin Books, London.
Moyo, M., 2011. How the west was lost: fifty years of economic folly - and the stark choices ahead. Penguin Books, London.
Mutchnick, D. & Moyer, C. & Stern, D., 2003. Expanding the boundaries of medical education: Evidence for cross-cultural exchanges. Academic Medicine: Journal of the Association of Medical Colleges, 78(10): 1-5.
Polman, L., 2010. The crisis caravan: whats wrong with humanitarian aid?. Metropolitan Books, New York.
Radstone, S., 2005. Practicing on the Poor? Healthcare workers' beliefs about the role of medical students during their elective. Journal of Medical Ethics, 31: 109-110.
Shah, C. & Parmar, H., 2011. International perspectives and initiatives. Health Information Libraries Journal, 28(1): 77-81.
Shah, S. & Wu, T., 2008. The medical student global health experience: professionalism and ethical implications. Journal of Medical Ethics, 34: 375–378.
University of Brighton, website. Retrieved from http://arts.brighton.ac.uk/study/architecture/live-projects

S[q]WOTting Between Academia and Practice

Holly Rose Doron

SWOT[studio] // Birmingham City University

Introduction – Inception of a Micro-Practice

'We need more and different types of ways of entering the profession'[1]

When Part II architecture students graduate, they are faced with the following options: a) follow the traditional route towards qualifying as an architect and join a practice; b) continue their studies through another Masters or PhD; c) establish their own practice; d) transfer their skills to another career. The least risky option is to obtain employment in a practice, whilst the alternatives require pre-existing financial stability. With increased tuition fees and debt, opportunities for trying something different are limited.

To seek that 'something different', Matt Warren, Matt Vaughan and I submitted a business proposal to Deutsche Bank's Awards for Creative Enterprises 2013. Our entry won the Award in Creative and Cultural Practice with £10,000 capital funding to found our own practice: SWOT[studio].

SWOT[studio] is a micro-practice. We proposed to work four days a week in well-established practices (APEC Architects, BPN Architects and Glenn Howells Architects), and spend our fifth day developing our own academic and commercial projects. We are experimenting with a hybrid studio model that could potentially be better suited to the next generation of designers.

Symbiotic S[q]WOTing

The exploratory model involves S[q]WOTing within Birmingham City University (BCU). Squatting is usually associated with living in an unoccupied space without paying the owner. S[q]WOTting is working in an unoccupied space without paying rent and related overheads. In return for this space, we share our skills and experience in establishing a creative business with the university's students; it is a symbiotic form of the parasitic squat. It is not only a model that benefits the 'S[q]WOTters' and students; BCU itself can profit from the positive public relations associated with supporting their students beyond graduation and improving the transition into practice.

In order to cultivate engagement with this model, we need to first appropriate a prominent space. The S[q]WOT experiment therefore consists of two parts:

S[q]WOT One // Intervention 2013-2014

SWOT[studio] work with Birmingham Institute of Art and Design (BIAD) students from different disciplines to design and fabricate a multi-functional incubation studio that 'squats' within the campus' atrium for optimum visibility and exposure. The project aims to foster a community of innovative and resourceful students who have been exposed to collaborating with different disciplines, and experience with real clients, consultants, materials, costs and risk. This first project is funded by BIAD and BCU's Centre for Enhancement of Learning and Teaching (CELT).

S[q]WOT Two // Occupation 2014-2016

SWOT[studio] occupy S[q]WOT at least one day a week, running both academic and commercial projects. In return for space and reduced overheads, they share the thrills and pitfalls of starting a design practice with BCU's students. When not occupied by SWOT[studio], S[q]WOT is used by other graduates, students, staff and visitors. This project seeks to stimulate creative entrepreneurialism within the university. It also offers students the unique opportunity for post-occupation analysis of a space they've designed and fabricated.

'We don't do any monitoring post-occupation. Success is the front page of a glossy magazine… In education, we're not assessing the project against social impact criteria.'[2]

The key objective is to create a network of graduates that have the ability and confidence to establish their own S[q]WOTting design practices, and challenge the traditional route between education and practice; *'to define and even design the profession of tomorrow.'*[3]

This paper explores the need for live projects, extracts the lessons learnt from S[q]WOT One, and how they will impact upon the approach to S[q]WOT Two.

Emergence of the Millennial Live Project

Architectural design studio has arguably been historically shaped on the competitive model of individualists, echoing *'… Hegelian beliefs that history moves ahead through the work of a few great individuals'*.[4] This paradigm still exists in some schools, with a focus on *'cultivating the lone genius rather than the enlightened collaborator.'*[5] The Studio Culture Conference, held at London Metropolitan University in

2012, highlighted the need for change from this competitive model to a more collaborative pedagogical approach with *'strong links to practice and the outside world'*.[6] This shift from competitive to collaborative reflects the needs of the current generation of learners: the Millennials.

From 2000, the Millennial generation began their university education. This generation of students differs significantly from the Baby Boomers (born 1946-1964) and Generation X (born 1965-1981). According to Jonas-Dwyer and Pospisil[7], Millennials are more confident, optimistic, team-oriented, achievement-oriented and civic-minded. This means they respond better to learning environments that include opportunities for experiential learning, group activities, and community-related learning. These characteristics are becoming more evident in profession, as architects are *'are increasingly embracing models of collaborative practice, a move away from the "virtuoso soloist" or celebrity architect, towards self-styled, loosely collaborative group identities – FAT, Foreign Office Architects, muf, UNStudio amongst them.'* [8]

Live projects are a way of implementing this change towards the collaborative studio model.

Although there has been recent surge in live projects within architectural education, it is not a new concept. Dr James Benedict Brown's research into the history of live projects revealed that they were first recorded at the Birmingham School of Architecture between 1951 and 1962. These projects focused on design for construction, and *' might, therefore, be understood as experiments with hybrid pedagogies that combined what were considered to be the best elements of both a practical apprenticeship and a university education.'*[9] Brown's research into contemporary live projects revealed a difference from their predecessors: collaboration, *'no collaboration with those clients or users in the brief writing or design process, and the teacher operated not as collaborator equal to the students, but a traditional overseer of the process.'* [10]

The benefits of live projects were discussed at a recent screening of 'Archiculture', a documentary film on architectural education in the US hosted by RIBA West Midlands, Birmingham School of Architecture and SWOT[studio]. An advantage of this pedagogical approach was that *'live projects give students a taste of making things so they know that there's a resistance; materials, talking to people who aren't architects.'*[11] It was also highlighted that *'live projects have to be different from practice projects in at least one quality'*. [12]

This is what we wanted to achieve. We wanted to offer students an experience not usually attainable within their education or practice; to study outside their field and learn to identify opportunities for innovative collaboration, and challenge traditional practice.

S[q]WOT One // Intervention

Although this live project is funded by BCU, it is not led by university staff or assigned to a university department. It is facilitated by SWOT[studio]. We are not qualified or experienced educators, and although we have over twenty years experience in practice between us, we have not led a project like this before or worked within a higher education environment outside of our own education. In summary, this has been as much of a learning experience for us as it has been for the participating students.

Our escapade developed over the following phases:

Phase 01 Engage| September – October 2013

Phase 02 Experiment| November – January 2013

Phase 03 Design & Fabricate | January – June [September] 2014

Phase 01 Engage

With the full support, and excitement, of BIAD's Deanery we embarked on this experiment and shortly discovered the most recurring challenge within a university setting: programming. We had originally intended to launch the project in September 2013, but we soon realised that in order to engage staff and students in an extra-curricular project, you need to allow them time to settle into their course. Several programme revisions followed until we had a start date for the end of November.

During that time we had to attract students from different courses across BIAD to take part in our voluntary, non-assessed project. We decided to target students from second year, so they had an established grasp of their subject, but without the stress associated with their final year. We also wanted the participating students to carry on their involvement through S[q]WOT Two during their third year, to help prepare them for their routes after graduation.

Although the project can be seen as predominantly architectural, it was vital to the project that we engaged students outside of architecture. Our professional work relies on being able to communicate and collaborate with consultants and clients from different backgrounds, with different ways of thinking and methods to approach a design problem. A lot of courses do not provide this opportunity. They are sometimes insular and closed to other departments.[13] We wanted to instigate a dialogue between these courses to better prepare the students for their working life.

We originally intended to engage students from the school of media, technology and engineering, and

music, as well as BIAD, but inter-faculty communication was unfortunately difficult to achieve. We believe earlier contact and consultation would overcome this issue, particularly now we have a precedent to present.

We initially asked Heads of Schools to nominate students from their second year courses to apply for the project. We eventually found that advertising the project directly to the students via the university's online platform and in person was far more successful than the 'top-down' nominations method. Further analysis into this would be constructive to approaching future projects.

Our goal was to receive 24 applications. 26 students applied ranging between levels 4 and 7, from schools of architecture, fashion design, illustration, interior design, furniture design, jewellery, media and communication, and product design. 22 of these students took part in the first stage of the project

The final objective for this phase was to establish a brief. A principal attribute of live projects is working directly with the client and end users, usually within a community. This also means developing a brief with these stakeholders. Within this project, participating students had to engage with a variety of stakeholders that would be using their design: SWOT[studio], university staff, visitors, students, and themselves. We decided to develop the framework for the brief with BIAD's Deanery for approval beforehand, which the students could then dissect and adapt to their findings during the experiment phase.

Phase 02 Experiment

This phase was used to introduce the students to working with other disciplines and designing flexible spaces, culminating in an exhibition of their exploratory fabricated designs. To prepare them for this, the students took part in weekly lectures, site visits, and design workshops. Due to the emphasis on flexible design, the workshops involved dividing the students into groups to explore the different modes of flexibility as defined by Robert Kronenburg[14]: adapt, transform, move and interact.

Each group was given a brief to design a space that could be used for two different functions by two different design disciplines. We frequently changed the groups around to give them experience in developing other peoples' ideas, as they would be expected to in their profession. It also enabled a wider range of dialogue between different disciplines, so they were able to grasp the different needs of others. They presented each other's concepts, developed through a variety of media, and created a more defined brief out of the ideas explored through visiting the site and concept development. (Fig.1.)

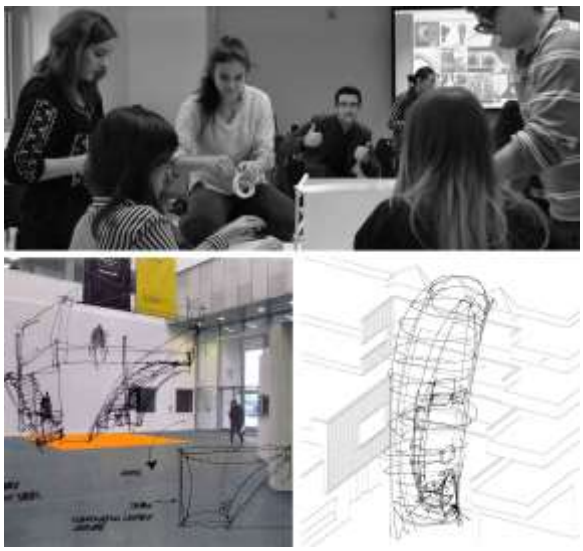

Fig.1. S[q]WOT day one concept development

The outcomes of the first sessions were very promising. Most students were excited to be working with people from other departments. There were a few individuals who lacked the confidence to express their ideas, believing they were under-qualified as it was outside their discipline, and were not able to form a link with their skills. This improved when we rearranged the groups and put the least confident members together. They later became dedicated members of the team. There were other students who struggled in the team environment, particularly in terms of developing a joint idea and sharing ownership. They found it difficult to contribute a sacrificial idea for the sake of collaborative design progress, and unfortunately drifted away from the project.

During these initial sessions, we felt like tutors rather than team members, which is perhaps to be expected when students are getting to grips with unfamiliar activities. We tried to make the process less formal by introducing their briefs and precedents through a S[q]WOT Facebook group. We wanted the students to take ownership over the project and use the online group for sharing ideas between their weekly sessions. Although there were quiet periods, the online communication tool proved to be successful, and some students who later left the project still continued to make contributions online. This was a really positive outcome, revealing different and flexible ways of belonging and participating within a live project.

After six S[q]WOT days, the team had developed their design for each mode of flexibility into a mobile canopy, desk and cinema that they fabricated. They exhibited their designs on their atrium site as S[q]WOT[beta] (Fig.2).

Fig.2. S[q]WOT[beta] exhibition

The fabrication and curation of this exhibition was extremely educational for the whole team. As soon as we entered the workshops, we became team members rather than tutors. This 'trial' phase proved to be invaluable in first-hand experience with a tight budget and programme. We all experienced the headaches of making the team's ideas reality. The overhead canopy was a particular risk, and underwent a variety of prototypes and failures, providing the students with hands-on design problem-solving, rather than just on paper.

By this time a close-knit team had formed, triumphing in the success of the exhibition. The students were particularly elated when BIAD animation students used their project for the Flatpack Film Festival. We were not expecting an opportunity for post-occupation analysis at this stage, so it was rewarding to see the students discuss how they would have done things differently having seen their design in use, and single out issues to bear in mind for the final design.

We had originally intended to select 12 students to proceed with the next phase, and the rest of team to keep contributing to the project via the facebook group. This, however, happened more naturally. Due to timetable clashes and course commitments, the team of 22 gradually reduced to a dedicated core of 7 students for the subsequent phases: one Level 5 Architecture, three Level 5 Interior Design, two Level 6 Interior Design and one Level 5 Product Design.

Phase 03 Design & Fabricate

With the practical issues and creative triumphs of the 'beta' exhibition fresh in their minds, the team developed a design for the final S[q]WOT space. With a smaller team, they were able to work more closely, recognising each other's strengths and dividing tasks accordingly between themselves.

We discovered that the most constructive design tool was the campus building itself. This was BIAD's first year in the new building, designed by Associated Architects. Open plan levels overlook the atrium and main entrance; the S[q]WOT site. The visual links between departments and informal breakout areas aimed to accommodate 'exquisite collisions' between disciplines. We had started the project by booking spaces in advance, but we found that it was much more productive to design in different breakout spaces each week. We were then exposed to the rest of the university and experienced 'exquisite collisions' with other staff and students who wanted to know more about the project. A particularly successful 'collision' was with a structural engineer who happened to be tutoring that day. He offered advice for the team's design, and the students were able to partake in a new type of dialogue.

We maintained our team member roles, developing design ideas with them and acting as technical consultants when necessary. As the university saw us as a consultant providing a product, we took a more involved design role than tutors would be expected to in a traditional project setting. We facilitated the student's ideas and developed the designs in collaboration with them, although it was a difficult balance to achieve and sometimes we had to lead decision-making to ensure we kept to deadlines.

The students, however, presented the final design on their own to their client representatives, members of the BIAD Deanery. The presentation, practised to perfection, was excellently delivered and well received, achieving 'sign off' in time for Easter. The students were jubilant and looked forward to fabrication so S[q]WOT could be completed in time for BIAD's graduation show.

Unfortunately, this phase suffered a significant delay.

At the beginning of the project, Matt Vaughan gave a presentation entitled 'How not to do it'. He described his experience on the Limpopo live project he was involved with during his postgraduate course at the University of Nottingham. There was one significant problem they came across: gaining access to university

funding. We discovered that this is not an isolated issue.

The Deutsche Bank capital and CELT funding covered the costs for first phase materials and our time. BIAD had assigned another fund for the fabrication of the final design, but they were not able to release this until a Service Agreement was in place.

The roles of client and designer have been difficult to define. We are an external Limited company designing with BIAD students. BIAD is the client but SWOT[studio] is also an end-user. Although Matt Warren and I were enrolled as students on Birmingham School of Architecture's 'Beyond Graduation' programme, and CELT had in turn employed us as 'Student Mentors', we were still viewed as an external consultant. As a result, it took from December 2013 until July 2014 to agree a service agreement that did not involve us maintaining Professional Indemnity insurance at a £5m level for six years after our contract termination. The Deanery and finance team had tried their best to help us sooner, but the university's system was not designed to support such projects. Eventually they were able to agree a reduced level of insurance for SWOT[studio]. Hopefully this convoluted process will be easier for future live projects that are not directly managed by the university, and enable other graduate businesses to work with the university.

Due to this delay, we missed the completion deadline for the BIAD graduate show, and most of the students left Birmingham for the summer, some graduating and moving away permanently. They have regrettably missed out on the joy of completing their project, which they briefly felt after the 'beta' exhibition.

At the time of writing, we have just received BIAD's funding and are now gearing up for fabrication during September, inviting the students who live locally to participate. We will keep the other students up to date via the Facebook group, and hope that they will be able to continue to contribute online.

Reflection as a Micro-Practice

We have learnt a significant amount from the process of S[q]WOT One. Programming our S[q]WOT time around our 'day jobs' has been a compelling insight into whether this type of live project is feasible and sustainable for a micro-practice. Whilst it is difficult, it is certainly an exciting challenge. The ideal situation would be that we had enough funding to employ one of us full-time to oversee and analyse the project. It could have possibly alleviated our concern with liability, which had an influence over our approach to working with the students.

We saw the project more as practice-based rather than a university project, and therefore took the lead on some occasions, particularly closer to deadlines. We also felt a sense of guilt if we overloaded the students with too much responsibility, as they were volunteers on a non-assessed project on top of their own course workload. If we had less liability, and the project counted towards their courses, we would have felt more comfortable with the students taking on more risk, particularly if more post-graduates were involved. It may also have helped previous participants in *'cementing their commitment to the project'.* [15]

We would have liked to push them to *'find- beg, borrow, or steal – what they want to use in the wider world'.* [16] On the other hand, the 'freedom' of *'assessment criteria – imposed by the school pedagogy or the professional validation requirements'* could hinder '*the project pedagogy*' being *'co-designed with the live project process.'* [17]

As we complete S[q]WOT one, we have future opportunities to anticipate. Following our presentation at BCU's Student Engagement Conference in June 2014, we were approached by several educators from different departments who wanted to take part in future projects like this. S[q]WOT has also been selected for the European League of Institutes of the Arts (ELIA) NEU/NOW online festival in September 2014. The S[q]WOT team is looking forward to this, and the completion of the project, to kickstarting the next phase.

S[q]WOT Two and other Opportunities

'We are in an entrepreneurial profession and that's not taught well at all. The faculty is learning from the students – they're thinking differently.' [18]

In the new academic year SWOT[studio] will be able to continue in part as a commercial practice, sharing our triumphs and gaffes as a young enterprise. There is also potential to work with Birmingham School of Architecture's own live project office, Co.LAB. Now we have more experience, we aim to continue our involvement in live projects, broadening the range of disciplines, and using our contacts to bridge links with other practices and communities.

As the S[q]WOT students start their final year of their BA(Hons), they will be able to witness their design in use as a business incubation unit, design studio, cinema, exhibition and even a bar. They will have experienced their ideas becoming a tangible space that they can continue to learn from. This and their developed design skills and resourcefulness will hopefully influence their own projects and approach to practice. We did not aim for the students to become more 'oven-ready' for practices, but to help them become less risk averse and inspire them to innovate and experiment in business as well as design.

References

[1] Walker, C. “Archiculture Screening and Discussion”. Discussion between Will Hunter, Hannah Vowles and Charles Walker. Birmingham, 27 June 2014.
[2] Walker, C. “Archiculture Screening and Discussion”. Discussion between Will Hunter, Hannah Vowles and Charles Walker. Birmingham, 27 June 2014.
[3] Harriss, H. “Learning Architecture through Live Projects: Building Community University Partnerships for Teaching and Learning Excellence and Community Enhancement” [online] Available at: <http://www.wcmt.org.uk/reports/927_1.pdf> [Accessed 27 July 2014]. 2011. p7.
[4] Fisher, T.R. “In the Scheme of Things”. Minneapolis: University of Minnesota Press. 2001. p 70.
[5] Slessor, C. “Editorial View”. The Architectural Review, No. 1388, October 2012.
[6] Fulcher, F. “Education Speaks” [online] The Architects’ Journal 26th July 2012. [online] Available through: <http://www. architectsjournal.co.uk/student-shows/education- speaks/8633660.article> [Accessed 28th July 2012]
[7] Jonas-Dwyer, D. & R. Pospisil. “The Millennial Effect: Implications for Academic Development in Transforming Knowledge into Wisdom: Holistic Approaches to Teaching and Learning” Proceedings of HERSDA (The Higher Education Research and Development Society of Australasia) Conference. 2004. Miri, Sarawak: Research and Development in Higher Education.
[8] Vowles, H., Low, J., Doron, H. “Investigating Architecture Studio Culture in the UK: A Progress Report.” Journal for Education in the Built Environment, Vol. 7, Issue 2, December 2012. p 26-49.
[9] Brown, J.B. “A Critique of the Live Project” [online] Available through: <http://issuu.com/jamesbenedictbrown/docs/brown_james_benedict_-_a_critique_of_the_live_proj/1> [Accessed 27 July 2014]. 2013. p 26.
[10] Brown, J.B. “A Critique of the Live Project” [online] Available through: <http://issuu.com/jamesbenedictbrown/docs/brown_james_benedict_-_a_critique_of_the_live_proj/1> [Accessed 27 July 2014]. 2013. p 41.
[11] Vowles, H. “Archiculture Screening and Discussion”. Discussion between Will Hunter, Hannah Vowles and Charles Walker. Birmingham, 27 June 2014.
[12] Walker, C. “Archiculture Screening and Discussion”. Discussion between Will Hunter, Hannah Vowles and Charles Walker. Birmingham, 27 June 2014.
[13] Koch, A., Schwennsen, K., Dutton, T. A., Smith, D. “The Redesign of Studio Culture: A Report of the AIAS Studio Culture Task Force”. Washington DC: American Institute of Architecture Students. 2002.
[14] Kronenburg, R. “Flexible: Architecture that Responds to Change”. London: Laurence King Publishing. 2007. p 7.
[15] Harriss, H. “Learning Architecture through Live Projects: Building Community University Partnerships for Teaching and Learning Excellence and Community Enhancement” [online] Available at: <http://www.wcmt.org.uk/reports/927_1.pdf> [Accessed 27 July 2014]. 2011. p 20.
[16] Hunter, W. “Alternative Routes for Architecture”. The Architectural Review, No. 1388, October 2012.
[17] Harriss, H. “Learning Architecture through Live Projects: Building Community University Partnerships for Teaching and Learning Excellence and Community Enhancement” [online] Available at: <http://www.wcmt.org.uk/reports/927_1.pdf> [Accessed 27 July 2014]. 2011. p 18.
[18] Walker, C. “Archiculture Screening and Discussion”. Discussion between Will Hunter, Hannah Vowles and Charles Walker. Birmingham, 27 June 2014.

Using Geocaching as a Teaching Tool with Student Architects

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Introduction

Geocaching is a global positioning system (GPS) based treasure hunt game that is played throughout the world. Participants find hidden containers, called geocaches, using GPS coordinates and then share their experiences online.

The inherent manipulability of the game enables those who choose to plant geocaches to introduce site-specific information, which can lead to a multitude of participant experiences, making the game a flexible and informative learning exercise.

At the University of Huddersfield School of Art, Design and Architecture (SoADA), geocaching has been used for many years as a teaching tool allowing students to investigate a variety of places at a tangible level and analyse a site's complexities in preparation for contextually responsive design projects. An important part of a student's measurable outcome and reflection process in response to the geocaching exercise is the production of a Site Investigation Report. This resource captures a student's experiential and emotional responses towards a place and forms an important briefing document for a conjoining subsequent contextual design project.

An important pursuit that geocaching fosters is a site-specific design response with a sustainable emphasis. When the notion of sustainable architecture is stripped of all the measuring processes, (which in many cases have diluted the important concern for the well-being of our world and the people who live on it into a collection of detracting and often irrelevant details for the purposes of 'easy measurement'), we find that what remains are beauty and appropriateness. Sustainable architecture is at its core, architecture that people want to sustain. The primary purpose for utilising geocaching as a teaching tool at SoADA is to further assist students to gain a deep understanding of context so as to produce site-specific sustainable design projects that people would want to keep.

This paper will describe how geocaching is used as an engaging online teaching tool that enables students to undertake physical site investigation and analysis as part of their study of both actual and metaphorical places in preparation for sustainably assertive design projects.

Since geocaching was introduced into the teaching programme within the Year 1 architecture course, a SoADA Geocaching Document has been produced. With reference to this resource and student experiences, this paper will describe how many students have used geocaching as a means to enhance a concern for places, people and the design of sustainably appropriate architecture.

Geocaching

The game of geocaching started in May 2000, when the U.S. government turned off Selective Availability, a feature that limited the accuracy of GPS signals for civilians for national security reasons. Within 24 hours the first geocache had been placed and its coordinates were posted online. Today there are over 2,000,000 geocaches worldwide and 6,000,000 geocachers.

The starting point for participating in geocaching is geocaching.com[1]. This website introduces, explains and seeks to provide parameters within which to play the game. Participants can find geocaches using either GPS enabled mobile phones or a handheld GPS. Geocaching.com has produced two 'apps' for mobile usage, a lite version for beginners and a full version, which can be purchased for a nominal fee. Alternatively participants can print off maps from the Geocaching.com website to take to areas where GPS signals are weak.

The principal aim of geocaching is to enable participants to find hidden containers or virtual points called geocaches using GPS coordinates and then share experiences online. The game is often played in areas of natural beauty or interest and many geocaches contain information relating to the area, especially where the area is geographically or geologically significant. Once a new participant has registered their membership, the next step is simply to find which geocaches are nearby. To visit a geocache is simple with a GPS enabled mobile device; just select the geocache via the app and it will navigate with an inbuilt compass or map. The app also provides helpful information regarding the terrain, the size of the geocache, how difficult it should be to find, etc. What participants are looking for varies; geocaches come in different types, sizes and disguises. Some geocaches can be easily found; others are very well hidden or difficult to retrieve. Many of the larger geocache containers have within them small toys, which can be taken if replaced with something of equal value.[2] The only other rules that apply to finding a geocache are, participants must write their name on a log, contained in every geocache, and they are then required to notify

the geocaching community of their find by contributing a comment of their experience at Geocaching.com.

Geocaches can be planted by anyone, although participants are required to adhere to a comprehensive set of regulations specified at Geocaching.com[3] so as to avoid trespass or endangering the environment and enable fair play. Many geocaches have been hidden in remote areas or placed in such a manner that they are difficult to retrieve. Perhaps the geocache most difficult to retrieve is the one that is magnetically attached to the International Space Station travelling at 17000 mph at an altitude of 250 miles.[4] Other efforts to make retrieval more taxing include submerging geocaches in water and constructing containers that require specialist equipment to be opened.[5] Many geocaches require participants to solve a puzzle before the geocache's coordinates are revealed. Some geocaches can only be found by first finding clues that are themselves within geocaches; thus, one find can lead to a string of further discoveries.

Fig. 1 & 2. A geocache disguised as a fake light bulb (left) and a geocache disguised as a bolt (right).

Fig. 3. A geocache disguised as a discarded bottle cap.

Fig. 4 & 5. A geocache disguised as an external electrical power socket.

For a nominal membership fee participants can purchase a Premium Membership, which comes with a collection of benefits including access to members only geocaches and alerts for new geocaches as and when they are released; the sport includes many who join a race to be the first to find (FTF) a new geocache. There is no reward for a FTF except for the admiration of fellow players.

Learning Context by Geocaching

The use of geocaching as a teaching tool has been an important part of the Year 1 programme at SoADA for many years because it embodies a central theme of the course; namely, to design architecture in response to place. Furthermore, the exercise incorporates group study, it is student led with tutor guidance, and enshrines an assertive sustainable approach to the design process by prioritising contextual and social understanding. The outcome of the geocaching led site investigation and analysis is then used to form the basis of the primary design project, a bothy that stands within Butterley reservoir. Collectively, and including other relevant exercises, the geocaching and bothy projects are the lion's share of an important 40 credit module which students embark upon at the very start of their academic educational training at Huddersfield.

The primary benefit of the geocaching exercise is that it leads students to explore socially and environmentally focused agendas of their own choosing as they progress with their bothy design project. The geocaching exercise; however, consciously avoids prescribing a stylistic approach, allowing students to present a variety of architectural responses. The only strong advice given by tutors at an early stage is that design proposals should avoid pastiche and replicating the traditional Yorkshire rural bothy mould.

All too often an architectural site study involves little more than a trip to a site with a camera. This is generally followed by an Internet search to collate reams of data that is at best, vaguely useful. The result of this approach is a contrived and impersonal understanding of a context. The geocaching exercise seeks to avoid this 'easy' form of surface deep information gathering.

A SoADA Geocaching Document has been produced which pulls together a 'get started guide', a series of detailed maps and aerial photographs for students without GPS enabled mobile devices, a complete list of required equipment and clothing suitable for hiking in the Peaks, and a full description of other module requirements such as learning outcomes and safety information.

The Geocaching Document outlines the benefits of geocaching as a means to help in the investigation of place and makes explicit the skills students can develop by partaking in the exercise within the wider context of architectural education. Specifically, the document describes two core skills that students are enabled to develop; namely, contextual investigation skills (acquiring and prioritising information relevant to a place and in preparation for a design project; presenting information at tutorials and reviews), and team skills (managing expectations and requirements collectively, and apportioning work commitments). Incumbent within these skills are critical thinking and reflection at tutorial sessions and all inclusive studio reviews.

These skill sets seek to imbue responses that address the important social and environment ethos at SoADA. The rural nature and natural beauty of the site is conducive for a concern for environmental consideration; therefore, a emphasis in the Geocaching Document is placed on attaining a social agenda by means of requiring students to consider the design of the bothy for a particular person at an early stage in the investigation process. By being explicit in describing the learning opportunities to be gained through geocaching, students are equipped to respond to social and environmental challenges in the designing of architecture and are made aware of the importance of contextual appropriateness; a vital and transferable skill for students from all nationalities.

The document explains how to register for a free membership using the Geocaching.com website. Students are required to create a new account with a username starting with the prefix 'HUD', allowing them to be recognised online by staff as a participating student. The document also informs students to be prepared for the sometimes hostile terrain and adverse weather conditions commonly found in the Peaks. Once students are familiar with geocaching the document continues to describe how finding a series of geocaches surrounding a string of reservoirs to the North of the Peak District is used as part of a site investigation and analysis learning exercise.

Fig. 6. Geocaches in the Northern area of the Peak District near Marsden. These geocaches form a series; once all the geocaches have been retrieved, clues from each geocache lead to a further bonus geocache.

After a preparation session in the studio where relevant maps and geocaching information are gathered, students are required to rendezvous with staff at a set departure location on the outskirts of Marsden. Small groups of around 4-6 students then set off in search of the geocaches. Some students take the hunting game as an opportunity to race against each

other in a Bear Grylls-like fashion and aim to break the all time record set by a fell running student.

The exercise generally takes place in October, though many students return to the area during the subsequent months. The search for geocaches draws students to remote and sometimes austere parts of the North White Peaks; the geocaches have been strategically placed on hilltops, in rocky crevices and caves, and in remote outlying marshlands.

Students are required to fumble in the bracken, walk off the well-trod tracks and experience the inimical environment. The search leads students to protected valleys and exposed windswept rock escarpments. Students who have chosen to ignore the requirement for appropriate footwear and clothing soon discover that the Peaks can be muddy, cold and very uncomfortable in plimsolls. The exercise is finished with a rewarding excursion to one of Marsden's pubs or coffee house.

Fig. 7 & 8. Students on the hunt for geocaches.

Fig. 9. Students en-route to a geocache, forced to walk through bracken on an exposed hillside.

If a student chooses to visit the area on a number of occasions then they will also invariable notice the change in climate from one day to the next. Some of the braver students have ventured into the Peaks after snow has settled; when overcast, the White Peaks can be a hostile and unforgiving place where shelter is in short supply and other than hikers following the Pennine Trail, company is sparse.

Whilst students are walking (or running) from one geocache to the next they are encouraged to consider how to capture their experiences. Sound recording equipment is used to capture the constant noise of rushing wind over exposed escarpment faces and the ubiquitous sketchpad and camera are taken to record feelings more than observations.

The Geocaching Documents explains that the exercise is a prelude to a project involving the design of a bothy. The bothies are required to be located within the Butterley reservoir 5m from the shoreline, but at a location determined by the student. These bothies are to be placed on a 3x3m concrete pad that protrudes from the water surface by 1m. Each bothy is to be designed for a specific person of the student's choice (either a real person or a clearly defined refabricated person). These confines prompt students to grapple with social and anthropometrical restraints and the very practical need to provide shelter in a diverse and sometimes uncomfortable environment.

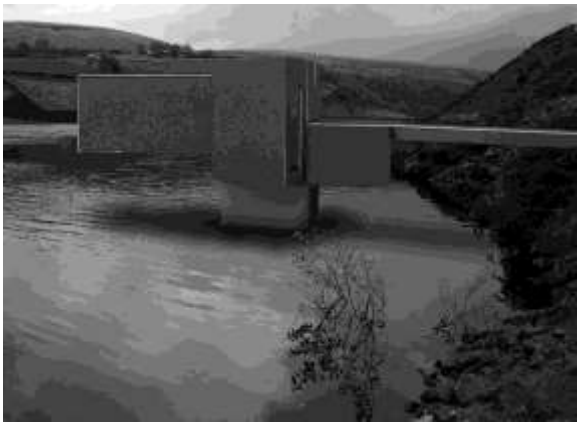

Fig. 10. Bothy project designed in specific response to the context. The elongated form points towards a view of a water gate tower that strides a dam.

Fig. 11. Bothy project shown in context.

Conclusion

Geocaching forms an important contribution to the Year 1 architecture course at SoARA and is used as a teaching tool with the specific aim to engender a contextually focussed social and environmental awareness within architectural design.

The geocaching exercise has developed over the years from a simple solitary local geocache to a concatenation of geocaches around Butterley reservoir that are used today. The exercise is often followed by positive feedback and a sense of achievement on the part of students. Students often repeatedly return to the site to find further local geocaches and, in so doing, experience the place during different weather patterns. The success of the project is noticeable to the degree to which the Year 1 students feedback a sense of belonging to their new Yorkshire home, and the bothy projects have displayed a far greater sense of contextualisation since the introduction of geocaching.

This success has afforded us the liberty to progress geocaching as a method of learning about place into other modules on the course. It is the intention for our next academic year to introduce geocaching in an urban study module where geocaching would be used to inform students (and others who choose to join in) of the architecture in an urban area; the exercise would in effect be an open on-line architectural tour with an immediate potential reach of 6,000,000 people. The same principle could apply to creating tours of towns or cities and could be created for tourist or commercial purposes.

In conjunction with this paper, a geocaching architectural tour will be devised in time for the 2014 AAE conference in Sheffield. This tour will bring participants to a number of places and buildings of architectural interest within walking distance of the conference, and will seek to provide an experiential and enjoyable demonstration of the learning benefits on offer through geocaching.

Notes

[1] www.geocaching.com Geoaching.com has a very useful set of introductory instructions and movies for the novice, together with further information for the more dedicated geocacher.

[2] At this stage I should declare that I have more than a casual interest in geocaching and that I am in fact a rather devout follower. I'm not ashamed to admit that. This admission also permits me to share a few personal geocaching stories. There is a geocache in the outlying suburban area to the north of Leeds that is regularly stocked with sherbet liquorice sweets. It is a temptation to find this particular geocache on a regular occasion. Another welcoming find was a pack of plasters in a geocache that was hidden in a South African rocky desert and only retrievable by means of a very long hike.

[3] www.geocaching.com/about/hiding.aspx

[4] Currently only the American Space Shuttle and Russian Soyuz vehicles can reach the ISS. This will be changing soon, not only is the shuttle retiring, but there is a fleet of private space vehicles due to be brought into commission that will perhaps enable the geocache to be more regularly discovered.

[5] I recall on one occasion retrieving a magnetic geocache that was attached to the top of a disused tramline pylon in a car park. The makeshift grabbing instrument comprised of an apple picker and several long poles strapped together with gaffer tape. The exercise was a covert operation undertaken at night to avoid the attention of passersby. Unbeknown those of us partaking in the retrieval, a police van had parked in the shadows at the back of the car park and officers were watching us from a short distance. Fortunately, one officer was familiar with geocaching and so no action against us was taken. On another occasion a fellow geocacher was less fortunate when a passerby saw him place a box on the underside of a bench in Wetherby. Suspecting the box to be a bomb, the police decided to evacuate people from the area and destroy the bench with a controlled explosion.

To Build or Not to Build: Going Live is [Not] Just Being Practical!

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Uganda Martyrs University

Introduction

Increasingly students and faculty alike are calling for a "hands-on" approach to architecture and building construction as an integral part of the architectural education. Schools of architecture have implemented courses to address this need, notably: the Harvard Graduate School of Design's 'Project on the City'; the design-build 'Rural Studio' run by Auburn University; and the Over-the-Rhine Design-Build Studio out of Miami University. Such activities are considered a good way to enhance problem-solving skills, dealing with client groups, working with different materials, construction techniques and methods, and preparing students for future practice. The courses run largely in parallel to the established design studio, mostly as electives or summer courses, but nevertheless, present as a 'tectonic shift',[1] moving from the traditional structure of architecture education, based largely on the studio, with associated support courses, to an approach that seeks to supplement the learning through interactive projects that expose students to a range of experiences to enhance the architectural education experience.

Regardless of the significance of these moves internationally, there has been only limited penetration of this approach in architectural education in East Africa. In the context of East Africa, the studio is regarded as being where students demonstrate their creative abilities, viewed as designing flamboyant buildings, often without any real sites or context to deal with - in effect, poor imitations of the real world. The notion of 'practical' gets lost within the context of architectural education as the nurturing of individuals who are 'Master Builders' or 'Experts', but not versed in the actual production of architecture, and how to respond directly the needs of clients.

A perennial plea from applicants to the architecture programme at Uganda Martyrs University (UMU) is to join a 'practical programme'. This indicates a demand for something more, or different, from architectural education, although it does raise a question: 'what does practical mean in the context of architecture education?' From a practice point of view, this suggests practice-ready graduates. However, with students only exposed to limited architecture practice as part of their educational experience, this raises two questions; how do students acquire the necessary skills to enhance their educational experience, and more significant, what is the purpose of architectural education? This is important with regard to future practice in the context of an unknown future.

The lack of engagement with practical courses makes teaching of architecture somewhat difficult, with students generally unable to seek innovative solutions as a consequence. Thus, there is a need to engage students beyond mere book knowledge as part of their architectural education. A design-build workshop, hosted by Uganda Martyrs University (UMU), was to introduce students to some practical aspects of architecture, in this case through the use of research on poured earth construction. The three main objectives of the workshop were to: expose students to the nature of materials; engage with a learn-by-doing construction approach and; to educate in collaboration with fellow students. This paper reports on an initial venture into live projects in the context of architectural education in Uganda. It looks at the opportunities and challenges associated with this educational approach in the context of numerous north-south initiatives, but only a few schemes initiated from the global south.

Background and Building Traditions

Working with earth was regarded as an important part of understanding a material in use across the region for centuries. Earthen buildings have a long history across Africa, from the grand earthen structures of Timbuktu, through the wattle and daub huts of East Africa, and on to the homesteads of the Kwazulu-Natal in South Africa. However, reviewing curricula across East Africa, students have limited exposure to such historical precedents as part of their architectural education. This is a consequence of the historic origins of the architecture profession in much of sub-Saharan Africa, that disregard traditional precedents as not being architecture,[2] showcased by the following dialogue between Maxwell Fry and Jane Drew, early proponents of African tropical modernism:

> Maxwell Fry: 'A Nigerian aesthetic? On what would it be based that is as solid as the plywood techniques, the old timber traditions of Finland?'
>
> Jane Drew: 'If a Nigerian genius were to be born, upon what deeply-felt indigenous art might it not feed –and be better digested, perhaps, than Picasso's reactions?'[3]

Sub-Saharan Africa was effectively *terra nullius*: the architectural canon in this context framed through discrediting of traditional building and craft practices, "… depicting it [Craft] as a form of local knowledge subordinate to the universal knowledge or 'science' of the professional … ."[4] The value of traditional architecture and associated materials reduced, creating a cultural hierarchy that privileged western architecture through:

> […] a devaluing of the past, knowledge of the past, and experience, then consequently a devaluing of old people, of old ways, and of old things, and finally (as we know from critiques of capitalism) a devaluation of the human being into a temporary source of labour.[5]

Within architectural education, elements of indigenous architecture, taboo, substituted with a new set of references and values, that prioritised a narrow single narrative of architecture, centred around great works of western architecture, described by Kingsley as a great men, great monuments approach,[6] which ignored the role of society in creating architecture.[7] Further, as an elitist endeavour, primarily responsible for urban building, architecture and architectural education has increasingly been criticised as being out of touch with society and architectural education overly theoretical.

Constructing Walls

The value of earth as a construction material served as a starting point for the workshop. The goal was to engage students with the design and construction process and to introduce materials and construction techniques as integral to the production of architecture. The idea was to make use of a traditional material, but using it in a somewhat different way, as a means of enhancing student's appreciation of what is possible.

The workshop brought together 21 second and third-year architecture students from the University of Rwanda (UR) and the UMU, to construct a number of test walls. Prior to the build, a course at UMU has engaged students in background work to investigate various aspects of the material. Under the guidance of three instructors, with specialities in architecture, construction and structural engineering, the students undertook background research related to earth construction across the world, which included different design and construction techniques, seeking to understand the material in both historical and contemporary contexts. This included the aesthetic value of the material, with projects by Francis Kéré in Burkina Faso of particular interest to students. Students also explored the structural properties of the material. Tests included: wet and dry volume weight, grain size distribution, silt content and Atterberg limits (plasticity index). All students were required to look into the aesthetic properties of earth construction, to see what was possible. A temporary earth sculpture; '*A Small Area of Land (Kaka'ako Earth Room)* 'by architect Sean Connelly at the ii gallery in Honolulu, Hawaii, as well as an installation at the 2012 Venice Biennale; 'There is nothing new under the sun', stood out, demonstrating the potential of earth as a material for design. Through this approach, students were able to engage with some of the abstract ideas espoused in class and investigate their practical application.

Ideas into Reality

The construction of the test walls was the main component of this workshop and took place over a two-day period. After brief introductions, and presentations regarding the aims and objectives of the workshop, students undertook the following tasks for construction of the walls:

- fabrication and assembly of the formwork;
- batching of dry components (Laterite soil, Fine aggregate, and Cement). This was to streamline the mixing process, optimising the use of a 0.04cu.m. concrete mixer. Each wall comprised twelve batches; and
- placing material, consolidation of the mix using a poker vibrator and finishing of the top surface.

Fig. 1. Formwork

Ideas explored extended to thinking about reuse of materials and elements, with the foundation for the walls consisting of a pair of reinforced concrete test beams from a previous course. This eliminated the need for a deep foundation. The dimensions of the free standing walls, 450mm x 1,100mm x 1,000mm, were dictated by the formwork used, in this case, plywood shuttering with timber bracing elements, held together using 12mm threaded bars; constructability,

often ignored as part of the design studio, becoming an essential part of the exploration.

Fig. 3. The completed poured earth walls

Two walls were completed during the two days of the workshop, with an additional two completed later. The four walls stand as the physical outcome of the workshop, however, this was only one aspect of this process, with the exploration looking not only at the final product, but the process engagement as well.

Views

A key part of this workshop was to engage students in live or hands on projects, working as part of a team, or in groups. This is often missing in many architectural schools, perceived by students as not aiding the development of their personal interests, with the belief that architecture is generally a solo activity – the lone ranger architect, part of the myth of a good architect.

Fig. 2. Completing the first poured earth wall

The ability of students to appreciate the importance of teamwork emerged as a major success of the workshop. In this case, the opportunity for meaningful engagement between students of different institutions and across different years, proved to be a catalyst for collaboration. For students, this interaction also built awareness and an appreciation of alternative viewpoints, through shared experiences.

An inherent tendency was for students to stick rigidly to what they considered 'the norm', often struggling to interpret precedents as being more than mere images and requiring an appreciation of the discourse surrounding the projects studies. This in some way relates to a perception that creativity in architecture, derived from abstract notions of design, which students come with into architectural education.[8] The hands-on approach did promote student engagement, but it was evident that the lack of familiarity with possible 'alternatives' or how to seek out alternative approaches, hindered design exploration. Further, students struggled to go beyond the immediate task, of designing a wall element, and did not consider its potential as a building component, or as an installation within the landscape.

Fig. 4. The team

A significant realisation on the part of the students was a discontent between perceptions of what was possible in relation to a design project and what is buildable, given the limitations of the construction process. This was indeed a revelation for students causing many to rethink how they approached their design work: an important outcome of this hands-on approach. The overall tendency to ignore detail emerged as an issue in the process, as it impacted on the constructability of the walls. In this regard, the poured earth project proved an appropriate driver to explore this issue and a somewhat cost effective means of relating this back to concrete construction as well. This also required students to engage with materials and technologies of construction to derive appropriate solutions for the design challenges at hand.

A key challenge, however, related to implementation of health and safety measures, with many students perceiving this exercise more as a means of participation in the build, than as an all-round hands-on learning activity. Pre-university education also influences this perception, casting learning as a classroom based activity.

Conclusion and Future Endeavours

The use of the Workshop Model in architectural education may offer a host of opportunities for schools in the global south that are grappling with making their programmes interactive, and giving students a hands-on approach that many seek in architectural education. Students also get to appreciate the importance of team and group work, which is inconsequential to the practice of architecture in East Africa. Further, student interaction ensures a better appreciation of the demands of 'real-world' design and construction.

Such projects could act as the means to dispel the fallacy that surrounds architecture, largely perceived as an elitist endeavour separated from the real world. Thus a revised or 'nonstandard' approach to architectural education (at least in the context of East Africa) is necessary to engage students beyond mere book knowledge, through which knowledge is learnt, but rarely applied.

This 'Workshop Model' of teaching, with a hands-on approach serves to expand learning opportunities for students and as a step towards engaging students in a 'practical' approach to architectural education. For East Africa, this does present an opportunity for the profession to engage directly with the needs of the wider population, through an experiential learning model, instead of the traditional transmission or artistic model of architectural education. The notion of handcrafted buildings, presenting an alternative path for architecture, as presented by Tovivich.

References

[1] Beaverford, Kelley, and Stewart Morgan. "More Mortar, Muzungu!" *Canadian Architect*, no. April (2009).
[2] Sanya, Tom, 2007. Living in Earth. Oslo: The Oslo School of Architecture and Design. (Incomplete)
[3] Ihejirika, Edward. "Intensive Continuity." In *White Papers, Black Marks: Architecture, Race, Culture*, edited by Lesley Naa Norle Lokko, p.182-93. Minneapolis: University of Minnesota Press, 2000.
[4] Upton, Dell. "Architectural History or Landscape History." *Journal of Architectural Education* 44, no. 4 (1991): p.195.
[5] McKay, Bill. "Maori Architecture: Transforming Western Notions of Architecture." *Fabrications* 14, no. 1 & 2 (2004): p.8.
[6] Kingsley, Karen. "Gender Issues in Teaching Architectural History." *Journal of Architectural Education* 41, no. 2 (1988): p21.
[7] Lokko, Lesley Naa Norle. "Introduction." In *White Papers, Black Marks: Architecture, Race, Culture*, edited by Lesley Naa Norle Lokko, 14-35. Minneapolis: University of Minnesota Press, 2000.
[8] Olweny, Mark R.O. "Socialisation in Architecture Education." In *Association of Architectural Educators (AAE) Conference*, edited by Victoria Farrow and Marisela Mendoza. Nottingham, UK: Nottingham Trent University, 2013.

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Ends and Means: Inquiries into the Role of the Solar Decathlon in Architectural Education

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If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.[1]

- Antoine de Saint-Exupery

Introduction

Architectural education often perpetuates a feud between the mind and the hand. To one side we find thinkers, enamored with the idea of design as an intellectual act, whereby the obstinate realities of materials and construction are displaced by the heft of words and concepts. In opposition stand the builders, who cherish the bruised knuckles, scrapes and scratches that bear witness to a kind of undeniable, but unteachable knowledge. Between these two poles lay a vast landscape of design studios, forming the center of architectural pedagogy where the struggle to find balance between theoretical motivations and constructional realities is a recurring and persistent debate. To reflect on this issue, we propose to take advantage a unique moment between two Solar Decathlon houses, one nearly complete in its final rebuild, the second just underway.

To preface this discussion, it is important to note that our insights are largely born out of the experiences gained in the 2010 Solar Decathlon Europe competition, where we served as faculty advisors on the University of Florida's Team Re:Focus house (fig. 1).[2] Though we could leverage this position to shed light on many facets of the decathlon project, we are restricting our observations to the pedagogical concerns of this immense and trying experience. Anything more would unleash a torrent of recollections worthy of a Verdian opera. Instead, let it suffice that we, and many of our fellow decathlon alumni, knowingly share the honest and lovingly irreverent title of *recovering decathlete*.[3]

Fig. 1. Project Re:Focus (photographs by David To)

Design/Build?

That being said, it is also important to position our decathlon experience within the larger discourse within architecture pedagogy. The solar decathlon is commonly situated as being one of numerous design/build programs that aspire to bridge between the imagination of the studio and the material realities of construction. Gathered together in this manner, the decathlon experience seems a reasonable partner, sharing many of the same educational aspirations of other design/build programs. In his essay *Sore Shoulders, Bruised Ethics*, Scott Wing notes of design-build projects that; "*when situated in conditions of social consequence, [they] provide an educational platform on which to present architecture as a complex structure of ethical positions and actions. As students confront material consequences and cope with physical exhaustion, struggle to reconcile the divergent missions of clients and classmates, and ponder the limits of time and money, they experience the act of construction as a process of 'doing the right thing.' Rather than a professor 'teaching' a predetermined code of conduct, ethical conduct emerges from the student's confrontation with difficult choices.*"[4] Wing's comments are prefaced with a similar reading of the pedagogical divide suggested in the opening paragraph of this paper, wherein service-centered design-build projects are set in opposition to traditional, professor-led studios. While the majority of design/build programs tend to direct their service efforts towards the immediate needs of a local client and context, the decathlon reaches for a much larger impact on the building industry as a whole. Since its inception in 2002 by the U.S. Department of Energy, nearly 200 teams have competed in the solar decathlon, building a

community of over 25,000 decathletes who walked away with a deep understanding of the "requirements of designing and building energy-efficient, solar-powered houses."[5] This reach alone outpaces even the most long-standing of design/build programs, more so when intersected with the public spectacle that surrounds the competition. With visitors to each decathlon competition counted in the tens of thousands and compounded by the expansion of the competition into mass media, no other design/build experience can argue for greater visibility in the public eye.

In this regard, the decathlon must also be understood as being a rather peculiar bedfellow to other design/build programs, particularly within the boundaries of pedagogical expectations, outcomes and reflections. This is perhaps the advantage of smaller design/build projects as the scale and scope of work can be tailored more easily to the constraints of curriculum and resources, in turn allowing for a better assessment of the pedagogical benefits. That being said, effective pedagogical outcomes can be difficult to predict on small projects, let alone a project with the complexities of a solar decathlon house.

Between Ends and Mean

Anthony Schuman suggests that the essence of service-learning lies in two principles; reflection and reciprocity. Schuman positions reciprocity as the "crux of engagement," and as such weighs the collective benefits of learning and production. In comparison, Schuman holds the idea of reflection as "the hallmark of pedagogy," focusing it with the rhetorical question, "What intellectual underpinnings inform the process and how is the field experience used to challenge and refine thinking?"[6] This notion of reflection is embraced in the work of Donald Schön as well, particularly his ideas of reflection-in-action in the design process, wherein Schön employs the exchange between an architecture student and faculty as a muse to demonstrate this principle.[7] Schön focuses on the immediacy of exchange between faculty and student, while Schuman, in contrast, recognizes that reflection at the terminus of a project can allow for reconsideration and revision of the system as a whole. In this regard, both orders of reflection are essential and operate best when bound together, but are more easily understood as uncoupled and will be explored as such, beginning with the internal reflections.

In the Trenches

Schön characterized reflection-in-action as an immediate, internal kind of process, aligning it with a range of colloquialisms with similar meanings; "Phrases like "thinking on your feet," "keeping you wits about you," and "learning by doing" suggest not only that we can think about doing but also that we can think about doing something while doing it."[8] These kinds of statements strongly align with our methodology of studio teaching, mirroring Schön's tenet of "learning by doing", which we rephrase as "thinking through making." Our students embrace this principle fully, sharing in our insistence on an iterative process, whereby the products of that process become both the evidence of a distilled thought and a springboard that anticipates and/or instigates the next iteration. Thus, Schön's usage of the architecture studio as a demonstrative scenario is, for us, self-evident. As faculty, we have had the same kind of exchange with students that Schön explores, where feedback is intended, in part, to expose the "problem of this problem," so that the student can refocus their efforts to untapped opportunities or alternates approaches to the issues at hand. [9]

It is critical to note that this feedback is not merely aesthetic judgment, but rather is rooted in refining the systems in play, including among other issues the alignment between conceptual intent of the student within their work and the constraints and requirements of the project itself. In this regard, any design project offers hundreds, if not thousands, of opportunities for reflection-in-action to occur, whether in conversation with a studio critic or classmate, or in an unspoken dialogue directly between the student and their work. In this regard, the decathlon project is much like every other project, enrobed by a tapestry of common design challenges, such as the relationship between building and site, or the influence and interpretation of program as both a generator and constraint. Other challenges, however, are unique to the decathlon as an event and seem oddly intent on forcing collisions, confusions, and incongruencies between the principles of good design as defined in a typical studio and the needs and expectations of an elite decathlon entry.

In or Out

A number of the decisions in our 2010 Solar Decathlon Europe house showcase this kind of incongruency and we offer forward two that resulted in confusing the refection-in-action process. First, each decathlon competition offers an extensive set of rules and regulations to which each team is accountable. These rules contain a great deal of information and offer guidelines, requirements, limitations and instructions regarding the design and construction of the house.[10] In the 2010 SDE competition, one of the rules defined the maximum square-footage of the house, which was to be capped at 796 sf (74 m^2). This rule was accompanied with additional directions regarding the method of measurement and what components would be included in that measurement, such as any projection that might shade the house, regardless of whether that extension was occupied or conditioned. Other parts of the rules commented on the building envelope and the restrictions on shading systems, which left the student team uncertain of how to interpret the overall building footprint calculations. Preliminary design work was well underway, including an operable wooden screen system

that served as the outermost layer of the building skin. The team had interpreted the rules in a manner that would allow these moveable screens, recognizing that they would create horizontal projections on the north side of the house, but would not shade any portion of the building envelope within the specified hours of the competition. With this interpretation in mind, the team moved forward with the bi-folding screen, folding above each exterior doorway, as well as at the north and south openings of the breezeway that separated the living and bedroom modules. The majority of the folding screens were oriented to the north side of the house, extending to the north deck and stitching together the interior and exterior spaces.. The screen over the southern breezeway opening, however, would shade the house if it folded outward, which meant that this screen would need to operate in an counterintuitive and inconsistent manner, opening inward to the breezeway.

Fig. 2. Construction well underway on the competition site (photographs by Clay Anderson)

The constraints of schedule offered no idle time and the team knew that the screen system was a risk, but they felt this system was a critical part of the overall tectonic expression of the house. More so, the system had been developed to comply with the competition rules per the team's interpretation, so the project moved forward to pre-construction, shipping, and reconstruction in Spain before any ruling from the SDE organizers was provided (fig 2). Once the house was on the competition grounds, the organizers determined the screens to be in violation of the rules. They permitted the team to compete with the screens in place and allowed the screens to open for juried contests, but required that the screens be down for all of the measured contests. The team accepted the ruling without debate, as the race to complete construction was paramount.

The first contest was Architecture, a juried contest. In presenting the significance of the breezeway, the students explained its origins in the vernacular traditions of North Florida, how it extended the entry from the south through to the north deck, how it could contribute to cross-ventilation and natural lighting, and how the screen system folded to allow for this space to be enclosed (fig 3). One jury member made note of the folding screens, with particular concern to the one, south-facing inward-folding screen, asking the student team if they understood why that one screen was an anomaly to the rest of the system. The team acknowledged that the screen was inconsistent with the screen system proper and the principles of solar shading in passive design, offering the defense that the rules had effectively forced the screen to fold inward in order to avoid violating the maximum allowable footprint.

Fig. 3. Student Leaders presenting to the Architecture Jury on the first morning of the competition (photograph by Clay Anderson)

This moment with the jury highlights the confusion the team faced when trying to reconcile the competing demands of the design fundamentals and competition constraints. On the one hand, the students were aware that the inward-folding screen was inconsistent with larger screen system and the design principles that it was attempting to embrace. This awareness affirms that their prior studio lessons had been understood and could be drawn upon and redirected to new problems. More so, the team was nimble and candid with their answer to the jury, confirming that they had fully digested the complexities of the skin and felt compelled to champion the architectural vision at the risk of exposing a conflict within the rules of the competition. This seemed to resonate with the jury, and while they held Team Re:Focus accountable to the design of the screen, they also offered a scolding critique of the rules during the closing comments of the architecture awards, noting that fundamental sustainable design thinking should not be displaced by narrow and arbitrary constraints.

At the time, this modest vindication helped assuage the disappointments the team felt, though in retrospect, the jury's insight revealed that the challenge was not with the design intent of the screen, but rather the ability to integrate that strategy within the narrow limits defined in the competition. This dilemma left the students struggling to reconcile two competing needs and with few experiences from which to draw for insight.

The Remarkable Weight of Adaptability

The second example we wish to examine addresses the broader issues of assembly. The students were fully

aware that this project would be built and thus become real beyond any of their other studio projects. They also know that the house was eccentric in so many ways that conventional design thinking would be inadequate. Everyone recognized that the house would go through multiple and repeated stages of construction, moving, deconstruction, and packing, and that the logistics and resources involved in this process would be immense. The students pursued this issue head-on, looking into a multitude of ideas for modular, demountable systems and shipping methods, only to discover that there was no ideal method, but a wide range of options, each with its own consequences and constraints.

The challenge here became one of resolving a method of modular assembly that could be adapted to meet a range of shipping methods. The students were quick to establish the limits of shipping dimensions and weights, intersect this data with the design constraints from the competition brief, and arrive at a preliminary nominal building module that was nominally 8' wide by 16' long by 11' high. In terms of moving along roadways, this module could be shipped as a single piece without crossing into the complexities of an exceptional move. More so, this module, when repeated in six bays abutting along the 16' edge, would yield an overall building footprint near, but below, the maximum building footprint. The concern of the mating edges could be resolved, as could a range of assembly methods and material logics, all of which could be wedded to a rigid frame developed to minimize the structural obligations of the envelope.

As this strategy continued to develop and donations of steel for the frame were secured, the remaining concerns of building envelope were reconsidered. The team had decided that structural insulated panels (SIPs) would be used to construct the walls, floor and roof, but finding a supplier had become unexpectedly challenging. The initial manufacturer's bid was deemed too high for the project budget, which led to conversations with a second company who went out of business just prior to fabrication, which in turn led to selecting a third company who worked with great haste to meet a rapidly compressing construction schedule. Each of these shifts required the team to rethink the connections and overall fit of the SIP panels to the existing modular logic while juggling the impact these shifts might have on the logistical strategy for shipping the house.

At this point, the team had determined that the house would need to be flat-packed into five shipping containers for its trip from Florida to Madrid. Once there, the team would begin reassembling the house on a remote site prior to moving it to the competition site. The erection team had developed an alternate moving process that used the two larger modules of the house, each composed of three of the original 8'x16' modules. Each of these larger modules could be craned onto a special trailer, moved from the remote pre-build site outside of Madrid to the competition site and craned into placed. This new strategy required a higher level of logistical choreography, incorporating the restrictions of an exceptional move, a more robust lifting process and a reconsideration of schedule, as the move could only happen between 10pm and 5am. The benefit to the approach was rooted in the efficiency of the move. If everything went as planned, the two modules could be in place by the morning of the second day of the 10-day build period, leaving the remaining time open to completing, detailing and staging the house for the competition. Alas, fate would interfere in a near-catastrophic manner. One miscommunication in the weight of the modules left the spanner beams undersized, which failed on the first lift. Upsized beams were fabricated overnight and the second lift was successful, but a host of complications following the move created a 72-hour delay, in turn reeking havoc on the carefully planned construction schedule (fig 4).

Much of this might have been avoided with a more thorough review of the submittals to the logistics team, but the weight of the house was already excessive, largely the result of the need to remain nimble early on. Though the team's reflection-in-action process proved efficient at wrestling with the uncertainties of the building structure, module and envelope while they remained in flux, but was was interrupted once the steel was ordered. Distracted by other issues, the team simply failed to recognize that the new logistical strategy did not require as much structure, which meant that early decisions had led to structural redundancies, in turn leading to an excess of material and weight and no effective process by which this excess could be revised or reduced.

Fig. 4. Lifting and placing the living room module (photograph by Clay Anderson)

The Big Picture – and a Longing for the Sea

We often tell our students that they should avoid evaluating the lessons of a studio until they are several months away from it. This recommendation may seem counter to the reflection-in-action principles of Schön, as reflection-in-action finds its greatest purchase when a process is underway and a full range of issues and

relationships are actively in play. The more distant view, in comparison, allows for a broader type of reflection that can tease out, in Schuman's terms, the intellectual underpinning of thinking in the project.[11]

For our purposes, this distant view is critical in rethinking our pedagogical process, particularly as we begin designing our entry for the 2015 Solar Decathlon competition being held in Irvine, California. In just under two years, we will again be in the throes of constructing a house that is currently in the nascent stages of design. Looking back, we can see that the some of the struggles the team faced could be avoided with a rethinking of process, but we would be hard-pressed to say that all of them were the result of inadequacies in this process. More so, the pedagogical strategy that we employed, though imperfect, was rarely at fault for the conflicts that arose. Curricular collisions were bound to happen, and while we could argue for a more elastic curricular structure, we would not want the decathlon to become a primary driver in the development of curriculum. Rather, our primary critique and concern as we move forward is rooted in learning to communicate. The most confrontational moments seemed to be bound up in the team's collective inability to consistently address the issues at hand openly and fairly. It is on this point that we will redouble our efforts.

Looking back, we are confident that the underlying principles of our pedagogical approach are well situated. Giving the students the helm established buy-in to the project that might otherwise have remained tenuous. Similarly, the strains this created also gave the team the opportunity to experience the full collision of egos, attitudes and agendas that frequent collaborative work. We make no claim to orchestrating all of the lessons discovered during Project Re:Focus, nor would we argue that this is even possible. Designing and constructing a house hides within it numerous lessons that cannot be taught, and it is these lessons that often find the greatest purchase.

If the ultimate goal of the decathlon is to educate "students and the public about the money-saving opportunities and environmental benefits presented by clean-energy products and design solutions,"[12] then its radiant shadow is the unbridled enthusiasm that it fosters. Every decathlete walks away from the competition a better student and architectural steward. It is easy to imagine the atmosphere at the final awards ceremony. The crowd of decathletes is humming with an infectious sense of anticipation. Extremes of elation and disappointment accompany the announcement of each award, but just below the surface courses the palpable feeling that each person in the room has endeavored to be a part of something bigger than themselves, they are in it together, and has become a bigger person because of it. Our contribution to this process is rooted in this sentiment, and it is from here that we humbly move forward once again with the assurance that our efforts operate with the spirit of Saint-Exupery's words that opened this paper, as the longing for the sea is in the decathlon is undeniable.

Notes

[1] http://wordsmith.org/words/mainstay.html

[2] The composition of the UF Solar Decathlon Europe 2010 team was developed from four academic units of UF's College of Design, Construction and Planning (DCP), the College of Engineering, the College of Business Administration and the College of Journalism. The primary faculty advisor was Dr. Robert Ries, faculty in the Rinker School of Building Construction. Additional faculty advisors included, Mark McGlothlin and Bradley Walters (Architecture), Dr. Maruja Torres-Antonini (Interior Design), Dr. James Sullivan and Russell Walters (Building Construction), and Diana Pelfrey (Public Relations). The bulk of the student team was drawn from the DCP, with other units contributing in smaller numbers of students: architecture (11 students); building construction (15 students); Interior Design (3 students); Landscape Architecture (1 student); College of Engineering (3 students); the College of Business Administration (1 student), and the College of Journalism (3 students). It is important to note that a complete listing of student contributions would be nearly impossible, though the number would easily exceed 150 including the student team.

[3] As far as we are aware, John Quale coined the title "recovering decathlete." Quale was the faculty sponsor to the University of Virginia Solar Decathlon house, which competed in the inaugural Solar Decathlon Competition in 2002. Having talked with John on several occasions over the years, it is surprising to note he continues to refer to himself as a recovering decathlete when discussing his experiences.

[4] Wing, Scott. "Sore Shoulders, Bruised Ethics: The Unintended Lessons of Design-Build," in *From the Studio to the Streets,* ed. Mary C. Hardin, Richard Eribes, and Charles (Corky) Poster (Sterling, VA: Stylus Publishing, LLC., 2005), p. 91.

[5] Http://www.solardecathlon.gov/about.html.

[6] Schuman, Anthony. "Introduction: The Pedagogy of Engagement," in *From the Studio to the Streets,* ed. Mary C. Hardin, Richard Eribes, and Charles (Corky) Poster (Sterling, VA: Stylus Publishing, LLC., 2005), p. 1-3.

[7] Schön, Donald. *The Reflective Practitioner* (New York: Basic Books, 1983), 76-104.

[8] Schön, 54.

[9] Schön, 104.

[10] Solar Decathlon Europe 2010 Rules and Regulations, Draft 3.0. 2009-07-10, 31-37.

[11] Schuman, 3.

[12] http://wordsmith.org/words/mainstay.html

Affective Experience in Space. A Case Study for Systems Thinking in Architecture.

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Introduction

In 1975 Branzi, who is one of the founders of Archizoom, remarkably explained that "the fundamental problem of architecture and of culture is that of freedom."[1] That is quite problematic still nowadays for a design research community that cherishes multiple oversimplifications of its object of study and delegates many tasks to other disciplines especially in practice. Also education in architecture is in a stage of saturation. Redundancy or oversimplification of tools, information, and regulations lead to a big gap between the stage of knowledge formation and the reality of the discipline.

Affective experience in space triggers the known patterns of biological events and provides a solid ground for rethinking and remaking maps of experience. Possibly at the early stage of his formation, a prospective architect needs to experience by himself the fleeting combination of percepts, affects, and concepts of a still unbuilt space and eventually to use those tools for modifying the design.

The educational model Build Our Nation (BON) aims at promoting cross-cultural, problem solving through value-guided architecture. BON consists of an international research group focusing on the promotion of innovative educational processes linked to the Design Studio activities, while Taifa Letu Tujenge (TLT), which means 'build our nation' in Swahili, is the first application to a real-project in the framework of BON. The vision is to form highly equipped students by strongly challenging the core foundation of their education and instilling confidence in their own skills as future professionals.

In all the current talk concerning the need for know-how in dealing with difficult problems and radical change it has become urgent also in the field of architectural design to explore deeply the potentialities of design thinking. The territory opened by recent publications and papers by Brown (2009) and Dorst (2011) suggests that the cross-disciplinary engagements around this topic are transportable beyond the core of the design disciplines. (2)(3) This paper argues that the model used for BON and some results of its first application TLT have demonstrated an ability to challenge the boundaries of design thinking and they may be considered an experimental educational model of system thinking in architecture.

After a brief introduction of the theoretical assumptions of systems thinking relevant to the Design Studio setting, part of the case study TLT will be described. The ambition is to draw the attention in the learning process to the importance of affective experience in space and not only the conceptual in architecture. The authors patronize the opinion that the intersection of the conceptual and the affective on a collective audience is where architecture has a potential political effect.

Build our Freedom

Twenty years ago, schools had a clear focus: there was postmodernism and there was the reaction to postmodernism; there was poststructuralist theory; and there were strong historians. All camps – where to belong and with whom to be aligned – were unambiguous. These polarities created a positive scenario for pedagogy, because the influences were strong, making it easy for students to choose for or against.

We do not have the same clarity today. No stance has the critical mass to generate that kind of strong influence, or the strong influence to generate that critical mass. On the one hand, it is a liberating state, because new paths can be forged, not by choosing sides, but by developing opinions. But it is harder to see 'where to go' and to know 'what to do' especially in the often restrictive setting of the curricular activities in the Design Studio.

The theoretical platform of systems thinking provides a strong skeleton for experimenting with new paths. Gharajedaghi, who is one of the original contributors to the development of the third generation of systems thinking and the Institute for Interactive Management, states that the four foundations of systems thinking are: sociocultural systems, holistic thinking, operational thinking, and design thinking.

"The depth and beauty of interactive design and the magic of holistic thinking (iteration of structure, function and process) when combined with the power of systems dynamics, create a competent and exciting methodology that goes a long way in dealing with the emerging challenges of our time by responding to the operating principles of openness, purposefulness, multidimensionality, emergent property, and counterintuitive behavior of sociocultural systems." (4)

In detail: the open systems are guided by an internal code of conduct/culture; purposefulness has three aspects: rational choice, emotional choice and cultural; a multidimensional system behaves as a mature system, searching for stability through change; emergent property recalls that what characterizes a winning team is not only the quality of its players but also the interactions among them; and finally the counterintuitive behavior of sociocultural systems requires the nonlinearity of systems, by escaping the boredom of predictability.

Apparently culture is the bound variable constantly mentioned for its fundamental role in systems thinking. In our liquid modernity, where following the popular definition by Bauman, "the social forms and the relationships no longer have enough time to solidify", the possibility to get involved in every real-world project is a matter of competence. (5) And competence implies knowledge and both competence and knowledge are some of the most powerful tools of culture. In the meantime, the ability to learn and share knowledge enables sociocultural systems to continuously increase their capacity for higher level of organization.

Those assumptions represent the backbones for applying systems thinking to the Design Studio. The experimental educational model BON has been described in detail in a previous paper. (6) There are several participants comprising volunteer students of different disciplines, academic members and future users, who work together as an international iterative Design Studio and perform interchangeable roles of leadership in order to develop the specific real-project. The various activities comprising workshops, blogs, performances, exchanges and live events are mainly led by students in a highly motivated and ethical environment. Power is enhanced when it is shared, when the individual ego disappears in a collaborative team group and the students are more likely to implement an idea when they have had a hand in shaping it.

TLT, meaning 'build our nation' in Swahili constitutes the first live project set in the BON framework. Its beginning traces back to multiple discussions with the Congolese Sociologist Dr P.N. Kataraka about the social and economic marginalized position of the women within the society of the Democratic Republic of the Congo, in Africa.

The awareness of the power of gradual integration actions has led to developing a challenging cooperation process between students and the Congolese women. Their mutual goal is to develop a design for a women community centre in Bukavu. This self-built centre is commissioned by the local Action Solidaire pour la Femme Paysanne and it is meant to act as an incubator of entrepreneurial activities for local women from different backgrounds – urban, suburban and rural. Through small scale progressive interventions the centre would become a catalyst for social change through participatory actions involving around 1,000 women from the province.

Fig. 1. DRC: national overview

The whole system of TLT is made by smaller subsystems, a set of distinct, but interrelated stages along with embedded extracurricular activities led by volunteer students of four EU HEIs and professionals. Each stage to date has hosted a set of special-purpose actions in relation to the project. The challenge of creating a valuable centre - of cultural impact - with very limited resources has led to perceive the lack of coordination, expertise, finance, time and so on as the trigger for creative thinking.

Scale-down, local empathy, permanent negotiation of differences and pragmatism became slowly new targets moving from the initial 'large scale centre for the women' to the 'small scale process with the women of Bukavu'.

Our playground

In the experimental framework of TLT the parts operate independently with the ability to be relatively self-controlling and to act as responsible member of a coherent system. The relationships and the interfaces among parts must consequently be explicitly defined.

Being aware of the critical role of the context in defining the degree of influence the system plays in its containing environment, the first message to the students is: "This is a playground. This is our playground. We all together are the players. Once agreed the rules, the game must go on!" TLT began its activities in 2011 by introducing immediately the ground and explaining that every space (i.e. room for game) requires establishing some limits (i.e. prohibitions and opportunities for the player). TLT became a playground and the players were transformed into inhabitants of a new territory.

It should be acknowledged that some experiments of the Situationist International during the 1960s have inspired this approach. (7) (8) Because there is a specific common ground there is also an unpredictable transformation under the pressure of the forces that cross it. Knowing the factors that influence the process provides participants with the knowledge necessary to more effectively work within, manage and facilitate that process.

In playing, the spatial and virtual forms of the playground must be constantly redefined, by creating interfaces and/or giving form to a set of rules. That implies a demanding process of negotiation and common decision-making between players. That happened several times during the progression of the stages in TLT and radically influenced some of the

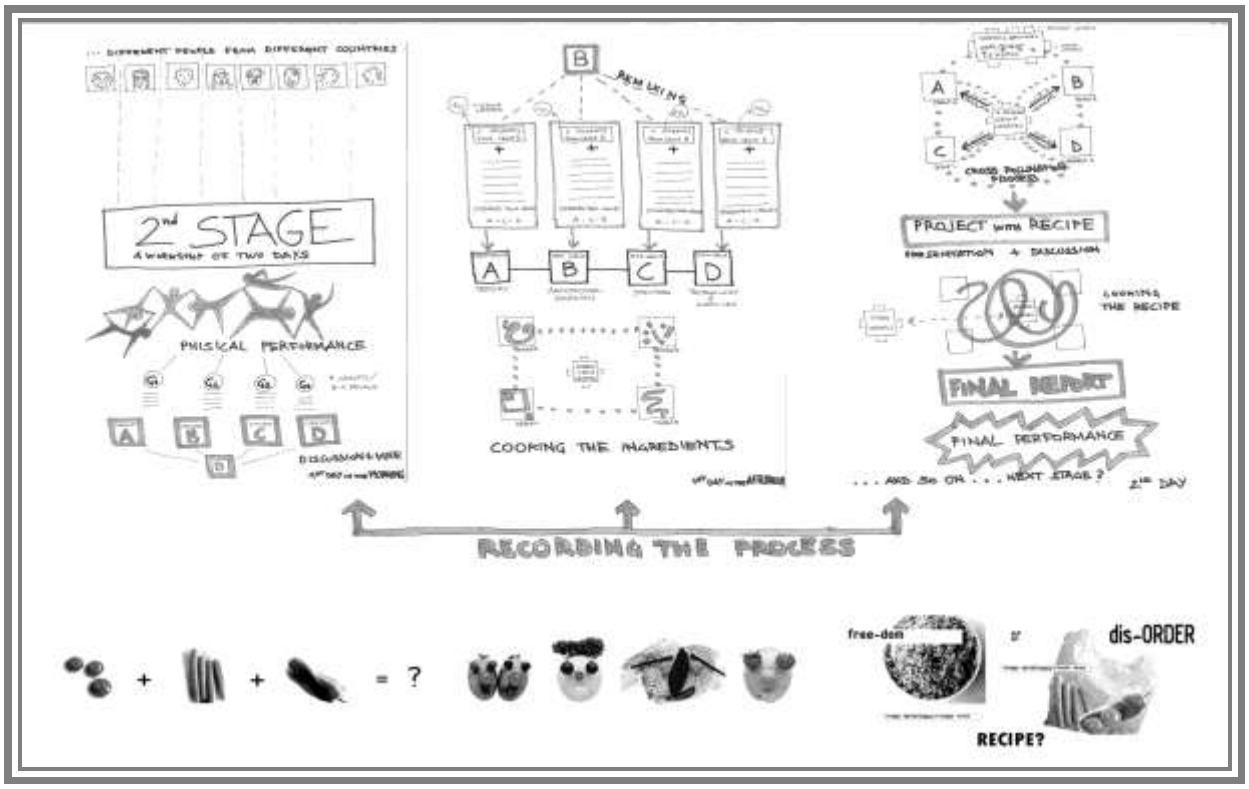

Fig. 2. TLT stage 2: the process

project's outcomes. It is also important to note that a competitive but playful context helps students to gain knowledge out of additional pressures.

The space in TLT, where the game of reality was taking place (i.e. real project`s issues), required the students to improve their critical thinking, competence, flexibility, counterintuitive behavior, and many other operating qualities related to systems thinking. Consequently several random - but of vital importance - discussions included the pattern of awareness of how arbitrary the rules and the unwritten but tacitly obeyed conventions are. It clearly shows the limits society has drawn for us in terms of designing and building. This educational model allows the players to have the power to question these rules and, if necessary, to propose new ones.

We mentioned that TLT became a playground and the players were transformed into inhabitants of a new territory. The nature of this new territory implied the question of geography. Not just to presume that there is a sort of image of endless globalization in which we are all going to be working around the world. There is actually a form of knowledge for architects to now bring back into the world. Ironically, geography is becoming one of the deep disciplinary domains, an additional architectural form of expertise, which will be just another means to bring architects forward to engage the complexities of our time.

TLT demonstrated that the formation of human identity can only be conceived as a social process and is triggered by the friction with the 'other'. Not having a direct conflict with diversity though, is almost impossible because the formation of any kind of identity awareness is created through the process of comparison. It means that each and every one of us identifies himself through the honest recognition of what is different. (9) (10) (11)

During the entire process and some specific playgrounds of TLT the students became able to identify the dipole of

the same and the different. It happened in a social field where everyone was involved in a constant game of comparison and distinction in the quest of self-definition. Ethical criteria imply social equity and vice versa.

Our body

Affection, imagination, sociality are some of the basic mechanisms among human beings and their environment. evolution and intellectual development can be regarded as an extension of the biological process of adaptation of human beings through the two processes identified by Piaget of assimilation and accommodation. On one hand assimilation implies a consistent response to a new event following a known pattern; on the other hand the process of accommodation implies the modification of those known patterns in order to deal with a new object or event.

Especially in children the two processes of assimilation and accommodation are deeply grounded in the gradual discovery of the body's movements in surrounding space and the iteration of the processes is enhanced every time they play. McCormack in a recent publication reflects on affective spaces generated when bodies move, and points out the opportunities such spaces provide for rethinking and remaking maps of experience. (12) The affective experience in space triggers the known patterns of biological events.

For the purposes of this paper it is important to mention that in adults the affective experience is not only the result of innate mechanism, but also a "complex matrix of nested and interacting ideo-affective formations." (13) It seems all too obvious that bodies move through and within spaces and it appears similarly obvious that certain spaces are designed explicitly to facilitate the movement of the bodies for a range of aesthetic, cultural, or political purposes. But for a prospective architect to be able at some point – possibly at an early stage of formation - to experience by himself, to observe and to identify the fleeting combination of percepts, affects, and concepts of a still unbuilt space, and eventually to use those tools for modifying the design, is another thing.

During the stage 4 of TLT the students of the four participating Schools had the opportunity to lead the two weeks intensive workshop in the vibrant context of 13th International Architecture Exhibition at the Venice Biennale. The predicted goals of this stage were to draft the first attempt for 'Manual for Congolese women as self-builders' using non-verbal communication techniques and the construction of the first modular bamboo real scale prototype of the centre. On a parallel track (observation and recording) a group of students worked on the web-documentary under the remote help of a professional film-maker.

Some very interesting dynamics were put in place; some of them already occurred in stage 2 but with a lower intensity. The main challenge was: how to compose the differences? Differences in students' backgrounds (architecture, built environment and architecture-engineering), vision (students, women, users but also individual/collective), culture (Western, African) and so on. Is the simple summation of the 'single ingredients' making a new identity? Or are there tentative design solutions to be promoted because they pursue a policy of freedom? (14) Here we see the relevance of the sentence quoted in the introduction, that the fundamental problem of architecture and of culture is that of freedom, where freedom can be defined as freedom of acknowledging different opinions and the freedom to choose.

Fig.3. TLT stage 4: body thinking workshop

The first answer of the students to this radical note was to separately occupy the four corners of the huge room of Le Tese in the Arsenale by literally representing in space the conflict over the territory and communicating the general competitive feeling. It was only after one week through common affective experiences in space in relation to the project that the shared space of Le Tese became an effective playground. It started to be populated and became the common ground on which the possibility of conflict and the need for its resolution found a positive fertilized soil.

During the second week of activities the students approached the tasks of the manual and the building of the real scale prototype in a relational way. They realised that in designing both the skills of having "a thinking hand" advocated by Pallasmaa (2009), and that of being a good craftsman advocated by Sennet (2008), should be implemented also by a degree of experience in affective space. (15) (16) That is, this kind of experience involves non-reducible relations between bodies, and between bodies and other kinds of things, including artifacts, ideas and concepts where neither these things nor bodies are ever stable themselves.

Fig. 4. TLT stage 4: building the bamboo prototype

Fig. 5. Some kids in the act of 'cleaning their home' (the interior of the prototype)

Conclusion

Architecture often operates at the level of immediate seduction. Mesmerised by this objective, it seems to forget that it has the inner capacity to provoke our imaginations beyond the objectives of the consumer society. The obsession with professionalisation, which dominates architectural practice today, degenerates in focusing only on demand, by operating symmetriccally with economic principles. The pervasive and fictitious power of the economy of finance prevents any change of behavior needed at individual and collective scales. One of the consequences of this wish to respond to expectations is the abandonment of everything strange, everything that does not fit into the established order.

This paper discusses how pedagogy and practice might intersect without translating to just professionalising the academy. The architectural discourse should be tied into a broader discourse: on the one hand, in architectural practice the very common criteria are barely financial driven -to finish the project on time and on budget; on the other, the curriculum driven education set in the Bologna Process is too restrictive. It is already showing its main limit of being designed to ensure comparability of standards. That is, students who submit to the standards of others for the measure of their own personal growth soon apply the same standard to themselves.

Between practice and institutionalised education the authors think that there is an area where pedagogy can be influential. This is a still unexplored territory of extracurricular activities linked to the Design Studio, but based on systems thinking model applied to architecture. While still dealing with the discipline and with forging a project, the freedom of developing opinions equip students with some knowledge of and respect for architecture. The currently BON and TLT answer to Branzi's statement is that freedom in architecture implies gradual and solid knowledge.

In detail, the case study of TLT has been analysed in order to point out the importance of letting students work in autonomy on ethical playgrounds related to the project. In playing, the spatial and virtual forms of the playground are constantly redefined, by creating interfaces and/or giving form to a set of rules. That implies a constant demanding process of negotiation and common decision-making between players.

In the second subchapter body thinking has been introduced as a powerful tool in the dynamics of playgrounds. The body involvement and affective experience in space should be cultivated as part of the process of thinking in designing. It has the potential to trigger known patterns of biological events and also the complex matrix of nested and interacting ideo-affective formations of students. By engaging in this activity these experiences generate vague but tangible shifts, twists, and turns in the multilayered sensibility from which thinking takes place.

How do those educational live techniques have an impact? The global economy is a reality. So how do we find people who are intelligent and who are willing to take a risk on intelligence in architecture? The paper suggests that the intersection of the affective and the conceptual on a collective audience is where architecture has a potential political effect.

Here the authors refer to the definition of politics in Aristotele: "(…) decision making for the common good, for the way individuals and different groups of people can live together. Politics in this sense comes from the existence of the *polis* (…), the space that exists in between individual or groups of individuals when they coexist." According to Aureli the term politics holds the possibility of conflict in the space of the city (*polis*) and the need for its resolution. (17)

Of course this argument needs to be verified with further theoretical material and practice research investigations, but the following student's comment published in the 'End of Year Student Book' of one of the participating Schools of TLT proves that the direction is potentially interesting: "We can do nothing to change this, so let's do something! The fundamental result and achieved goal of this enterprise was the equipping of future architects in the tools of generative design in a spirit of optimistic realism. If even a fraction of the

students in this workshop develop these themes in practice, many more people like the women of the DRC will be helped. One of the most valuable times in my education!"

References

[1] Branzi, A. 1975: Radical Notes. Casabella 399(3), 10-14.
[2] Brown, T. 2009. Change by design: how design thinking transforms organizations and inspires innovation. New York: Harper Collins.
[3] Dorst, K. 2011: The core of 'design thinking' and its application. Design Studies, 32(6), 521-553.
[4] Ghrajedaghi, J. 2011. Systems Thinking. Managing Chaos and Complexity. A Platform for Designing Business Architecture. Burlington: Morgan Kaufmann, Elsevier.
[5] Bauman, Z. 2007. Liquid times. Living in an age of uncertainty. Cambridge: Polity Press.
[6] Bassanese, S., Espanyol, A., & Rodeghiero, B. 2012: Build Our Nation international project: an innovative educational model for systems thinking in design. INTED2012 Proceedings, 4849-4858.
[7] Andreotti, L., Costa, X. 1996. Theory of the dérive and other situationist writings on the city. Barcelona: Actar.
[8] Iacovoni, A. 2003. Game zone: playgrounds between virtual scenarios and reality. Basel: Birkhauser.
[9] Augé, M. 1995. Non-Places: Introduction to an Anthropology of Supermodernity. London: Verso.
[10] Jenkins, R. 2004. Social identity. London: Routledge.
[11] Ricoeur, P. 2005. The course of recognition. Cambridge, London: Harward University Press.
[12] McCormack, D.P. 2013. Refrains for moving bodies: experience and experiment in affective spaces. Durham, London: Duke University Press.
[13] Nathanson, D. L. 1997. "From Empathy to Community", The Annual of Psychoanalysis 25. Accessed July 10, 2014. http://www.iirp.edu/article_detail.php?article_id=NDg3.
[14] De Carlo, G. 2005. Le ragioni dell`architettura. Milano: operaDARC Electa.
[15] Pallasmaa, J. 2009. The thinking hand: existential and embodied wisdom in architecture. Chichester: Wiley.
[16] Sennet, R. 2008. The craftsman. London: Allen Lane.
[17] Aureli, P. 2011. The possibility of an absolute architecture. London: MIT Press.

What to Take and What To Leave? Balancing Between Experimentation and Responsibility in Live Projects

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Introduction

There is a growing interest in providing students with learning experiences, which link them to 'real life' settings, with opportunities to improve the life of 'real people'. In particular, experiential educational approaches such as 'live projects' and 'service learning' focus on the learning experiences acquired by students as well as services received by community[1,2]. However, this is not always an easy mission. In their account on service learning, Dewar and Isaac[3] pinpoint differences between learning through traditional university mode and learning through community service mode. Whereas professors determine the objectives of traditional modules and the whole teaching/learning process and outputs are controlled in classrooms; process and content of service learning projects are hardly controlled due to influences from external factors. Thus, it is quite difficult to clearly define the work at the beginning of the project and expect to stay stable until the end of the project[4,5].Accordingly, balancing between the mutual benefits of both students and communities is a keystone for the success of live projects (and similar experiential educational approaches). In attempt to address this balance, this paper reflects on the case study of 'Design Project at City Scale' as an attempt to discuss the relationship between the experiences students take with them and the impacts they leave in the place.

The Context

The 'Design Projects at City Scale' module is part of the elective modules hosted by ASU (Ain Shams University, Egypt) in the Integrated Urbanism and Sustainable Design 'IUSD' master programme. Whereas many educational modules follow the KSA model in which students are given knowledge, then trained on available skills to eventually their attitude would change; the IUSD modules generally attempt to reverse this model around. The prime focus of IUSD modules is to work on inducing the students' attitude to act as active agents, then to develop the student's capacity to work on their skills to eventually generate future knowledge. In this context, the modules tend to adopt a transformative pedagogical approach[6].

For this specific module, the main objectives are to develop the students' individual and group knowledge, skill and attitude to rapidly understand complexity of urban systems and develop this understating into strategic and integrated development lines and projects. The model aims at developing the students' attitude to ask and question to actively act as positive change agents who are able to propose practical and progressive recommendations and measures. Due to its nature, the module is conducted as an intensive module, where the stuff and students stay in the study area for two weeks. The module adopts the pedagogical approach of live projects learning to achieve its objectives. In effect, live projects learning and similar experiential educational approaches have become widely acknowledged for developing the students' skills to deal with complex situations[7,8].

While preparing for this module, the academic staff were confronted with issues such as which is the best methodology to deliver the module; what are factors for the achieving both the objectives of the students while attaining the expectations of communities and other stakeholders; what is the impact of our project on the community and; what is academic responsibility towards the community during the process of the project and afterwards. To address these issues, the staff devised a conceptual framework drawing on relevant literature as well as their previous experience. As delineated in

References

[1] Bradbury S,Papaefthimiou, E. Live projects don't work. So why bother?. Proceedings of AAE CONFERENCE 2013, [online] Available at: http://architecturaleducators.files.wordpress.com/ 2013/12/bradbury-and-papaefthimiou-2013-live-projects-dont-work-so-why-bother.pdf [accessed 25 April 2014]

[2] Furco A. Service-learning: A balanced approach to experiential education. In: Campus Compact (Ed.). *Introduction to service-learning toolkit: Readings and resources for faculty*, 2nd ed. Providence, RI: Campus Compact; 2003. P. 11-14.

[3] Dewar ME, Isaac CB. Learning form Difference: The potentially transforming experience of community-university collaboration. Journal of Planning Education and Research. 1998; 17: 334-347.

[4] *Ibid.,*p.337-338.

[5] Hou J. Community Processes: The catalytic agency of service learning studio. In: Salama A. and Wilkinson N, editors. Design Studio Pedagogy: Horizons for the Future. Gateshead: The Urban International Press, 2007; p. 285-294.
[6] Wink, J. Critical Pedagogy: Notes form the REAL WORLD. 3rd ed. Boston, MA: Allyn & Bacon; 2004.
[7] Forsyth A, Lu H, McGirr P. Inside the service learning studio in urban design. Landscape Journal. 1999; 18 (2): 166-179.
[8] Sara R. Learning from Life – Exploring the Potential of Live Projects in Higher Education. Journal for Education in the Built Environment. 2011; 6 (2): 8-25 (18).

, the framework endeavours to investigate the relationships between the initial learning-oriented and service-oriented objectives; the methodology of running the project and; the final outcome of the project and its impacts on both the students. The following sections discuss the application of this framework in the 'Design Projects at City Scale' module.

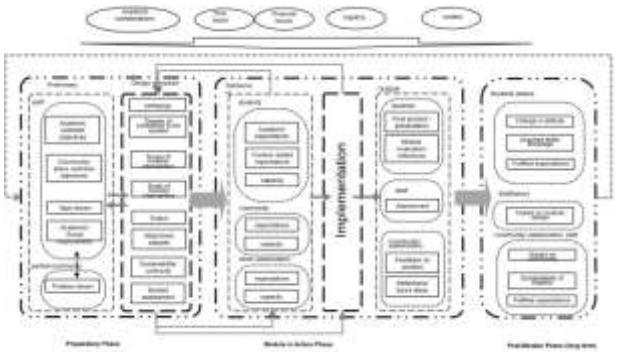

Fig. 1. Conceptual Framework of the Design Project Module

Pre-module Phase

Driven by the distinctive nature of the module and its pedagogical approach, the staff had to identify a study area as well as to design the module accordingly. The idea was to find a location with sufficient urban complexities yet not too complex that it could not be addressed during the short period of the module. Therefore, time of the module was an important factor to determine the study area. In addition, it was important to find a location where there is a local demand for conducting rapid urban assessment as well as proposing priority interventions.

Preliminary stage

After an extensive survey, Djerba Island was chosen as a case study for 'Design Projects at City scale' module for 2013. The Mediterranean Island is located in the Gulf of Gabes, in the south of Tunisia. Due to its magnificent nature, the island developed as one of the international mass tourist destinations since the 1960s. Tourism development is concentrated on the eastern coast of the island. Over the years, there has no strict land use planning for island[1]. On the other hand, the island has been the sanctuary for different ethnic and religious groups due to its remote location. For the centuries, both Muslim and Jewish communities have lived in harmony on the island. This diversity gives the island its rich cultural heritage. In addition, the island hosts distinctive cultural sites from different epochs.

The staff, then, travelled to the island on a fact-finding mission. Accompanied by a local expert, the staff visited some local officials, and community leader as well as members of the 'Association pour la sauvegarde d'ile de Djerba' (Association for the safeguard of Djerba Island). This active association aims at conserving the unique heritage of the island. The association has been exerting efforts for international recognition of Djerba's cultural sites as well as for registering the island on the preliminary list of world cultural and natural heritage. It was apparent that the coastal areas have been suffering from rapid tourism development while inner heritage centres have been subjected to deterioration. The community and experts were concerned about their local identity and the negative impacts of tourism development and rapid urbanisation, especially under the absence of a master plan for the island.

Design of module stage

Based on this visit, the staff developed the design of the module. First, it was thought that it would good to work with the community to develop a strategic plan for the island. However, from a realistic point of view, such assignment would need more than the time of the module. Committed to balance between the learning-oriented and service-oriented objectives, the staff initially designed the module so as to give students enough time to conduct an urban profile for one of the historic centres on the island as well as to work with the community to develop priority interventions. The profile and interventions would then be handed to the community and relevant stakeholders to capitalise on for future development. In a way, the initial design of the module followed the "*consultant-driven' model of community-based planning in which experts 'lend their skills to community learners to assess their capacities and design strategies to increase their capacity to development. This model allows communities to acquire planning services efficiently and quickly*"[2(343)].

Module in Action Phase

As planned, the module was conducted on the island, where the staff, students and local experts interactively worked together for two weeks. This phase was divided into three stages: refinement; implementation and; output stages.

Refinement stage

This stage was crucial for building consensus among the staff and students. This stage started with a discussion on learning objectives, expectations of the students and

expected benefits for the community. To follow, the staff and students along with the local staff conducted a transect walk along the island. This walk included some meetings with local experts and community members. It became clear that there is a real demand for a strategic plan for the island, which reflects the community's identity and needs. Subsequently, the staff and the students with the support of the local staff discussed the impact of the different alternatives for the output of the project on both students and community. One alternative was to conduct a site analysis for one area then developing interventions. This alternative was considered of great benefit to the students, but might not address the immediate needs of the community. The other alternative was to conduct a rapid urban assessment then produce an urban profiling report. This alternative was perceived more as a step in bigger project, and the staff and students were not quite sure to the impact of such report on the community. A third alternative was to work on developing a strategic plan for the island. However, as discussed earlier working on such plan would be difficult due to time constraints of the module. Eventually, a mid-point was reached. Confronted with the limited time span, expectations of the students and our responsibility towards the community; staff and students in this module decided to conduct an integrated rapid assessment for the island in a format a visual catalogue. This catalogue would be presented as a tool to provoke the community to think and negotiate the future of the development on the island. The module output was, obviously, shifting from direct service provision to a more capacity-building approach to development[3].

Implementation stage

After refining the module, the implementation stage began with a one day of extensive desktop research on the island from various aspects. Resources included material bought from Tunis and; material provided by the local staff, local experts and the library of the Island association. This was followed by a one-day excursion to observe and document the significant natural, socio-cultural and urban features on the island (Fig. 2). Using the photographs and illustrations taken on site, the staff worked with the students to devise tools for reading the site in a swift yet strategic manner as well as techniques for compiling, analysing the data in innovative formats which would intrigue the audience. After a round of discussions, the team came up with the concept of dichotomies to portray the island in contrast. At the beginning of the second week, the students held an intermediate presentation to some local experts and officials as well as the staff to discuss the progress of the catalogue. This included discussions on the issues covered in the catalogue as well as the target group. It was agreed the catalogue would focus on three of the most significant phenomena on the island. These would give an extensive overview on the island and act as provoking items for negotiation. This decision was based on the fact that - within the time framework of the module - students were eager to produce a meaningful product, which would trigger the community to question the future of the island. In addition, upon discussing the target group and outreach of the catalogue, the team agreed that a set of postcards would be produced. The idea was to produce a printed material that could be widely circulated among the community and tourists as well, to contribute to raising awareness on the future of the island. Based on the feedback provided, the students proceeded to finalise the catalogue and the postcards.

Fig. 2. A local fisherwomen (to the right) explaining local fishing techniques to the students
Souce: IUSD team, 2013

Output stage

At the end of the two weeks, the students produced and printed a set of postcards and a visual catalogue under the title 'Negotiating the future – Observations and visions of urban phenomena of Djerba'. The outputs of the project were displayed in a public exhibition at the cultural centre of the island. The students presented visual illustrations and images, which reflect the dichotomies within the ongoing urban and cultural integrated dynamics of the community on the island (Fig. 3).

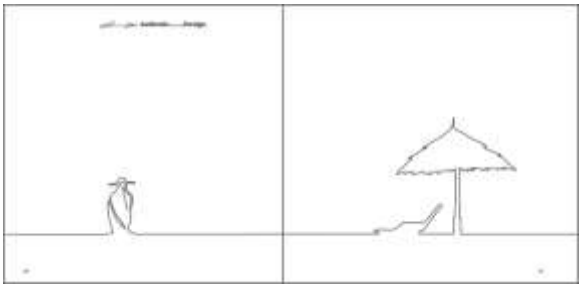

Fig. 3. An illustration by the students to show the concept of dichotomy
Source: IUSD Lab Cairo, 2013

Using a set of collages (Fig. 4), the students pushed reality to extreme in order *"to question the urban future of the island and raise awareness amongst decision makers regarding their responsibility towards the development of the island"*[4(47)]. During the event, the students with local architects, experts, investors and community members discussed the catalogue, and

negotiated arguments on the future of the island (Fig. 5).

Fig. 4. A photo collage by the students, where they push development to the extreme, when a glass skyscraper emerges in the pristine landscape of the island.
Source: IUSD Lab Cairo, 2013

The catalogue was well received by the local experts and community. According to the audience, this was the first time for a university team visiting the island to conduct a study with such scale and scope. Accordingly, the study was perceived as a step forward to provide the community and decision makers with tools for decision-making. This was seen in the light of recent changes of the Tunisian constitution, which would foster decentralisation. On the other hand, the audience pinpointed to the importance of conducting more in-depth studies as well as studying the island within its regional context.

Fig. 5. One of the students with a local architect discussing the catalogue, at the cultural centre on the exhibition day.
Source: IUSD team, 2013

After presenting the catalogue, the students expressed their pride of accomplishing such a publication within two weeks. Interestingly, the interaction with a wider range of the community provoked the students to critically reflect on their work. Among ideas to improve their output were: translating the catalogue to the local dialect or to French; reducing the abstract level of concepts featured in the book and adding some more descriptive text. Likewise, one of the students suggested producing posters with some graphics and phrases in local dialect to help build the capacity of the community when dealing with urban development issues. Furthermore, some students proposed ideas to improve the process. This included: getting more different groups of the community involved in order to read the island from the viewpoint of different generations and; engaging the school students in order to build their capacity to negotiate the future.

Post-module Phase

It has been almost six months since the module was conducted. Thus, it might be difficult to develop a full image on its long-term impact. Nevertheless, the following account draws on recent interactions with the students and the community.

Impacts on students

As discussed earlier, the core objective of this module was to induce a change in the student's attitude. On completion the module, the students reported developing a range of attitudes and skills. This included peer-learning, communication and negotiating skills. This concurs with the widely recognised benefits of live projects[5]. In addtion, students repeatedly reported that they developed their ability to conduct field surveys and rapid mapping of new sties. Furthermore, some students expressed that the module influenced their fieldwork and analyses that they conducted a semester later for their master thesis research. Overall, it could concluded that the module with its setting provided the students with a significant learning experience.

Impacts on community

With an understanding that the academic responsibility towards the community extends beyond the project phase, the IUSD team translated the catalogue to Arabic immediately after returning back to the University in Egypt. The idea of publishing the bi-lingual catalogue was to increase its impact, by widening its outreach among non-English speaking residents. Three months later, copies of the bi-lingual catalogue were handed-in to the officials, members of the association and some active community members. During an interview with one of the officials, he was impressed with the ability of the students to grasp the different facets of the island in such a short time. In addition, the translation of the catalogue to Arabic was highly appreciated from the community. It was received as a sign of serious commitment of the staff towards the community.

Furthermore, the module was an opportunity to establish a university - community relationship. Based

on the preliminary mapping of the island conducted during the module, the staff with the local experts and community members identified priority issues for further intervention. Subsequently, IUSD Lab embarked on a series of workshops to support the local community towards the goal of sustainable development on the island.

Balancing the Two Pans of Live Projects

In the attempt to balance the benefits of both students and communities, the presented case study exemplifies the interconnections between the objectives; the process of conducting the module and; the final outcome of the project. Due to the uncertainties and complexities facing live projects, the staff has to design the module in a flexible way. In the discussed case, the flexibility of the staff was based on their initial identification of the main objective of the module to be a change in the students' attitude. In addition, the refinement stage could be regarded as a crucial point, in which the objectives, process and output of the module were interactively refined. The transformative model made the students engaged, feeling the ownership of the module and critically questioning their role and responsibility towards the community. On the other hand, the community showed an understanding to the time constraint and the fact that this was a students' project. They received the project as a step forward for a better future of the island. At the end, it is essential to note that the balance reached in this project should be framed within the context of conducting the module. Further research needs to be conducted on projects with more stakeholders involved and longer time spans.

[1] Bourse l. Profile of Sustainability in some Mediterranean Tourist Destinations - Synthesis: Djerba, Tunisia. Sophia Anitpolis: Plan Bleu. 2011.
[2] Dewar ME, Isaac CB, *op.cit*., p.343.
[3] *ibid*.,p.242
[4] IUSD Lab Cairo. Negotiating the future – Observations and visions of urban phenomena of Djerba. IUSD Lab. 2013.
[5] Sara R, *op. cit.*

Architecture of Multiple Authorship

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Introduction

The Live Projects described here run under the research title of "Architecture of Multiple Authorship" and are initiated by students and tutors with local community groups and residents. They challenge the way architecture projects with a social agenda are conventionally conceived.

Within the current discussion of shortening the architectural education in the UK and the new EU Directive[1], our Live Projects studio proposes an educational model, which adds practical experience to the academic education whilst shortening the time at university and being more competitive within the EU. The studio suggests running projects over several academic years involving different student cohorts, each participating during different phases of a project, ultimately enabling an on-going *live* engagement with a place and community on a project. This model could become a UK wide one to replace the current year-out practical experience (recommended by the ARB[2]) while at the university, or a future "supervised professional traineeship"[3].

The Live Projects, which are described in more detail below do not have a singular commissioner but their client body is made up of a network of partnerships between local community members, local stakeholders, our students and the tutors. They do not necessarily result in construction of a building, but have smaller temporary or permanent physical structures with strong social outcomes. Due to limited funds being available, students are required to rely on local expertise and involvement in kind as well as using discarded objects and materials for construction.

Since 2000, our ongoing research on Live Projects within the academic context has shown that one academic year is not enough to develop a meaningful project with social, economic and physical implications, embedded in concrete reality of a place. The reasons why one academic year is insufficient is:

1- Delivering teaching skills to undergraduate students at the same time as delivering a Live Project would require more than one academic year.

2- Obtaining community trust and commitment requires long-term engagement.

3- Students with an undergraduate skill set take a very long time building habitable structures.

4- Lead times for funding applications, requires one year of research and development before submission of an application.

These types of projects aim at public projects that go beyond the hardware of a building, designing its sociability, its partnerships and its economic model, that sustains it. This method of running Live Projects is to find ways for architects to make successful social projects.

To address this limitation, the model described here proposes a structure for teaching Live Projects as part of a re-evaluated architectural education in the UK, from the current 3+2+2 years to a EU competitive 5+0 years[4]. This model reflects the changing needs of the profession and responds to the recent rise in tuition fees: The time and cost reduced "5+0" would mean that the practical year out experience is no longer required in order to qualify as an architect in the UK. While believing in a good balance between theory and practice, this model common to several EU countries has obvious disadvantages for a holistic architectural education. In contrast, the new protoprofessional framework proposed here, would also address the often tight job market, which can interfere with students' ability to find productive internships and make good use of the practical year-out.

Over the last few years the Live Project Studio continued projects beyond the academic year, which is the basis for the proposed model. This enabled our presence at one location over several years with a precise set of communities, partners and collaborators, enabling much more meaningful and successful social projects with different student cohorts. We propose that each cohort develops an aspect of the Live Project, ranging from fundraising and community outreach to developing educational, social or cultural programs to constructing small structures to host the programs. The students are taught about good practices in socially engaged Live Projects. Every year the participating student cohort learns a different skill driven by the city and its environment, however, always in relation to previous cohorts' activities whose work they take over to develop while it evolves.

Not only students benefit from the continuous involvement in a specific place. This way of working establishes links, knowledge and a presence required for making radical yet holistic changes within the city and, more precisely, its neighborhoods. Students are taught collaboration, non-hierarchical positioning of the architect as expert and potentials of multidisciplinary practice. They are equipped with insights into developing localised social, projects with minimal physical applications at low cost. This way of working makes students not only 'fit' for practice, but also gives them the confidence to develop new and individual initiatives within the city for its citizens.

Live Projects teaching as academic practice

The methodology of our teaching of socially engaged architecture in the design studio is opposed to the current trends of a purely paper architecture education, where students look at social and political conditions in cities from a distance and take a speculative angle without concrete engagement with real situations.

At the recent ASN conference *Lines Drawn*[5] students stressed the "importance of practices playing a role in their academic and professional training" and of "live projects … seen as a positive step in engaging with the real world."

Each year 15-20 students, who opt for our Live Projects studio, explore how theory plays a role in innovation of practice and development of current culture in architecture. They seek new ways of practicing architecture and are asked to rethink the traditional role of the architect as a service provider and learn how to work in unconventional ways, initiating projects and re-defining practice.

The studio's projects being the result of local partnerships as well as self initiated funding are presented as a "gift" to local citizens. Projects have the benefit that they can be experimental and open-ended. As there are limited funds and no singular commissioner, students have a greater influence on the project and its development.

Following this position, it is important that the students learn to become stakeholders in these projects, e.g. they remain on boards of trustees or steering committees or continue the projects into their future practice. This moves away from a traditional role of the architect as a service provider - "Agent operating for" - towards an architect who becomes collaborator and partner - "Agent operating with"[6] - towards the production of an "Architecture of Multiple Authorship".

Community Live Projects

The outcomes are engrained within relational spatial practice, where the spatiality can range from being physical, social, cultural, educational and political. It is the complex network and its relationships, that these Live Projects create, that constructs the life of the architectural project.

The clients are community groups, often in deprived areas, and projects are of public nature. All Live Projects within this studio are defined by a continuous relationship between the students and shifting members of a community group, traditionally called the "client".

On the one hand we agree with Prue Chiles's definition of Live Projects[7], as being adaptable in terms of scale, ambitions, agendas and leadership and allowing them to mutate and be continued by empowered communities. However, we feel it unnecessarily limits the social outcome by restricting it to the first 6 weeks of each academic year. We prefer to define Live Projects much less by time. In the past our programs ran for the whole of the academic year and often involved students beyond the academic year and into their gap year. The continuous relationships and engagement with the places we are involved in and the communities we touch is extremely important. This means social interactions and relationships do not become "token".

Super-local

At the heart of our agenda is a holistic approach. As part of this, students build 1:1 prototypes and structures using locally sourced materials, which are often collected from the local community. The negotiations, relationships and social networks created through obtaining these materials start to set up a community informed and interested in the projects.

The method of re-using materials changes the way we design as architects and contributes to an unexpected aesthetic. The discarded objects are collected and documented by the students, thus illustrating the social and spatial relationships of each physical component that creates the larger built structures.

Within these structures we act by hosting events. The varied events bring out different interests within the community, which later lead to architectural programmes for the spaces created. These programmes, which derive from local interests, become very specific to a locality. They have communities attached to them who, if constituted well, can sustain themselves.

Beyond the Academic Year

As deadlines of Live Projects with real collaborators and partners are not defined by academic hand-in dates but by real external pressures, projects which are *live* in nature are usually not finished within a single academic year and need to extend further.

As a consequence and in order to maintain the open nature of such projects, we have often been able to offer students the opportunity to continue working on projects in their next academic year or beyond. The freedom from the academic calendar permits ongoing engagement with a place and expanded scope for the social project.

The structure we present here is one, which sits between academic context, practice and the city. To promote this type of teaching method we suggest setting up a "Live Projects Agency" within the academic institution, where the agency acts *with* rather than *for* clients. The sites we are interested in are public and communal in occupation and primarily under public or communal ownership.

Experimentation in live project teaching

We argue for architects who can become trusted partners through ongoing and open-ended engagement with a community as opposed to an architect who is a service provider with limited time resource and hope this method, once fully tested, can influence the architects scope of appointment.

Students have the potential to become partners and collaborators. This opens up new possibilities of responding to ongoing changes in a community, which are usually not possible in a conventional client and architect relationship.

We want to describe five different projects in the following to end up describing one project of the proposed study model:

Fig. 1. Mobile Room for London

The **Mobile Room for London** (fig. 1) gave students the opportunity to explore hands on construction of a low cost Live/Work unit. Made entirely from re-used materials found in the local neighborhood, this taught the students how to make projects with a small budget. The room was constructed in 2008-09, but the students were not able to inhabit and test the structure fully, as the academic year had ended when the structure was finished. The move of the Mobile Room to a community garden, where it has been used as a community room, happened thereafter and could not be continued as an academic project as it did not comply with the academic requirements of purely running a community program. This did not have detrimental effect on the success of the space but the students missed the opportunity to participate in the empowerment of the community and further physical adjustments required to make the space work better.

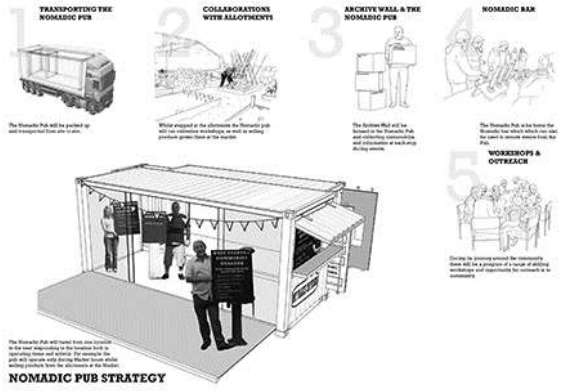

Fig. 2. The Nomadic Pub in Liverpool

The **Nomadic Pub in Liverpool** (fig. 2) started as a student competition in 2010. All students developed their individual proposals further within that academic year, but the project gave one student the opportunity to take it from 2nd into 3rd year and to work closely with the local community, a construction firm and funding bodies. At the time, the academic structure didn't equip the student to learn methods of project initiation, such as negotiating with stakeholders, the political language required to convince local authorities and fundraising skills to allow the project to continue beyond the academic year.

Two projects, the **Archive Wall in Liverpool** and **Stalls for Mallon Gardens** in Aldgate, London were successful projects. Students built up trust with local communities over several weeks and offered "gifts" - a family of built structures, which facilitated local events and festivals for the local areas in Everton, Liverpool and Aldgate, London.

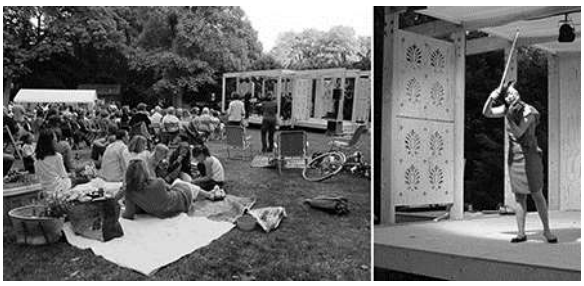

Fig. 3. Community Stage in Kronberg, Germany

The project for a **Community Stage in Kronberg**, Germany (fig. 3) started in 2008 without student involvement through an onsite engagement phase, called "Ideen-Werkstatt", defining the community, establishing a common aim for an outdoor stage and securing funding for construction - all required to prepare the student project. In 2009-2010 students were involved in the design and competition phases and learnt how to act as community collaborators. After the academic year, only the student whose final design was chosen was sporadically involved. The experience included detailing and construction as well as amending local planning laws and developing a sustainable cultural programme of events to be run by the community.

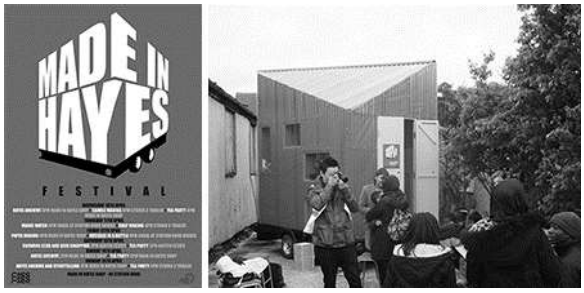

Fig. 4. Mobile Hut 2013, Hayes

In the last 2 academic years (2012-14) Studio 3 has been working on the deprived Austin Estate in Hayes, West London, in order to ***re-imagine*** its civic life and exploring the notion of a '**Town Hall**' for an ethnically diverse and fragmented residential community. Starting in the first year with the construction of a Mobile Hut we explored social enterprise potentials opposite the Austin Estate. (fig 4). These enterprises included paper works, soap and candle products etc. The students saw, contrary to local perception, that the Austin Estate has interested and active residents. This gave the idea of exploring the traditional typology of a town hall against the contemporary context of the ethnically and culturally diverse Housing Estate. We were not interested in civic *service* but civic *action*.

Fig. 5. Re-imagining the Town Hall 2014, Hayes

Both, during the first academic year with the Mobile Hut and the second academic year at the Austin Estate, students organized a series of events and actions (fig 5), which gave rise to the creation of different clubs on the estate, such as a sewing club, board game club and a cooking club. Clubs are effective settings for resident gathering, debate about public life and their needs. The clubs were handed over to residents and some became constituted. Students proposed fragments of joint overall schemes, developing what we call an "Architecture of Multiple Authorship" and discussing the architect's continuing responsibility of their projects in the public realm. This project will continue in order to support the development of the clubs and aims to develop the public realm strategy for the Austin Estate.

We feel strongly that for projects to be successful and holistic in a social and cultural sense, architects and students need to remain community collaborators over a long period of time, free from the academic calendar. As shown with the above projects, we often experienced social and time limitations with our projects. This is why we have developed this model, allowing academic projects to run over longer periods.

Student experience

With the methods used, the studio teaches students "duty of care" and the values of collaboration, a sense of non-hierarchical positioning of the architect. Student feedback has demonstrated that students leaving the studio are equipped with a skill-set to develop self initiated projects. They value team-work which allows them to not solely be dependent on seeking employment but to explore and establish their own practices.[8]

A System for the Future

The new model proposed here could replace the current two years of practical year-out experience with students spending one year in the "Live Projects Agency", which would give students a theoretical and practical education at the same time. This would enable the current practical experience to become a university based one, at the same time shortening the architectural education to the "5+0".

The so called "Live Projects Agency", if created at the CASS, would work closely with the university based RIBA Chartered Practice *CASS projects*, founded in 2004. This provides the ARB credited supervision and the professional environment to the students whilst enabling it to flourish within a critical academic context.

As the project *re-imagine the Town Hall* in Hayes shows, our teaching has now entered methods of extending projects over several years and involve consecutive student cohorts. This way, projects can contribute to community improvement by being agile in responding to

changes within the community they are working in. This is only possible as the subsequent phases of a project are conceptualised and realised over several years.

A model attractive to EU students

In the context of rising student fees, declining job opportunities during students' year-out and a greater competition amongst EU architects, we are therefore advocating for a shorter education in the UK, possibly without ARB Parts 1 and 2, and without the year-out experience in practice, but with a school-based year-out "externship" in the Live Projects Agency.

We would anticipate this model to also be very attractive to students from other EU countries, where the education to become a registered architect consists mostly of theory based teaching at universities without any practical experience being required. Our method, in contrast, would give students a theory *and* practice related architectural education that will contribute to and may provide an alternative career path, which is not the singular, prescribed mainstream profession of the architect.

[1] Hodder, Stephen. RIBA Council 2013: "According to the new Directive architectural training should now comprise either five years of university level training ('5+0') or not less than four years of study supplemented by a supervised professional traineeship of a minimum of two years ('4+2')."

[2] Practical Training Requirements of the ARB: Typically, 12 months of the ARB's practical training requirements are taken between 3rd and 4th year.

[3] see Note 1

[4] 3+2+2 years: 3 years full-time studies to achieve ARB Part 1, 2 years full-time to achieve ARB Part 2, 2 years in practice (usually 12 months between ARB Part 1 and Part 2 and 1 year after ARB Part 2). 5+0 years: 5 years at university without the experience in practice.

[5] Lines Drawn Press Release 25.03.2014. "ASN calls for change-students discuss the state of UK architectural education".

[6] Petrescu, Doina. "Relationscapes: Mapping agencies of relational practice in architecture" in City, Culture and Society, volume 3, issue 2, 2012, p. 135-140.

[7] Chiles, Prue. "A Live (Project) big & small conversation, Live Projects and Alternative Ways of Practice" in IYO, Issue 1, November 2006, p.30.

[8] Examples from student questionnaire conducted by Studio 3 in 2014. Questions: 1. How did the year with Studio 3 meet or change your perception of the profession of the architect? 2. What did the year with Studio 3 contribute to your current expectations of your professional career? 3. How would you want to position yourself as a future architect? Answers: **Eeva, 2nd year student**: 1. My perception of the profession of an architect changed quite drastically. It expanded from thinking that I'd have to adapt to a ready-made formula (a slightly boring Western male wearing black) to something a bit more fun. I learned that the skill set of an architect can be (and has to be) very broad and open. I realised how much an architect has to vary the ways of communication while trying to work with different groups (…) and how much one has to adapt. 2. It made me happier! It's somehow reassuring to know that I'll be able to use all the skills I already have, from knowing Arabic to being able to climb fences! The studio also gave me the tools and courage to start my own practice. It was important to see that very interesting projects can be self-initiated and if successful, the funding will follow. There's no need to force myself to design skyscrapers on a conveyer belt. 3. I'm interested in being an open-minded architect with broad skills working in a small practice. I'd like to continue combining research, live events and design. **Halil, 3rd year student**: 1. …My time in Studio 3 taught me to look at architecture from a completely different perspective. Prior to joining the studio, I was reconsidering my choice of career and contemplating possibly moving to another area of design, due to the fact that I felt that architecture was not a field I would easily fit into, … however my time in Studio 3 taught me to integrate my strengths and interests into my work, through exploring alternative forms of architecture and design. 2. ...Learning about alternative forms of architecture and the non-traditional infrastructures that support such projects (i.e. community initiated projects in lieu of single-client initiated and funded), has broadened my field of view of what makes up the profession… I am now more confident in my current strengths and know that I can play to them in my future career. 3. … I would like to position myself as an individual who aims to work as part of a team. Studio 3 has been very team oriented… With each member possessing their own set of skills and knowledge, the design process becomes more effective and more efficient. Our constant work with communities is proof that wider scale input in a project leads to a richer, more successful project in the long term, and I would like to continue this ethos into my own career as an architect. **Michael, 3rd year student**: 1. I have chosen Studio 3 because it promised to investigate what it means to be an architect today. …it only reassured me that a successful architect is someone who's socially engaged and aware of the current issues. 2. It made me believe that there is a need for socially aware designers that wouldn't shy away from engaging with real people at the very early stages of the design process and be open to all the challenges that this could bring. … 3. …to me the human aspect, the real problems of real people, is always the most fascinating and the most rewarding. As an architect I would like to have a positive impact on other people and their lives and help them live in a better and fuller way by implementing clever design solutions... In one sentence - I would like to contribute to the society by producing meaningful work that is beneficial to others.

The Real Deal: Case Studies in Alternative Teaching Strategies

Derek Hill

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Introduction

Architectural education in Britain is currently under its most wide reaching review since the format was established in the 1950s. Against this backdrop, and faced with a weakened construction industry and a profession unable to supply the demand for post graduate jobs, schools of architecture may look to alternative methods, approaches and creative solutions in preparing the next generation of architects.

Fig. 1.
Department of Architecture, University of Strathclyde – circa 1967

This may come sooner rather than later as the Royal Institute of Architects (RIBA) is considering radical changes to the delivery of architectural education throughout RIBA accredited schools. These changes could, in effect, allow a graduate to register as 'architect' at the end of university study eliminating the current RIBA Parts I, II, and III system which requires applicants to complete a minimum of 24 months experience in practice before being eligible to sit the Part III Examinations.

The RIBA have now followed The *Standing Conference of Heads of Schools of Architecture (*SCHOSA) in supporting either five years of university level training or not less than four years of study supplemented by a supervised professional traineeship of a minimum of two years.

While the latter seeks to reduce the length of study yet still maintain a quality of learning through a complimentary mix of academia and practice, the former seems to accept a separation of the two, focusing instead on five years of academic study with little prescribed connection to practice. Should it be decided that, on completion of this period of study, graduates can indeed register as 'architect' there must be an acceptance by our industry of the need to integrate practical learning within this (potential) academic vacuum otherwise the title of 'architect' will be in danger of signification dilution.

The University of Strathclyde, Glasgow has developed several collaborative design processes to expose its students to an architectural education not limited to books, drawings and balsa wood models. Instead they are provided with an altogether different pedagogy which seeks to embrace the RIBA principle of embedded professional content.

Practices such as Dress for the Weather, Roots Design Workshop and Do Architecture now give much back to the Department as guest lecturers and Studio Design Tutors and will, no doubt, recognise the influence the education gained during their time in the Department has had on their practice philosophy today. The Department has long promoted an ethic of self-motivation, self-promotion, and an attitude towards entrepreneurialism and social engagement which is evident in the work of these practices today.

Students have been encouraged to engage with real clients, on real projects, in collaboration with real industry expertise. These collaborations come, not in addition to the students' curriculum of learning, but as a fully integrated facet of it, and as early in their education as Year One / Project One.

Curricular Integration

For their first project in Year One, students are tasked with designing a small installation from a limited palette of materials to serve as a shelter for two people.

Initially designing without context, the students are introduced to client (Jonny Sutherland of Wiston Lodge - a 52 acre woodland estate - who assists with the selection of a short list of schemes), budget (a very modest £100 per structure), transportation and delivery (consideration of component size and logistics), scheduling (of tasks, personnel and materials) and finally context and construction when they travel to Wiston Lodge and assemble their installations over two days of Live Build.

Fig 2. Live Build at Wiston Lodge.

The entire process is complete when the students 'hand over' their installations to the client team at Wiston Lodge who then utilise the structures as part of their programme for the delivery of assistance in personal, social and emotional development of children and young adults.

The second project in Year One builds on these strategies and is used to deliver a Department Design Project with Loch Lomond and the Trossachs National Park. With a budget of £5000, the Department has been tasked with delivering a resting point along the Scenic Routes trail within the National Park. Year 1 develop ideas through their Studio Design project and this time the project commences with observations on context – the eastern banks of Loch Iubhair. Supporting lectures and workshops are delivered by landscape architects, artists and engineers, offering industry expertise to the students in the early design stages of the project.

An initial meeting with the client from the National Park allows the students to identify client requirements relating to size, function, durability, materiality and permanence. Although the Year One project ends with the submission of design proposals, the Department has agreed a three year programme with the National Park which will allow the detail design, fabrication and construction of the structures through a vertically integrated model of collaboration within the Department, involving Year One, Year Four and Year Five Thesis students.

Fig. 3. Scenic Routes Project .

In the second semester, the Year One students of the Department are again focussed on client when they engage with a group of high profile contemporary artists for the design of a gallery in the city. These artist collaborations were achieved through existing, strong links to the Glasgow Visual Arts Community with members of the Year One Studio Design Tutor team – a team made up almost entirely by practicing architects.

Fig. 4. Student visit to artist Toby Paterson's studio.

During initial discussions with the Department, the clients help to identify three potential sites throughout the city and, through research, observation and discussion, the students must provide a feasibility study into the most appropriate site for the gallery. Thereafter the project develops on the basis of 'conversations' between the 'architect' and the 'client' allowing students to make design decisions from a point of reaction when traditionally, at this stage, these decisions are made from self-desire.

It is hoped that, through this project process, the students are exposed to aspects of the profession normally saved for time in practice. Early exposure to client in the initial stages of a project will better prepare students of architecture for the importance of client/community engagement and consultation.

Special Study Class

In academic session 2013-2014, the Department introduced a new Special Study Class which presents students with the opportunity to gain further exposure to real projects, collaborations and processes. The class was initially established to deliver the Department Yearbook and End of Year Exhibition but it became clear that this class, which would provide the students 20 of the required 120 credits towards their Honours Degree, could deliver much more in terms of experience, learning and opportunity.

While the opportunity for students of architecture to get their hands dirty through a construction process is, a positive one, perhaps more important is the opportunity for students to understand the process and processes which take a drawing into reality. The aim for the Special Study Class is therefore to provide exposure to the processes from concept to delivery, working with industry professionals on projects that require funding streams, must react to actual deadlines and which may or may not come to fruition.

Students are presented with a range of real projects to work on for a period of time. These projects exist in one form or another within various Design Practices but require a degree of additional input or resourcing in order to be truly realised. Existing links between industry and academia have allowed symbiotic relationships to be forged: industry projects require resourcing, students of architecture are hungry for experience. The concept is simple: small groups of students (Design Team) unite with practicing architects and Department staff (Design Directors) to form 'Design Practices' enabling the resourcing and delivery of these projects.

Case Studies

The mechanics of the class were piloted during the summer recess of 2013 through a submitted response to ArchTriumph's ideas based design competition for a floating pavilion in Venice. A selection of students across all years of the Department were invited to form a small Design Team to work with local practice, and Department alumni, Dress for the Weather. Students from Years One, Three, Four and Five signed up and the design process commenced with weekly Design Team Meetings – chaired by Dress for the Weather principals Andy Campbell and Matt McKenna. The students retained control of design output, guided and mentored by Andy and Matt throughout.

Fig. 5. ArchTriumph Ideas Competition Submission.

What became evident through this process was that motivation was an issue, with the Year four and five students dropping out midway through the project. Through post completion feedback the students cited external pressures and commitments as the main reasons leading to their disengagement from the process as well as noting, briefly, that the lack of academic 'recognition' also played a part in their decision to end their involvement.

As a case study, the process was of greater interest than the output – which was a rather romantic proposal for a series of individual floating platforms to drift from the various disparate communities around Venice and gather to form one larger platform in the lagoon south of St Mark's Square. Despite the lack of motivation evident within some group members, the dynamic established between industry and academia was positive and it was concluded that this was worthy of further development.

Real Projects

These case studies proved very useful when developing the syllabus for the Special Study Class. The initial model proposed was for a class of 12 students working on Yearbook and Exhibition and four design projects (three students per project). The reality was that 16 students expressed an interest in, and signed up for the class, titled *Special Study Live Build* meaning additional collaborations were sought.

The first semester focused on laying the foundations for the Yearbook and End of Year Exhibition – a grand plan to take the Department into the City with a series of 'pop-up' exhibitions in various stalled spaces throughout Glasgow. This allowed discussions to be on-going with industry partners and potential collaborators in preparation for semester 2.

Fig. 6. Special Study Class design discussion.

On 22nd January 2014, six projects were presented to the class by Department staff, Thesis Students and professionals from architectural practice. Students were invited to submit 'statements of interest and suitability' to allow the Design Teams to be formed for the projects. The six projects were:

Wiston Lodge SiteLabs. Collaboration with Department Design Staff on the production of a feasibility paper on the refurbishment of two existing mobile homes into teaching and activity space within the Wiston Lodge Estate. An additional element to this collaboration was the possibility of a summer school to carry out the refurbishment work in collaboration with apprentice joiners and electricians.

Pub Typologies. Collaboration with Dress for the Weather on the production of a Research Paper into the history and design of the Glasgow public house to be published to coincide with the opening of the Department of Year Exhibition.

Kinnelside Farm. Collaboration with Department Alumni on the production of a feasibility study into the reuse of derelict agricultural buildings as holiday accommodation for a local land owner. The feasibility study should include a drawing package suitable for the submission of a Planning Application.

Scenic Routes Pavilion. Collaboration with Department Thesis Students on the design development, fabrication and construction of the Department's Scenic Routes Pavilion for Loch Lommond and the Trossachs National Park. This project delivers student vertical integration through the Department and is the first of three similar projects to be rolled out with the National Park before 2016.

Mini-Mobile Theatre. Collaboration with Factory Architecture on the design, fabrication and construction of a mobile theatre for the production *Grandad and Me* by *The Letter J.* A significant element within this project is in assisting the client with sourcing suitable and available funding opportunities.

Event Space at Caledonia Road Church. Collaboration with Department Alumni Lateral North in conjunction with local installation artist Peter McCaughey on design proposals for a temporary event space within the ruin of a former church (designed by Alexander 'Greek' Thomson) for the Commonwealth Games in July 2014. This project is backed by Glasgow City Council with £10,000 funding secured.

The commonality across these projects is that they were each lacking in appropriate resourcing in order to drive them forward. The Special Study Class has provided this resource and the 16 students were distributed across the projects based on their submitted statement of interest and suitability. Thereafter the projects continued under the steward ship of the collaborator/s with student involvement as and when required by the project programme.

Fig. 7 Wiston Lodge Site Labs.

Due to the nature of the process, the class did not sit within the rigid formality of an academic timetable. Rather it operated through emerging liaisons between students and industry with meetings, charettes and discussions being encouraged to happen out with the Department to further develop links to reality. At appropriate points, the full group would gather to discuss all projects with input from students and collaborators welcomed and encouraged to further develop the resources available for the various projects. These half day sessions did much to blur the lines between academia and industry and took the form of design charettes and informal design meetings – round the table, not on the wall – as a break from the traditional 'crit' set up within schools of architecture. This was deliberate.

Fig. 8. Visualisation of Kinnelside Farm.

The projects were real, as were the discussions. That's not to say the architectural critique does not promote 'real' discussion and debate. Quite the opposite: they are a fundamental aspect of the education process. But these meetings had a purpose beyond education. They ensured the delivery of an end goal. Discussions held and decisions made had tangible outputs for the projects and valuable lessons were learned. Drawings meant something – time, money, communication. Reality.

Fig. 9. Visualisation of Caledonia Road Church Event Space.

Each project worked at a pace appropriate to its individual programme with student involvement encouraged – and supported – across academic recesses and out with timetabled hours. The academic credits were the motivation but not necessarily the drive, and as students began to feel a connection with their project, the desire to remain involved grew.

Mindful of their inclusion within an academic process and the need to allocate grades towards an Honours degree, it was decided that the submission for the Class should, like the Venice Case Study, focus more on the process and less on the output. Students were tasked with submitting their own Project Case Study which would demonstrate their process and involvement throughout regardless of whether the project was or is completed at the point of 'hand in'. This format begins to imitate the RIBA Part III Case Study which currently forms part of the submission criteria for the Part III exam and develops students' ability to record and reflect as part of an ongoing process, not merely at the conclusion of one.

Fig. 10. Mobile Theatre Installation.

The submission of the Case Study – together with an A2 'Project Abstract' to serve as an image bank of the project – allows parity of assessment across a very varied portfolio of project involvement and directs the emphasis away from the 'product' of the project (good or bad) and places it on the pedagogic learning.

Summary

What has been created through this Special Study Class is a delicate symbiosis between the industry and the student: the industry is requiring of an informal and temporary resource while the student is hungry for real project experience. The project would not develop without student input. The student would not gain experience without the project. And this – and other new strategies to be developed within the Department – will do much to continue to develop on the principles of the RIBA.

The inclusion of these new strategies within the core curriculum of the Department's teaching ensures that any collaborative projects taken on shall remain appropriately resourced from start to finish and those students involved will be rewarded with academic credits towards their degree, as well as useful, practical experience towards their chosen career.

This method of academic recognition is established through a harmony between the Design Studio and Special Study Classes with the later picking up where the former leaves off. The seamless integration is reinforced

further through the continued involvement of the Department's Design Studio Tutor team which is made up almost entirely by young, dynamic and creative practicing architects whose existing creative liaisons and collaborations have much to offer the Department.

Through 'live' build, exposure to 'real' clients and an expanding portfolio of 'real' projects, the Department of Architecture at the University of Strathclyde, Glasgow is promoting creative solutions through new educational strategies to react to an ever-changing profession.

Collaborators
Dress for the Weather / FACTORY Architecture / Lateral North / Peter McCaughey / Angus Ritchie / Dan Tyler

Clients
The Letter J / Loch Lomond and the Trossachs National Park / Andrew Miller / Wiston Lodge

Staff
Derek Hill

Students
Clare Paton / Michael Cockburn / Jonathan Dawson-Bowman / Neal Hemingway / Andrea Hickey / Mark Kitson / Emma Long / Fiona MacGregor / Edita Menciskaite / Paulina Naruseviciute / Kimberley Noble / Laura Petruskeviciute / Michal Supron / Fraser Sutherland / Chloe van Grieken / Jamie Yeo Beo

The Meaning of Small Scale

Stephen Garrison

Marywood University

Introduction

When a child gets a toy do they wonder where it came from or how it was made? When a first year design student works on a project do they think (logically) about who will experience his or her design and how it might impact them?

The day that I told my seven year old son that he could be a person that designs Legos when he grows up was a turning point in his appreciation for the things that he plays with. A similar result occurs when I tell a group of eighteen year old first year design students that they will be making something to give away to children. In each instance, their appreciation for what they were doing in the moment grew exponentially.

As the students begin to consider how their design decisions will affect the pre-schoolers, the children that benefit from these toys will start to see how the things they play with can have meaning. Where these new conscious consumers will end up is difficult to predict, but if they can possibly count this moment as a stepping stone to one day be the creator that starts the entire cycle over again, it will be an amazing experience. For the children it is a longer experiment that we might never actually see the results of, but with our design students we can see and experience their growth and thoughtfulness through the years.

'…the studio is Santa's workshop…'
Paul Duffy (class of 2015)

Precedent: Froebel Gifts

German educational philosopher Friedrich Froebel (1782-1852) acknowledged the importance of play in how children socialize and develop. He created the concept of the 'kindergarten' as well as a set of toys known as Froebel Gifts. (Fig. 1)

Fig. 1. Froebel Gift 5B (building blocks). Froebel USA

The Gifts are activity-based toys that range from spheres and blocks to more advanced skills based objects. Froebel believed that the act of playing allows the child to use their environment as an aid to education, as well as '…create a bond between the adult and the child who play with them.'[lix]

One such person that was influenced by Froebel Gifts and put his discoveries into practice was American architect Frank Lloyd Wright (1867-1959). Wright's mother was a school teacher and had seen the Froebel Gifts at the 1876 Centennial Exhibition in Philadelphia where she purchased a set for her family. Wright is quoted as saying, "For several years I sat at the little Kindergarten table-top ... and played ... with the cube, the sphere and the triangle—these smooth wooden maple blocks ... All are in my fingers to this day ..."[lx]

It should be of no surprise then that Frank Lloyd Wright would introduce his own children to Froebel Gifts. Several of his children, and grandchildren, went on to become artists and architects, with his son John Lloyd Wright even inventing a popular building toy himself; Lincoln Logs in 1918. (Fig.2)

Fig. 2. Lincoln Logs. K'nex, Hatfield, Pennsylvania.

Prospectus

The first year design students are given the following parameters for the project: How can a wooden toy be constructed no larger than 12" in any dimension; has a movable component or comes apart in some way and has a component dimension of 1/2" thick?

The pedagogical aim of our foundation year is to strip away preconceptions about what constitutes design; to deal with design as a composition of elements in two and three dimensions that the students can experiment with much the same way that they may have played with blocks or Lincoln logs, only now in an increasingly conscious way. After a semester of these abstractions and compositional experiments, students are given the opportunity to design a wooden toy using the knowledge gained from the previous projects in a different visual language. Coupled with the giving of the toy to organizations serving children, this experience broadens the students' outlook on the contribution that design can make to society on the small, as well as large, scale.

After a semester of exercises dealing with the abstract qualities of compositional problem solving, and analyzing and diagramming precedent, the students get this seemingly simple assignment to end their first semester. The idea of a wooden toy does not initially resonate with some of the students as being a serious design experiment. When they are introduced to the toy project, some may see it as a break from what the majority of the semester has been to that point. As the project progresses on a rather quick timeline, and into its completion, the students find a bigger meaning to the project and the potential within their design. Possibly the idea that a child, a tangible someone, would be using their design.

For the first time, the act of design takes on a sense of reality, a consequence to how they choose to assemble their composite parts. Often, thinking about their brothers and sisters, or memories from their own childhood, along with the realization that a child will be receiving their design start to elevate the gravity of the project.

The range of toys varies as the students have become comfortable with the act of design and with the tools of the wood shop. There are always examples of students that really delve into creating something different and at times unexpected. To them, their thought processes have been released, not having to think of tectonics or spatial configurations. Conversely, other students are daunted by the fact that they are not designing for themselves (or their professors) but for someone else. The most successful outcomes are from the students that realize that the toy is no different from any of the previous assignments, the principles and elements of composition and design do not change because of the age of the 'client'. They need to consider durability, ease of use, and safety for the first time.

Fig. 3. Tow truck, mock-up and complete. Tyler Shiner, Marywood University, 2013. Cardboard, Poplar. Each student develops their design from sketch to full-scale cardboard mock-up and the finished working toy over the course of 2 weeks time.

Fig. 4. Telephone, mock-up and complete. Joshua Mann, Marywood University, 2013. Cardboard, plywood, nylon cord. A removable handset and spinning dial, all constructed from laminated plywood, utilizing the striations of the plys to a beautiful effect.

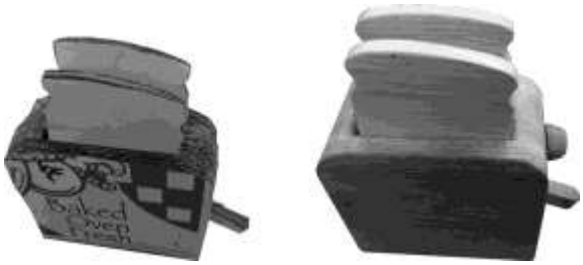

Fig. 5. Toaster, mock-up and complete. Brian Mlodzienski, Marywood University, 2013. Cardboard, Oak, Poplar. In full working order for both versions, the student thought down to the smallest details, the text on the cardboard model and using a lighter species of wood for the toast.

Fig. 6. Post Box. Monica Pacyna, Marywood University, 2013. Plywood. Taking the simple act of sending and receiving a note, and making it into a game.

Student and Partner Response

Delivery day is scheduled for the last day of the students first semester of university. Their final critiques are past and Christmas break is quickly approaching.

The organizations with whom we have worked have included wide demographic variation, from 'at risk' children, to middle class suburban children. Whatever the case each semester, the culminating experience of delivering 50-70 students, not long removed from childhood themselves, become enlivened as children anywhere from three to seven descend upon the designs.

Pride eminates as each student shows groups or individual children how to use their toy. It is a pride in seeing how their design holds up to the rigor of that first exhuberant play coupled with the pride of giving someone an experience that they had not anticipated up to that point. The design students see their work affecting a child, often spending time playing with the children themselves, thus fulfilling Froebel's idea of the bond formed between child and adult. This will serve as perhaps the most honest critique they may ever have.

'*…I did not recognize it as a service project until we delivered the toys. I had worked on the project to look how I envisioned and to get a good grade on it. Once I saw the children playing with all of our toys, I realized that it was benefitting more than myself and my grades; it was making someone happy'*
Michelle Calabrese (class of 2015)

'*So many toys are now made of plastic and the wooden ones are so expensive, that it is a treat to have been given such a nice selection of them. They are so unique so the children now have the opportunity to play with items they cannot get anywhere else. It is fun to hear them say with wide eyes,' Look at this!!!' Or, 'This is so neat!!!'*
Gywnne Gilbert, Director Fricchione Day Care Center, Scranton, Pennsylvania.

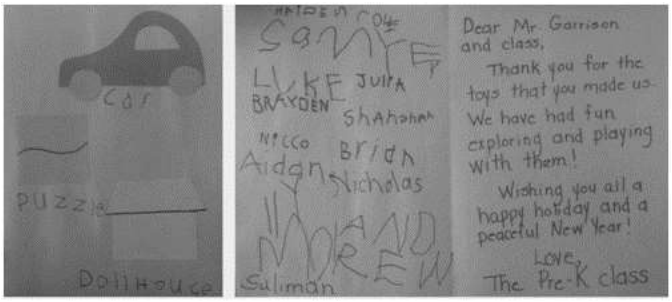

Fig.7. Thank You card from the Friccione Day Care Center Pre-Kindergarten Class, recipients of the 2013 toys.

'Before this project I would have never thought about making something of my own design and giving it away as a form of community service. To me, community service was the act of hands on helping with a task or helping to fulfill someone's needs that they could not fulfill themselves. After the completion of this project I most definitely had a new perception of what community service could entail.'
Emily Fella (class of 2016)

Conclusion

Speaking with students, even three years out from the project, they often still hold it as a moment when they became designers. The work that each student put into their toy was beyond being for themselves or for a grade, they saw it as an opportunity to impact a child in a way that maybe they had been impacted in the past. So often our students are left with the feeling that even if they did not fully understand what we asked them to do throughout the semester, if their toy design held up to the scrutiny of the children they know that they understood something.

It is important for students to learn the value of designing for others early on, instead of only being concerned with their own expectations and values.

Their future will not be about working within their own vacuum, the varied needs of others will be part of the design process forever. We must teach our students not to overlook the small things. Those things that might not be as visible to the world at large, but nevertheless have the potential to inform the future generations of designers.

References

[1] Liebschner, Joachim. *A Child's Work: Freedom and Guidance in Froebel's Educational Theory and Practice* Lutterworth Press: Cambridge, UK p 82.

[11] Alofsin, Anthony. *Frank Lloyd Wright--the Lost Years, 1910–1922: A Study of Influence*. University of Chicago Press, p. 359.

Old Building Technologies for 21st Century Architectural Technology Students

Anne Vanner and Gaynor Wood

University of Central Lancashire

Introduction

The purposed of this paper is to briefly explore the experiences of fifteen first year Architectural Technologists and two members of staff in the design and implementation of an architectural project.

This live project had strong environmental and sustainablity elements which challenged the students to research, design and understand a new material technology. They had to work in teams in the design and build of an office "pod" for an external (non university) client.

They key features for this project were to get the students outside the classroom experiencing real life situations, bonding as a group, and to learn to cope with issues that Architectural Technologists have in real life. Active learning like this needs different teaching approaches beyond lectures and seminars to enthuse students, so we chose to use Problem Based Learning (PBL) for this live project.

Our view is that students should be encouraged to be active learners in order to develop higher levels skills in research, critical thinking, problem solving, team working, communication and reflection. It was also important that our students, whilst learning and practicing these new skills, had the opportunity to engage in "hard fun".

Module Design

The module was a studio based level four design module and initially conceived as a traditionally studio taught module. Its projects, assessments and teaching over the last three years have developed as direct result of the students' expectations and the experiences held by the teaching team of their own time within higher education studying on studio taught models. However there has been a conscious shift was away from inward facing, individual design projects, structured around weekly individual tutorials and a final critical analysis, to a new outward facing, practical focused set of design problems taught using more varied student centered activities to promote and encourage team work, collaboration and innovation within a practical, supportive and inclusive design culture.

This module is aimed at developing imaginative thinking: from the articulation and conceptualisation of abstract ideas, through the interpretation of the user's needs and the creative manipulation of materials and designs. Its learning outcomes are structured around three key areas of knowledge and understanding, subject specific skills and employability and personal development. This introduces students to architectural vocabulary, and to environmental and social principles whilst teaching skills in the generation and adaption of architectural ideas in 2D and 3D forms. It begins an understanding of related concepts such as form, materality, construction and build ability.

Problem based learning

PBL was chosen as a teaching and learning pedagogy for this module because it has been shown that this practice develops deeper learning in students. It can also expand students' competencies in key employability skills such as team working, problem solving, communication, critical thinking and research.

We decided that there would be three PBL aspects we would concentrate on:

- Constructing a real world, live problem that students may have to face in their own professional practice.
- The requirement for students to have to work in small groups and learn to how to work in co-operation with others.
- Students' learning would have some structure in the shape of three tutorial sessions, but would be largely self-directed through their own research and group work.

We were attracted to PBL because it also encourages students to work hard, but to enjoy their learning. This is encapsulated in the concept of hard fun.

Fig. 1. Getting to grips with the office build.

"Hard fun"

If students learn better "by doing" that is through active participation in the learning, then it must be because the learning itself is enjoyable and fun to do.

Fun in the PBL sense is also about the challenge of taking on a difficult problem, the hard work of solving that problem and the creativity and the stimulation that comes from working with people who share that work. "The fun in hard fun is a fun with enjoyment, laughter, freedom, creativity and energy."[i]

This was an important part of this project. We wanted students to enjoy what they were doing, to be confident in their abilities and to feel "safe" to experiment with their creative ideas for their builds.

We also knew that the work would be very hard and demanding both in the build itself and in the design process to meet the client's requirements, but hoped that the sense of achievement when it was completed would be high.

Project Design

The students were tasked with designing an energy efficient office pod which would fit into a grade two listed church. They were required to build the pod from straw and, time permitting, to finish this with a lime plaster wash. The design chosen by the client was to be built by the whole group of fifteen students.

The PBL trigger for the whole activity was a client brief set by the company which detailed their requirements; these included the size of the office, its internal height under an imagined mezzanine floor, the ingress points, making the best use of the available natural light and the location of power.

Teaching and Learning Tutorials

Over a period of three weeks and three tutorials held in their studio, the students worked in self chosen groups on their proposals: researching the issues relating to working with straw bales, exploring the materiality and build ability, considered health and safety options such as testing the bales for fire safety and working with the materials in an enclosed space, as well as project planning a build and identifying the resources needed.

Tutorial one: the materials.

The first session focused on the materials that the client has intimated were his first choice. The students looked at other options such as timber and brick to ensure that straw bales were the most appropriate. The students identified a possible list of alternative materials and the prepared a five minute presentation on the advantages and disadvantages of their chosen materials.

The second half of the session was given over to understanding the straw itself and this activity took place in the materials laboratory. Here the students were left to their own devices to discover the properties of the material itself and to physically "get to know" it. A number of bales were supplied with the proviso that student would find it useful to find out at least fifteen things about the bales that they didn't know already and to share this information later with the rest of the group. Some of the things tried included weighing and manually lifting the bales, assessing their "stackablity" and also testing their flammability.

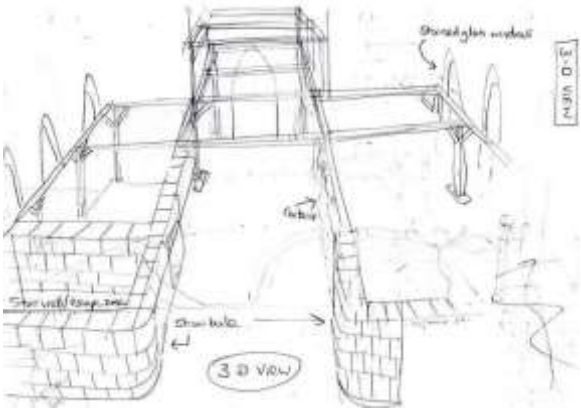

Fig. 2. One of the group's first designs of their build.

Tutorial two: precedent study and design of the structure

The second session allowed students to explore how other architects and builders had used straw bales in sustainable and environmental construction. This followed a more traditional approach of research, analysis and implementation within the studio, but this was done collectively not individually. The three groups were tasked with collecting information they thought

was relevant from a particular sources: books, the journal collection (physical and digital) and the Internet.

The students were asked to not only look for examples of straw bales structures but also for the advantages and disadvantages of using each source. A round discussion talk was organized an each group presented and discussed its findings. This was a useful exercise to establish what could and couldn't or could not be done with the materials, but also within a few weeks of the new term to expose students to the various methods and sources of data collection.

In the afternoon some preliminary designs were collected to be sent to the client for feedback. Again, working in their groups the student used a variety of methods. Some students opted to use the CAD laboratory and attempted to design their scheme using Sketchup. Another group sat round a table using pen and paper to refine and work thought their ideas in a more traditional manner, making a simple but effective internal layout of the church and used that to aid their thinking. All the schemes were sent to the client so he could continue to give feedback on them the following week.

Tutorial three: project management

The final session was again split into a morning and afternoon session. In the morning time was set aside to allow the student to rework their schemes using their feedback form the client and tutors. Their finished designs were set off to the client to be judged and a winning design selected.

In the afternoon the student prepared a risk assessment for the trip and the build, put together a specification for the client and prepared a schedule of building activities and an appropriate timescale or the build, ensuring that it could be completed in the two days we had on site.

Project Completion

In October 2011 the students were taken off to the client's company "Ancient Arts" in Wales for a weekend to build the winning design. During the weekend there they learned how to use appropriate tools such as saws, hammers etc. safely as well as lifting and maneuvering straw bales as well as testing the limitations of their own designs. The first attempt at building the pod failed because of the foundation platform chosen did not support the structure at the height required, so the walls become unsafe, and the pod had to be rebuilt - with considerable effort but with lots of practical learning.

The students were also taught some new skills using old technologies, for example how to produce cob and its use as a sustainable and environmentally friendly material. Whilst at the Centre they also examined a reconstructed Iron Age round house, a new building which had been reconstructed to a much older design using material such as cob, thatch and timbers. We wanted them to consider its environmental impact as well as the sophisticated skills needed to build it.

Fig.3. Working with the real raw materials.

Evaluation

As part of the formal module assessment students were required to present their ideas the group in class and then to submit a group portfolio detailing their build. We also wanted less formal feedback on their experiences (hoping we could use this to help us redesign the module for next year) so students were asked to take part in a short film reflecting on what they had learned from this live project, and what they had particularly enjoyed.[ii]

In the review three themes began to emerge. Team working was seen as very important, helping the students to bond, because they were working and relaxing together and supporting each other in many aspects; teaching each other new skills or encouraging each other when the build itself got tougher.

There was a sense of achievement. There had been some mistakes but overall they were pleased to have completed some aspects of the build successfully. It had been fun to get outside the classroom to do some practical work. They had enjoyed working with their clients although they all didn't necessarily agree the best design had been chosen.

Their replies on whether they would use straw bales or cobbing within their own practice varied. Some students could see the value of cob for instance; others had missed its implications for sustainability. This is something we intend to bring into our review. It is important that students can assess ethical and environmental consequences when deciding on building materials and the design of house or office for example.

As staff we felt that there had been three impacts: evidence of increased student engagement and the development of key employability skills such as communication, research and problem solving, the beginnings of a learning community within the course and an improved student and staff experience.

We felt justified in using the PBL approach although it is more time consuming to design and undertake, and it was extremely important to always manage student and client expectations sensitively and honestly. It made us consider what we want students to "get out "of activities and assessments and also about unexpected learning outcomes that arise from live projects, such as student independence and increased confidence.

Although we have used a new teaching approach within our School, we feel assured that we can expand on this and develop further live "hard fun" projects within the degree course, which will stretch and challenge both the students and, of course, ourselves.

Notes

[i] Barrett, T. MacLabhrainn, I and Fallon, H. (eds) in *Handbook of Enquiry & Problem Based Learning.* Galway: CELT, 2005. p.114

[ii] This can be viewed as a You Tube clip, available on http://www.youtube.com/watch?v=b1PhaMDo4YM&feature=youtu.be.

The Value of Architectural Education in Nigeria: Students' Expectations in Six Schools of Architecture in South-East Nigeria.

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Introduction

Architectural education in Nigeria has not seen many changes in its programmes from the inception of the first school of architecture in 1952 (Adeyemi, 2000; Olotuah & Adesiji, 2005; Uji, 2001). The schools have been under heavy criticism by students and younger graduates for a decade now as a result of access through globalization to information technology and current practices in other parts of the world (Uji, 2001:110). Architectural programmes have become stale. Studio learning culture and its underlying rituals and processes, have not really changed over the past 50 years and this is one of our biggest weaknesses in architectural education (Salama & Wilkinson, 2007:41; Slessor, 2012; Bauchanan, 2012:92). Schools of architecture are struggling to keep up with issues that have transformed architecture practice in other parts of the world (Olotuah, 2000; Nicol & Pilling, 2000). This trend has not only negatively positioned our graduates to gain from the wider knowledge and market offered by globalization in the industry in this 21st Century, but has equally diminished their knowledge (Sa'ad, 2001:2). The rapid changes evolving from virtual studios, international collaborations, BIM, sustainable and green architecture as well as humanitarian architecture has changed architectural education and practice in recent times.

Globally, the rules governing how one becomes skilled and work-ready are changing and architectural education in Nigeria must change with it or risk its relevance in the built environment. The question this paper is asking here is, what does the path to relevance look like and in what direction/s should it be going?

David Nicol and Simon Pilling (2000) write in *Changing Architectural Education Towards a new Professionalism* that recent changes taking place in the society occasioned by advancement in technology and information growth necessitates the education of the architect to be flexible, versatile and restructured towards acquiring relevant skills and knowledge to respond to these changes and continue throughout the life career of the architect (ibid:1). Jeremy Till argues that the changing role of the architect is inevitable in this era where the only constant is change, but cautions as he states:

'*the request for "relevant" forms of new knowledge is therefore distracting, because what is new now is going to be out of date, irrelevant even, by the time our students face the world. Societal, and thus spatial, constructs are emerging with such rapidity that we can no longer educate for fixity […] the radical contingency of architectural practice demands new forms of education, not new forms of knowledge*' (Till, 2005:171).

This is also raising several questions about *how will the architect be educated*? *How will the architect remain relevant in the society where change has continued to sophisticate the demands of contemporary society*? A critic Will Hunter opines that architectural education needs to be responsive to these changes though not by default but rather taking an alternative approach to addressing critical issues in the education of the architect (Hunter 2012:88). First he believes schools of architecture need to operate alternative pedagogical models in the form of Avant-garde, prompting radical innovative ways of teaching and learning that will inform the process of critical thinking and the creative potential of the student-architect, exposing students to real life problems (Hunter, ibid). This might in turn prepare students for professional practice, creating flexibility in architecture through a network of interdisciplinary approaches to solving problems: taking architecture back to society and designing from first principles through understanding the socio-political context of society while encouraging community participation in design decision process as Bryan Bell (2004:13) advocates: positioning students at the centre of their learning, where they decide what and how to learn (Webster, 2004:10).

To gain a deeper insight into these issues, collaborative research was conducted in 2012-2013 in six schools of architecture in South-East Nigeria. Imo State University and Federal University of Technology in Imo State, University of Nigeria and Enugu State University of Technology in Enugu State, Anambra State University of Technology Uli and Abia States University in Abia State. The team sampled five first year master (M.Sc.I) students from each university/department/school, who, having compulsorily completed a one year internship of the National Youth Service Corpse (NYSC) have been exposed to practice.

Research Objectives

The aim of the study was to understand what motivated their undergraduate studies in architecture and what informed their learning. The objectives were as follows: To highlight the attributes that makes the best learning experience for architecture student. To define and differentiate what is understood by 'good learning experiences'. To give an overview of factors that could comprise 'good learning experience' in architectural education.

Method

A structured and standard open-ended questionnaire was employed using Likert scale of range 0 (not at all) to 5 (completely) and also provision for comments with the view to capture their experiences both in their undergraduate years and in the internship programme. The research questionnaire was intended to also allow the respondents to assess their best experiences.

Analysis and Evaluation

The questionnaires were collected and analysed. In many respects the answers are not at all unexpected. All points to flexible student/lecturer relationship, especially in jury sessions. There were, nevertheless, some unexpected aspects, opinions and much valued experience which prepare for interesting reading. It is those experiences that offer food for thought and help us reflect on how to potentially improve the student learning experiences in our programmes once basic quality levels have been achieved. Generalizing from these novel ideas or implementing these 'valued' experiences without further research and reflection will be difficult and is not necessarily advocated. The best learning experiences are after all derived from a very small, self-selected sample of students. Moreover, students' individual experiences differ even in the same university and programmes due to their different backgrounds, preferred learning styles, prior experiences and knowledge, all of which impacts on what an individual value in their learning.

Several factors were identified and grouped into six major themes to influence students' (respondents) education and learning experiences. Thematically they are:

- Practice-based learning
- Existing studio space,
- Studio culture
- Impact of IT and Computer Aided Design
- Visual experience
- Lecturer Enthusiasm and Experience

Practice- Based Learning

In one form or another, most students' responses emphasize the value of practice-based learning - a form of hands-on learning in 3rd year- particularly in the building sites where things are decidedly tangible and real. Since all the schools run a six month Students Industrial Work Experience Scheme (SIWES) attachment at that level, the suggestion is that accessing this in the construction industry will broaden and enhance their confidence in their final year (4th year) degree examination. Being able to apply theoretical knowledge within the workplace is crucial in enabling a student to gain confidence on their own ability. By contrast, the practice-based education that a limited number of students cherish stems from a placement in some firms that have several live projects. The experience is valued not only for the learning but also the contacts they were able to make during this time, which they found useful for their dissertation work and which will probably help them in going back to such firms for a job after graduation. This resonates with the emphasis placed on live projects as a practical tool for understanding professional practice in architecture whose values and rituals equips the would-be architect with skills and knowledge in working with real clients (Sara, 2000:83; Chiles, 2000:99; Brown, 2014:19).

Existing Studio Space, Facility and Population

In Imo State University for an instance, since its establishment in 1992, the total space made available by the university management to conduct studio work in the department of architecture has always been under 250 schemes and has not increased to-date despite the continued growth of the nominal roll of students annually. This is reflected in four out of the six schools' feedback. The feedback reflected that the studio spaces provided are always inadequate, in terms of the quantity, quality and mix. They indicated poor storage facilities for work and personal belongings, inadequate power supply (or non-existent) insufficient pin-up and jury/crit space, poor atmosphere and lack of water supply and toilet facilities are serious setbacks.

At Imo State University, in the last six years, spaces that were meant for thirty students (in this case, 54 skeins) in 3rd year studio are currently occupied by sixty students. The same is applicable in the other studios. This leaves the studios crowded, clumsy and non-interactive. This observation is shared by the other schools. Instructors find it difficult to move around within the studio space to fulfil one-on-one contact interaction that is mandatory for all studio work. Consequently, the staff engage in lecture discussion in place of personal contacts during studio hours, leaving such desired contacts to lecturers' offices or jury sessions. This is the scenario in all the undergraduate levels and in all the schools. A recent final jury conducted in September 2012 in 2nd and 3rd years at Imo State University, evidenced many students that lack confidence and could not orally present their work, indicating the non-participatory status of studio contact. The department currently has a population of 310 students with a staff strength of 14 (9 active design staff), as against requiring 210 students to 30 lecturers,

the available studio space still remaining at 250 screens.

Studio Culture

The six schools of architecture involved in the survey have similar studio cultures with slight differences. Their differences are unique. The discipline of architecture is very diverse in its programmes and teaching methodologies all over the world. Despite this great diversity, there are uniform patterns of behaviour that transcend each programme. Nothing is more revealing of studio culture than the actions of its students to promote this culture. In this case the department of architecture, Imo State University, Owerri.

Students are compelled to work in the design studios to produce their drawing and models. In architecture studio, culturally all students' work are made open to other members of the studio and the entire architecture community. As a consequence, every student can see what every other student is doing and is free to critique and appraise each other's work. Every student witnesses the strategies that others use to develop their design concepts. There is public critique or jury sessions being conducted by the studio instructors for interim jury and the entire staff for departmental jury.

'Thomas Dutton and Kathryn Anthony, have called the consequences of this culture the "hidden curriculum" of studio learning. In simple terms, the hidden curriculum refers to those unstated values, attitudes, and norms that stem from the social relations of the school and classroom as well as the content of the course (Dutton, 1991). Habits and culture are passed on throughout the years, and patterns are built upon generations of students, educators, and practitioners.'

(Koch et al., 2002:4)

When this studio culture is distorted, studio education and value is lost.

Central to the agitations of students is the belief that their education is not equipping them adequately for professional practice, so reiterating the suggestion of Will Hunter, Catherine Slessor, Jeremy Till on the need for alternative pedagogy that is not predicated on fixed knowledge. It is important to note that these alternative pedagogical approaches are already gaining recognition and are being experimented with at the edge of mainstream education while some are already playing out into the mainstream. We align ourselves here with the thoughts of Beatrice Colomina et al (2012:79) who gave an account of how students questioned the value of their education and revolted against certain pedagogies that were incapable of addressing social and political concerns. They assert that in such cases 'Radical Pedagogy' has always been the answer. One would be tempted to ask, what is radical pedagogy? Colomina et al posit that radical pedagogies are those pedagogical experiments in architecture that tend to question mainstream architectural education. Stating further that radical pedagogy goes out of the normative to provide alternatives where they could draw their strength from social, political, and multidisciplinary approaches (Colomina et al, ibid).

Impact of Information Technology (IT) and Computer Aided Design (CAD)

Very few schools have CAD properly enshrined in their curriculum. Four out of the six has only 1-2 unit load of CAD for their program. One has no CAD program at all. Imo State University has 6 unit loads of CAD spread between 2nd to 4th years. CAD was introduced into the curriculum first at 3rd year in 2003. The following year, it was adjusted to run as one unit load in each of the two semesters in 2nd year, same in 3rd year and two single units in the second semester of 4th year. By 2007, CAD had rooted firmly in the department. In 2008, year one master students were allowed to present their final work in CAD. Advancement in information technology is placing new demands on construction industries and architectural practice. Students see these changes as a threat to their education, since the rate at which technology in architecture continues to sophisticate the proliferation of software and virtual environment does not match architectural education, which has remained slow in catching up with developments. Sa'ad cautions that schools of architecture in Nigeria need to respond to these rapid development in information society through proactive curriculum reform (Sa'ad, 2001:6).

Visual Experience (Experiential Learning)

Considering that we are constantly surrounded by buildings and infrastructure, it is surprisingly difficult to witness the actual process of large-scale construction that leads to a building's existence. Corporate buildings and large constructions are usually sited in a mega metropolis like Abuja and Lagos. These are far from this region. In these cities, construction sites are often hidden behind high fences and the general public is kept at a safe distance from most construction sites. Some of the students implied that some aspects in built environment education are difficult to visualize from a mere verbal account in a classroom and are better understood by seeing them first hand. Video slides about building/landscape and construction techniques have been suggested to be useful as educational tools in telling better stories of how construction is evolving in other parts of the world.

Lecturer Enthusiasm and Experience

It is without doubt that a passionate and enthusiastic teacher makes learning more fun in any subject. Not surprisingly, a number of students expressed that they

learn better when the topic is delivered imaginatively, as well as enthusiastically through a relaxed, good tutor-student relationship. We as teachers most probably have experienced this connection from the expression and enthusiasm of students as well. For the students, there appears to be an additional need, albeit related, aspect to teacher enthusiasm: personal experience. Engagement and personal experience in a subject contributes significantly to the tutor's delivery skills. Some students opine that teaching needs to be creative through the passion of the tutor.

The key element in terms of a good learning experience is *how* knowledge is passed on. Taking a clue from Donald Schon's writing in one of his books *Educating The Reflective Practitioner* he presents the apprenticeship model of architectural education to possess a higher relevance to professional knowledge than technical process (Schon, 1987:22). Schon believes that learning in professional fields like architecture involves reflection-in-action which he calls 'practicum' where a student learns by doing through reflection on the tutor's (expert) experience. He cites an example of the student Petra who learnt how to resolve design problem from her tutor Mr. Quist through a joint reflection (Schon, 1985:32-52). However, Schon's Theory of Reflective Practice has received several criticisms, with examples given of other forms of learning beyond taking instructions from the expert tutor. Webster (2008:69), for example, argues that a novice can become an expert, citing examples to include personal and situated learning approaches.

Conclusion: **the Way Forward?**

This survey has revealed several issues students believe should inform their education, nevertheless their accounts also show a true reflection of the existing situation in schools of architecture in Nigeria. Among the issues they identified, many reflected an approach to design education which places the instructor in control of what students should learn (Teacher-Centred-Learning). I believe their concern is genuine as Webster (2008:69-70) argues that Prosser and Trigwell's ethnographic research provides evidence that Teacher-Centred-Learning has become less effective in educational pedagogy in recent times and advocates for a Student-Centred-Learning approach.

Information technology (IT) in architectural education, as they complained, is transforming the way architectural design is taught and learnt moving design studio from drawing board to cyber design studio. The mastery and the use of these tools in design education in Nigeria is relatively slow and not without its non-human challenges like constant electricity, broadband internet connection, and the curriculum. There is an urgent need for universities in Nigeria to be IT compliant while government and the university management should endeavour to upgrade power supply and physical infrastructure which is the backbone to any nation's economic development. The curriculum is attributed to be one of the major factors in the education of the architect that should be constantly reviewed to meet contemporary changes in society. In Nigeria, the curriculum modelled after the Bauhaus and Beaux Arts model has remained moribund and has lost touch with the socio-cultural fabric of Nigeria as a multi-cultural society (Adeyemi, 2000; Uji, 2001). This accounts for why architectural design is taught as an academic discipline which loses sight of the fact that architecture is influenced by social, political and cultural antecedents of society (Olotuah, 2006:86).

Architectural design models have also been faulted to lack the presence of real design issues and real clients, which Sara (2004) believes prepares the architect-student for professional practice in the real world where the process of commissioning involves negotiating and collaborative skills. Students believe that what influences their creativity and critical reasoning includes exposure to places beyond their immediate environment through excursions, attending conferences and visits to renowned cities around the world to provoke their creative abilities.

It is also obvious to observe that the architectural design educational model is anchored on problem-based learning (PBL) tracing it back to the atelier system of the Bauhaus through design competitions (Sara, ibid). Rosie Parnell agrees with Sara but argues further that this approach to education comes with its inherent contradictions and disjunctions if not properly handled (Parnell, 2001). She argues that with the introduction of peer discussion in a PBL design approach, facilitated by the tutor, a student's spatial intelligence and critical reasoning skills in architecture can be enhanced (Parnell ibid).

In conclusion there is need to reposition students' learning approaches such that they take their learning in their own hands. It therefore behoves architectural educators to continually chart for alternative, innovative approaches to design education in order to develop the right disciplinary values towards meeting contemporary societal challenges.

References

Adeyemi, E. A. (2000) Lest we Forget. Keynote address to the 7th Annual General Meeting/National Workshop of the AARCHES, 24 – 27 February 2000, Federal University of Technology, Akure.

Bauchanan, P. (2012). The Big Rethink: Rethinking Architectural Education. Architectural Review: Education Issue, (28th September 2012.

Bell, B. (2004). Design for the 98% without Architect. In: Bell, B (Ed). *Good deeds, good design: community service through architecture*. Princeton Architectural Press.

Brown, J. (2014) Learning theories for live projects. In Harriss, H. & Widder, L. (Ed). Architecture Live Projects Pedagogy into Practice. London & New York: Routledge, pp.18-23.
Chiles, P. (2000) The real client and the unreal project: A diploma case study. In: Nicol, D. & Pilling, S. Changing Architectural Education Towards a New Professionalism. Abingdon, Oxon: Spon Press, pp. 93-99.
Colomina, B. Chio, E. Dalan, I.G. Meister A. M. (2012). Radical Pedagogy in Architectural Education: Education Issue, (28th September 2012).
Cuff, D. (1991) Architecture: the story of practice. Cambridge, Mass; London, MIT Press.
Dutton, T. A. (1991). The hidden curriculum and the design studio. *Voices in Architectural Education: cultural politics and pedagogy*' New York: Bergin and Garvey.
Hunter, W. (2012). Alternative Route for Architecture: Education Issue, (28th September 2012).
Koch, A., Schwennsen, K., Dutton, T. A., & Smith, D. (2002) *The Redesign of Studio Culture*. A report for AIAS Studio Culture Task Force. Washington D.C.: AIAS.
Nicol, D. & Pilling, S. (2000) Architectural education and professionalism: Preparing for the future. In: Nicol, D. & Pilling, S. *Changing Architectural Education Towards a New Professionalism.* Abingdon, Oxon: Spon Press, pp. 1-27.
Olotuah, A. O. (2000) Architect–Educators and the Curriculum in Architecture: Roles and Expectations in the 21st Century. AARCHES J., 1 (5), August, pp. 29–32.
Olotuah, A. O. (2006) At crossroads of architectural education in Nigeria. CEBE Transactions, 3 (2) September 2006, pp. 80-88 (9).
Olotuah, A. O. & Adesiji, O. S. (2005) An Appraisal of Architectural Education in Nigeria. Proceedings of The Built Environment Education Conference, CEBE, London, UK, 5-6 September.
Parnell, R. (2001) It's Good to Talk: Managing Disjunction through Peer Discussion.
Sa'ad, T. H. (2001) The Changing Role of the Architect and Architecture in the Context of the Ever-Changing Technology, Socio-economic and Political Global Environment. In U. O. Nkwogu (Ed.) Architects and Architecture in Nigeria – A Tribute to Prof. E.A Adeyemi. Akure: AARCHES, Shalom Publishers, pp. 1–16.
Salama, A. Wilkinson, N. (2007). Introduction: Theoretical perspectives and Positions. In Salama, A. & Wilkinson, N. (Ed). *Design studio pedagogy: Horizons for the future*. Gateshead, UK: Urban International Press, pp. 41-46.
Sara, R. (2004) Between Studio and Street: The Role of the Live Project in Architectural Education, PhD Thesis, University of Sheffield.
Slessor, C. (2012). Architectural Education: A Call to Arm. Architectural Review: Education Issue, (28th September 2012).
Till, J. (2003). Lost judgement. *EAAE Prize*, *2005*, 164-181.
Uji, A. Z. (2001) Beyond the Critiques of the Curriculum of Architectural Education in Nigeria. In U. O. Nkwogu (Ed.) Architects and Architecture in Nigeria – A Tribute to Prof. E.A Adeyemi. Akure: AARCHES, Shalom Publishers, pp. 109–122.
Webster, H. (2008). Architectural education after Schön: Cracks, blurs, boundaries and beyond. *Journal for Education in the Built Environment*, *3*(2), 63-74.

Strategies for Teaching Awareness of the Built Environment or Landscape

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KU Leuven

Introduction: a Lack of Integration

How can we teach architecture students to deal with the surroundings of an architectural intervention? Today, many design assignments in architecture schools are organised in the same way as commissions in real architecture practices. Studio projects seem to be copies of architecture competitions for professionals, including a list of requirements and wishes made by one or more stakeholders at the start of the project, and including a review with a jury at the end. Students start their project with some sketches, which are further developed in a preliminary design, and at the end they make up design drawings and design details. This sequence works for professionals who master all the aspects of architecture, and therefore can foresee the consequences of the realisation of a preliminary design sketch. But this is not the case for beginning architecture students. For them, not being able to foresee the contextual consequences of their first ideas for the final result, the project often turns out at the end of the design process as a choice of the less disturbing option to deal with the surroundings of their project.

Confrontation of this Lack of Integration with Good Architecture

This lack of integration makes good architecture impossible, because earlier research proves that in good architecture, more satisfactory solutions encompass more topics of the stated problem at the same time. So these good solutions integrate many topics, including context.

They idea of integration has been formulated in the past in different ways by several authors. Among Rasmussen[1], the appearance of a building is only one of the several factors of interest. In a good building, plans, sections and elevations must harmonise with each other. Architecture is regarded as something indivisible, something you cannot separate into a number of elements. Ideas encompassing multiple topics are also called integrated[2] or composite[3]. Zumthor considers architecture at its most beautiful when things have come into their own; when they are coherent. That is when everything refers to everything else, and when it is impossible to remove a single thing without destroying the whole. The form reflects the place, the place is just so, and the use reflects this and that. In good architecture, form and construction, appearance and function are no longer separate. They belong together and form a whole[4]. Siza[5] talks about design as the subtle balance of all the facets of the social, functional, environmental, economic and contextual problematic of the project.

But integrating all constraints shouldn't be understood as eliminating all complexity and contradiction. Geers[6] uses internal consistency as the main criterion to distinguish a good project from a bad one, but at the same time he nuances this consistency. Complexity does not and should not exclude consistency. Every proper project engages in the found reality. It is as much part of the real context, as it is against it. It is its mirror and its transformer. A proper project fails, since any possibility to make complexity consistent fails.

Three Strategies to Counter this Lack of Integration

A literature review on didactics and on teaching architectural design, brings up 3 interesting strategies to counter the lack of integration of context in design assignments at architecture schools.

Thematic assignments

First, thematic assignments simplify the complexity of architectural problems and make it possible to focus on certain aspects. In other words, thematic assignments can help to exercise a refined taste for specific aspects of architecture. The integration of constraints, or more specific for this case, the coherence of context, with construction and/or form and/or space are important aspects of architecture, which can be exercised with thematic assignments. Hume[7], when discussing the standards of good taste, explains the importance of a refined taste by isolating different components. He talks about organs being so sensitive that they let nothing escape and yet so precise that they perceive each component of the composition. Because these properties sometimes occur in small quantities or mixed and confused, it often happens that taste by such tiny features is not affected or is unable to provide specific aromas to keep apart in the disorder in which they arise. Isolating these components makes it possible to create sensitivity for them.

Now what are the constraints in architecture that should be ignored just to isolate form, construction, space and context? Already about 2000 years ago, Vitruvius wrote that in architecture, account should be taken of strength, utility and grace. During history, architecture gradually evolved from a focus on solids,

to a shared focus on the solids and the voids[8] and later sharing the focus also with the context[9]. So in 1979, Ching[10] defined the 3 groups of Vitruvius as technics, function and form, and added space as a fourth group and context as an upper scale.

In the case of a focus on context, in relation with from, and/or space and/or construction, the project is to be isolated from function. Isolation from function will help, because all functional constraints would lead away the attention of the students from the integration of context with one or more of the other constraints.

Working on full scale

Secondly, working on scale 1/1, reinforces the focus on specific aspects as proposed with the thematic assignments in the first strategy. This is because by working on scale 1/1, the difficulty of rescaling and problems of representation are both omitted out of the design process and reinforce the possibility of focus.

Teaching backwards

And thirdly, the order in which steps are applied in practice, does not have to be the order in which they should be taught. There are very good reasons to teach "backwards", so there is always something before you that you already know. Among De Bono[11], it's useful to teach the "end result" in an early stage, so the student knows what he can achieve while he or she develops his skills. In architecture, Zumthor[12] confirms this, saying that the drawing of scale plans also begins with the concrete object, thus reversing the order of "idea-plan-concrete object", which is standard practice in professional architecture. First the concrete objects are constructed; then they are drawn to scale. For Zumthor, all design work starts from the premise of this physical, objective sensuousness of architecture, of its materials. To experience architecture in a concrete way, means to touch, see, hear, and smell it. To discover and consciously work with these qualities - those are the themes of his teaching. All the design work in the studio of Zumthor is done with materials. It always aims directly at concrete things, objects, installations made of real material (clay, stone, copper, steel, felt, cloth, wood, plaster, brick). There are no cardboard models. Actually, no "models" at all in the conventional sense, but concrete objects, three-dimensional works on a specific scale.

Working backwards in design is also related to the simultaneous development of problem and solution. What you need to know about the problem only becomes apparent as you're trying to solve it[13]. It seems that creative design is not a matter of first fixing the problem and then searching for a satisfactory solution concept. Creative design seems more to be a matter of developing and refining together both the formulation of a problem and ideas for a solution, with constant iteration of analysis, synthesis and evaluation processes between the two notional design 'spaces' - problem space and solution space[14]. Creative design involves a period of exploration in which problem and solution spaces are evolving and are unstable until fixed by an emergent bridge which identifies a problem-solution pairing. A creative event occurs as the moment of insight at which a problem-solution pair is framed. And also, in design, the solution and the problem develop together. Design is emergent - relevant features emerge in putative solution concepts, and can be recognised as having properties to the developing problem-concept[15]. Designing is about assessing the answer, not the question[16].

Case study: an Assignment which Concentrates on the Integration of Context, Form, Space and Construction

All three strategies were applied in a thematic studio assignment for second year bachelor students in architectural engineering.

Method

The project started where the design process in practice often ends; with the realisation of an intervention in an environment. Therefore, groups of 3 tot 4 students were assigned a perimeter, where they could choose an environment to work in. The students explored the impact of an intervention on a building or landscape. This was done by designing while building their intervention at the same time on scale 1/1. Therefore, students brought all kinds of materials and objects, in all kinds of forms, with them to the environment to experiment with. Several variants were investigated and the impact on the surroundings of the intervention was evaluated.

During the second week, and depending on the focus of the group, students explored also formal, spatial and constructive aspects in relation with the impact on the environment. The structural aspects, like for example the method of assembly, or the use of intermediary devices, were examined together with spatial and/or formal qualities, like elegance, composition and harmony. These tests delivered at their turn feedback for revisions and optimisation of the intervention in its context. At the end, some groups were able to harmonise context, construction, form and space.

Results

The group CUVY (Cappaert, Use, Verhaegen, Ysenbaardt) used duck tape to introduce rhythm and directions in a staircase. The horizontal lines on the curved wall emphasise the curves and the oblique lines on the stairs interact with the height of the steps. At the same time, both line systems harmonise into one design.

Fig. 1. group CUVY

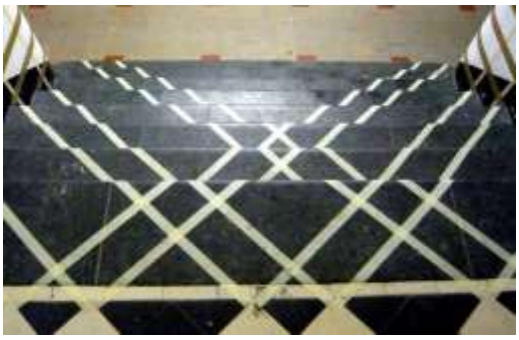

Fig. 2. group CUVY

The group JMKG (Johannes, Maarten, Koen,, Greet) changed the flooring and scale of a toilet room, by covering the whole floor with dish washing sponges. The group also paid attention to the detailing, using the same sponges as plinths on the borders of the flooring.

Fig. 3. group JMKG

The group MRRN (Mercelis Raimondi Ruelens Nikogosyan) accentuated the entrance of a public park along a bicycle lane by covering the entrance with orange cables, thereby defining a hierarchy in space, and at the same time taking special care of the non-destructive fixation of the cables on the trees.

Fig. 4. group MRRN

Fig. 5. group MRRN

The group VVVU (Van Bockxelaere Visser Vancaudenberg Van Ussel) dropped some parking carpets on a non-organised parking area. Some of these carpets did follow usual parking geometry, but not all of them. More regularly placed carpets were used as a single parking spot, some with only minor irregularity also. But others mostly not; causing frictions and interactions between the composition of cars on the one hand and the composition of carpets on the other. The materiality and color of these carpets were also chosen as an additional element in this interplay of compositions.

Fig. 6. group VVVU

Conclusion

Thematic 'design & built' assignments on full size simplify the complexity of architectural problems and make it possible for young architecture students to focus on certain aspects of the architecture and the design process. During the whole design process of a design assignment that we based on this theory, the formal and/or spatial an/or constructive aspects of what the students were building, were visible and at the same time, the contextual qualities were tangible on a full size scale. While not paying attention to function in these thematic design assignments, the bachelor students were able to concentrate on the integration of context, form, space and construction. They were able to focus on the link between on the one hand the contextual qualities of their intervention, and on the other hand the constructive, formal and spatial qualities of their intervention.

References

[1] Rasmussen, Steen Eiler. "Experiencing Architecture" MIT Press: Cambridge. 1959. p 09-33.
[2] Jones, John Chris. "Design Methods" John Wiley & Sons: New York. 1992.
[3] Goldschmidt, G., and D. Tatsa. "How good are good ideas? Correlates of design creativity" in *Design Studies* vol. 26 no. 6. 2005.
[4] Zumthor, Peter. "Thinking Architecture" Birkhauser: Basel. 2006.
[5] Siza, Alvaro. "Alvaro Siza Vieira: Simplicity is always complex" *on Abitare.com* (accessed January 2010).
[6] Geers, Kersten. "Crafting architecture. In search of the architect's project" in *Architecture as a craft Architecture, drawing, model and position* Sun. 2011. p 218-219.
[7] Hume, David. "Of the Standards of Taste" 1757.
[8] Giedion, Sigfried. "Space, Time and Architecture" Harvard University Press: Cambridge, MA. 1941.
[9] Frampton, Kenneth "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" in *The Anti-Aesthetic. Essays on Postmodern Culture* Bay Press: Port Townsen. 1983.
[10] Ching, Francis D. K. "Architecture: Form Space and Order" John Wiley & Sons: New York. 1979.
[11] De Bono, Edward. "Teach Your Child to Think" Viking: New York. 1998.
[12] Zumthor, Peter. "Thinking Architecture" Birkhauser: Basel. 2010.
[13] McCormac, Richard "Design is Open" on *University TV Broadcast on BBC* London, 1976.
[14] Dorst, Kees and Nigel Cross. "Creativity in the design process: co-evolution of problem-solution" in *Design Studies 22*. 2001. p 425-437.
[15] Cross, Nigel. "Natural intelligence in design" in *Design Studies 20* 1999. p 25-39.
[16] Mau, Bruce. "An Incomplete Manifesto for Growth" in *Life Style* Phaidon. 2000. p 88-91.

Education in Practice

James Soane

Project Orange Architects

Fig. 1. PO BOX 2 front cover

Introduction

PO Box 2 is the second research 'zine' produced by Project Orange, the practice I co-founded. This paper reflects on the way research in the studio shapes the design ethos of the practice. We also wished to explore what academic knowledge resides in practice.

By way of a controversial introduction I would like to quote the peer reviewed response to my abstract which noted:

"PO Box 2 seems interesting…(but) as it stands doesn't make a theoretical contribution at all".

In so many ways this throws down the gauntlet by highlighting the tension between the oftenincongruous agendas of academia and practice. While the process of research and propositional thinking is the life blood within a school of architecture, the same is only partially true within practice. There is no compulsion to have to explain or justify built work within the same terms of reference as a thesis project. Our starting point, therefore, is not to try and graft a theory of practice onto our work, but rather to set up a critical dialogue both between ourselves and a wider audience.

Another question that also gets asked relates to the relevance and sphere of influence of our own research. Clearly it is self-financed and printed, which until recently, would have attracted the term 'vanity publishing'. However as teacher and critic Leon van Schaik points out, the business of curating and reframing your own work is critical if there is an appetite for self-evaluation:

"Becoming a curator of yourself is a way of: knowing how to handle yourself at each stage of your journey as an individual creative person; locating yourself in the supportive and challenging environments that forge mastery; finding those peers who help you transform mastery into a platform for intellectual change; and seeking out those situations that clarify your creative breakthrough into innovation" [1]

In our multi-media centric world there seems to have been a change in attitude: the freedom to self publish is now understood as an opportunity rather than a reflection of failure to find a publisher. So in order for it not to be a piece of marketing or propaganda, the work has to be edited and disseminated. We are looking to trade our currency as critical thinkers. To that end the first PO Box was presented at the "Theory by Design" conference at Artesis School of Architecture in Antwerp. In his introduction Johan De Walsche noted:

"Contemporary architectural theory typically is constructed by academics, and within academia. Connections to practice are few." [2]

He goes on to expand the theme conference to explore alternative models of research which do not necessarily put academic and practice based knowledge in opposition, but rather asks whether:

"…considering theory as a social practice…can design, in all its meanings, be the medium to have new insights effectively shared? If so, making these processes explicit will advance not only academic architectural research, it will fundamentally impact on professional practice and on architectural education as well." [3]

Fig. 2. Project Orange Studio, London

Structuring the Conversation

At Project Orange the act of designing is most often a dialogue between 'ideas' and 'instinct'. While we favour a narrative approach, where the telling of the process informs not only an understanding but the outcome, we also have become increasingly aware of how important the notion of intuitive thinking is. This presents a conundrum – if something is invisible, personal and intuitive – how can it be made explicit or described as an intellectual construct? Rather than falling into the redundant binary position where academia is in opposition to practice and theory to intuition, we are interested in synthesising these poles into a conversation. As Jane Tankard notes in her introduction to PO Box 2:

"..design is a process that enables architecture to manifest itself as a transformative and evolutionary mechanism in contemporary and future social contexts," and goes on to say: "This focus on the relationship between theory and practice through a series of short essays is a useful and timely reminder of the necessity for the profession to consider and act upon these contexts." [4]

Our belief is that by making space for critical reflection we begin to gather together groups of ideas, interests and observations that mirror those of our collaborators as well as creating a collective memory.

Information Gathering

As Ruth Silver notes in her contribution there is another dichotomy to be reckoned with; that the process of design is often computative rather than overtly creative:

"As architects we spend the bulk of the duration of a project compiling information. This information takes many forms whether this is drawings, spread sheets or written specifications. Regardless of format, what they contain is data: grid lines, levels, clauses, thicknesses and constraints. That is, information for building" [5]

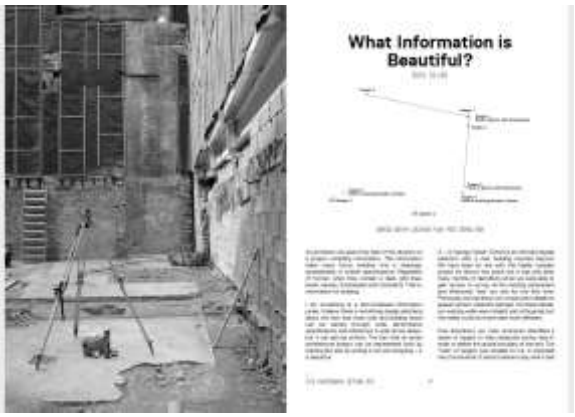

Fig. 3. 'What information is beautiful?'

Looking around the studio on a typical day most people are tapping away on a keyboard, some listening to music. This is punctured by questions, informal discussions, phone calls and gatherings. Our own structure is loose. We all sit in the same space, there is no hierarchy in terms of a seating plan, we have no admin staff so everyone chips in, and most significantly we believe that a good idea is worth pursuing whoever puts it onto the table. Mostly this 'flat' model works until it comes to a question where experience counts. Often this may be a technical or procedural issue or it might be one relating to communicating ideas. However sometimes it becomes an altogether more subjective question regarding more abstract values such as: meaning, style, concept or relevance. Because we do not have what might be known as a 'house style' or an obvious philosophy we need to discuss and debate the matter. This in turn has led to a scenario where everyone is a stakeholder both in terms of the output and the success of the studio. In order to evaluate this process we see the discussion as part of a formative assessment while the research zine is the summative assessment in so much as it is a formal and audited piece of work.

Representation

Increasingly we have found that our thoughts revolve around the question of representation. Not only in the sense of 'how should we draw this' but also addressing the more difficult question of 'what might this mean'. So the brief evolved for PO Box 2 for everyone to take on this overall topic and to triangulate it back to work that they have been doing in the studio. This connection is critical in order to build up a body of knowledge that relates to the practice, rather than a collection of observations that are looser fit. We used a CPD session to present our themes in 5 minute slots followed by a more general discussion. Each person then submitted an abstract to Jane Tankard, our guest editor, who offered feedback and one to one tutorials over a three month period. This live and fast-track programme encouraged the team to take an idea from concept through to fruition with mentoring along the way, while continuing with their main focus of production.

Drawing Inspiration

Taking the document as a whole there are a number of threads that are worth looking at in more detail. Firstly there is the idea that the act of making a drawing becomes the starting point for a project. These tended to be smaller installations or competitions such as the RHS Chelsea Garden or Room for London. Another theme is that of curation, which is especially true for our hotel projects, and unpacked by Emma Elston in her piece 'Rules of Representation'. There was also a sense that the role of the sketch was part of the intuitive design process. As Guido Vericat explains in his piece:

"Sketching is a way of thinking about architecture and space making. It is a medium by which one can 'annotate' one's thoughts, track the internal conversation and make it visible to be refined, shared and further interrogated". [6]

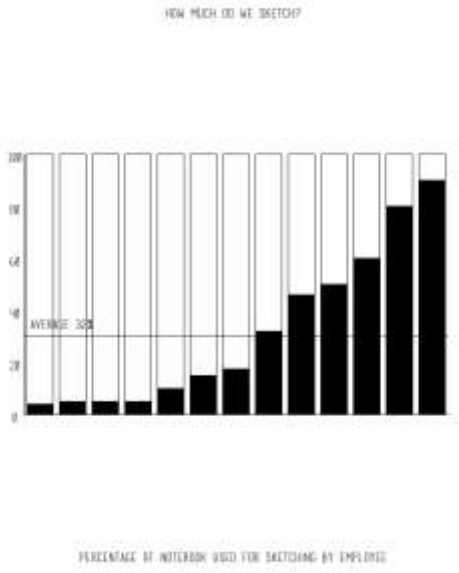

Fig. 4. 'How much do we sketch?'

Here the observation revolves around the notion of iteration and how something tentative becomes a process through which design is discovered. By contrast Thomas Partridge questions the ever-evolving role of computer modelling commenting:

"The tools now at the disposal of anyone with a computer allow the creating of exceptional architectural imagery where nothing is exceptional about the architecture; seduction without substance". [7]

He questions the power of the seductive image and goes further to speculate on the future of digital models to communicate far more than just a photo real perspective view. Both points of view are valid and relevant, and by juxtaposing them in print we are able to consider each in turn, debate the conversation and perhaps try something new at the next opportunity.

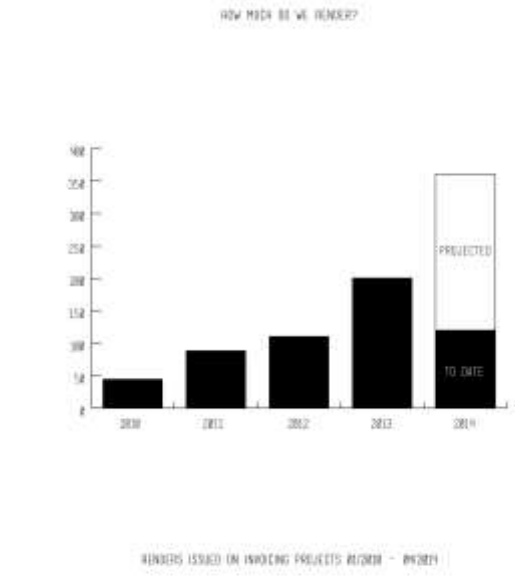

Fig. 5. 'How much do we render?'

Live(ly) and (A)live?

With reference to the theme of this conference it is legitimate to ask why is the putting together of a collection of essays in anyway a 'live' project? I suggest the answer lies in the context. At School the simultaneity of learning experiences is part of the course, though the synthesis of different knowledge bases happens within the studio. In a professional context the space and ability to reflect is compromised often in part due to the complexity, and tedium, of procuring buildings. While at a design level the outcome from the school and the practice may look the same, the translation from model to 1:1 demands considerable resource. Making space and time therefore creates the condition for reflection and calling it a project helps. So by (re)creating the milieu of a school we can tap into a sense of enquiry based on real time observations rather than, say, historical precedents or the edge conditions of architectural speculation. Even more critical, is the sense of direct participation. There is a palpable dynamic between the discussion and the project; in other words the act of taking and formalising a view through writing, starts to influence the actual design process. In this sense I believe the value of this kind of research is that it proactively examines, catalogues and questions past projects in order to look forward to future ones.

Conclusion

The outcomes from the publication were two fold. Firstly we have produced a document for public consumption; we have put our ideas onto the table. Secondly we have collectively opened up new ways of thinking for ourselves, some of which were implicit while others the result of the process itself.

How this enters into mainstream academia remains ambiguous. If Architecture itself is to be understood as a cultural entity then buildings must represent a significant part of the outcome. It may be for others to assess, critique and debate. However by engaging the debate internally the processes and ideas that shape the practice become more apparent, and by being prepared to open this further propels the narrative into another field, that of research. In my own essay I reached the following conclusion:

"We therefore continue to nudge, uncover and reveal different ways of thinking and designing as architects. We draw because that is what we have been taught to do, but we do it in ways that surprise us. We are open to suggestion." [8]

Fig. 6. POBOX 2 launch

References

[1] Van Schaik, Leon. "Introduction" in *Mastering Architecture* Wiley-Academy: UK. 2005. p 21.
[2] De Walsche, Johan. "Why Theory by Design is a valid Option" in *Theory by Design* Artesis Univeristy: Antwerp. 2012. p 19.
[3] Ibid p 24.
[4] Tankard, Jane. "Foreword" in *PO Box 2* Project Orange: London. 2014. p 3.
[5] Silver, Ruth. "What information is Beautiful?" in *PO Box 2* Project Orange: London. 2014. p 47.
[6] Vericat, Guido. "Drawing the Internal Conversation" in *PO Box 2* Project Orange: London. 2014. p 24.
[7] Partridge, Tom. "Simulating the Future" in *PO Box 2* Project Orange: London. 2014. p 71.
[8] Soane, James. "Drawing Inspiration" in *PO Box 2* Project Orange: London. 2014. p 8.

Habits of Mind and the Iterative Process in Design: Taking Responsible Risk

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The dangers of life are infinite, and among them is safety.

-Goethe

Introduction

In addition to disciplinary and social responsibility, traditional studio pedagogy typically focuses on learning outcomes that concern communication, history/theory/criticism, technology, materials, and practice. The iterative process in design wrestles with all of these challenges and yet, what do we understand about learning behaviours and studio education? As comprehensive as these learning outcomes appear, the dispositions needed for success are rarely taught as deliberate learning objectives in studio.

Education researchers Art Costa and Bena Kallick are the co-founders of the Habits of Mind Institute, which focuses on sixteen dispositions that empower creative and critical thinking. [1] Educators and administrators are increasingly looking to the *Habits of Mind* to better refine learning outcomes in higher education. As the design disciplines become increasingly interdisciplinary, the need to teach effective behavioural strategies has become urgent. The *Habits of Mind* can provide a foundation to help design students better work the iterative process. These habits not only cultivate an empowering awareness, but also provide a valuable a tool for navigating the chasm between disciplines in the field.

The sixteen *Habits of Mind* are identified as follows:

- Persisting
- Managing Impulsivity
- Listening with Understanding and Empathy
- Thinking Flexibly
- Thinking about Thinking (Metacognition)
- Questioning and Posing Problems
- Striving for Accuracy
- Applying Past Knowledge to New Situations
- Thinking and Communicating with Clarity and Precision
- Gathering Data through all Senses
- Creating, Imagining, Innovating
- Responding with Wonderment and Awe
- Taking Responsible Risks
- Finding Humour
- Thinking Interdependently
- Remaining Open to Continuous Learning

As one of sixteen papers exploring the *Habits of Mind* specific to design studio instruction, this paper focuses on *Taking Responsible Risk* and the iterative process in studio education. It seeks to better understand risk, its application to design education and the importance of teaching responsible risk-taking in the design studio.

Responsible risk-taking is critical to the iterative process in design. A fuller understanding of *risk* can lead to better strategies in the studio and can help students to cultivate a more responsible and deliberate working methodology. The employment of responsible risk-taking technique can strengthen the innovative process as designers struggle to solve important problems.

Eros, Thanatos and the Space In-Between

The time came when the risk it took to remain tight in the bud became more painful than the risk it took to bloom.

- Anais Nin

The extreme sports enthusiast and the problem gambler know that it is often when we are at the very threshold of our own undoing that we feel most alive and the greater the dissonance between success and failure, the greater our arousal. The constant negotiation of these bounds, shape and define us. We are the children of victory and defeat, and so we are reared by the capricious lessons they mete.

As designers, the constant tension between creativity and homeostasis is a familiar one. We are in perpetual flux, ebbing and flowing to the pull of two ancient rivals. Furling and unfurling in this unrelenting paroxysm, we find ourselves manifest as this great antinomy's dancing hologram.

Our relationship to the duality of Eros and Thanatos is measured by our comfort with risk. The perpetual struggle to resolve these energies is both familiar and bittersweet, for we can never be satisfied. It is in this place of unrest; in-between 'the want' and 'the have', that we find we are home.

Understanding Risk

The greatest risk to man is not that he aims too high and misses, but that he aims too low and hits.

-Michelangelo

All human advancement has come from an inherent willingness to engage in risk. Science tells us that individual risk-taking behavior is also regulated by neurobiology. The variance in a student's desire to take risks or play it safe is also determined by personality, biochemistry, psychological state, and cognition.

Culture and risk

Different cultures have different relationships with risk. At the heart of risk lies choice and ours is a culture that is safer and knows more choice than ever before. Rebellious behaviours are closely associated with behavioural risk measures.[2] Acts of non-conformity, rebellion and dissent are celebrated in modern culture and serve to further reinforce this primal drive. The portrait of the creative genius as risk-taking apostate has become the single most prominent characteristic of the designer anima and the trend is increasing in large part due to the prevailing cultural influences.

There is a natural symbiosis between a culture's attitudes toward risk and the heroes it exalts. A student's understanding of the risk/ideation relationship is influenced by example and there is perhaps no better-celebrated contemporary designer than Apple's former chief executive, Steve Jobs. Here students find the portrait of a wildly successful designer characterized by fearlessness and an unrelenting single-mindedness, someone who did things his own way and expected the rest of the world to fall into line.[3] For current design students, no design story better personifies the designer archetype and highlights the fundamental connection between innovation and risk. It is tragic too, that his exceptional relationship with innovation and risk likely played a role in his untimely demise.[4]

Adolescents are most inclined to take risk and this tendency does decline with age. By the time they've reached college, young design students have already internalized powerful recurring media messages about the virtues of shunning restrictive social mores.[5] This demographic also shares a prevailing concern with authenticity, particularly of the self. These are students who are unfettered by cultural norms, conventions and appropriate behaviours. Never before has a generation been so unconcerned with social approval.[6]

The current generation of college students is one where the individual comes first and this proclivity extends into the realm of creative expression. A decreased need for social approval increases a design student's willingness to engage in risk, but it does not guarantee that this risk-taking will always be responsible.

Sensation seeking and impulsivity

Researchers have known for some time that sensation seeking, impulsivity, and low self-control are strongly correlated with risk-taking. Measurements of high behavioural disinhibition, high greed, and low humility/honesty also seem to correlate directly to higher levels of risk-taking.[7] A better understanding of high sensation seeking and impulsivity can offer valuable insight as we consider approaches to teaching responsible risk-taking in the studio.

High Sensation Seekers (HSS) are generally defined as those who seek novel, varied or complex sensations or experiences and the willingness to take physical, social, legal and financial risks for the sake of such experiences.[8] [9] HSS have a tendency to weigh the benefits of risk behaviour higher than its costs[10] and are more likely to engage in high-risk behaviors, such as drinking, smoking, drug use, and risky sex.[11] HSS may also be an early neural marker of the decreased sensitivity typically found in addiction.[12]

Impulsivity is defined as a combination of low harm avoidance and high novelty seeking and is thought to be central to impulse control disorders such as pathological gambling.[13] Poor impulse control is of key importance to understanding psychopathology, antisocial and aggressive behaviours, attention deficit hyperactivity disorder (ADHD), and alcoholism.[14] Narcissists in particular, take more risk than others. Their perception of benefits from risky behaviours is high. It is theorized that narcissists harbour a surplus of eagerness, rather than a deficit of inhibition.[15]

Risk sports and gambling

Risk sports and gambling fill an inherent need to experience challenge and uncertainty and offers insight about the nature of risk.

As we attempt to satisfy an urge toward self-actualization, arousal does appear to be the propellant for those magical moments that seemingly transcend space and time. The great irony of course, is that it is only in those moments, when one pushes hard enough to be on the cusp of failing, that one feels most alive. We are often at our creative best in those threshold moments when we perceive that we are closest to failure, or running out of time. Extreme sports, such as free climbing, skateboarding, parachuting, and skiing are beginning to offer insight into how this phenomena works. In a recent study of skateboarders for example, we learn that the tendency to sensation seek is the most significant factor associated with risk-taking behaviour.[16]

High levels of sensation seeking were found to predict increases in general risky behaviors and gambling offers additional insight for understanding risk.[17] An individual's perception of control is related to their experience of risk. The pleasure of high arousal associated with taking risks is more likely to take place under circumstances where subjects have a relatively high degree of perceived control.[18] In such circumstances, individuals can perceive the danger in risk activities as highly enjoyable. For people who perceive low control, risk-taking activities are likely to provoke fear and anxiety.[19]

Mental toughness and risk-taking

Much to the chagrin of critics, the controversial "tiger-mom" method of cultivating grit might actually be effective when it comes to nurturing success.[20] Children involved in competitive sports show increased measures of mental toughness and a greater willingness to engage in challenge and physical risk. Interpersonal confidence was positively related to attitudes towards psychological risk.[21] Tough character, tough attitudes, tough thinking and the willingness to engage in risk were all identified as important to dealing with external pressures in high performing English cricket players. In order to be successful, the athletes were willing to engage in frequent risk. [22] Another related study showed that risk-taking informs resiliency and courage.[23] These studies would seem to support achievement motivation literature, which suggests that high achievers typically seek out challenging tasks and situations.[24]

Gender and risk

Studies have consistently shown gender differences in attitudes to risk-taking, with men being generally more risk-prone than women. More recently, a 2008 study found that men tended to take greater risks than women when rock climbing, even when they were not more experienced, nor possessing higher ability. Men reported more confidence in their capability to manage the risk involved in their sport.[25] Studies have shown that women progress much faster to pathological gambling however, revealing that different genders appear to be more comfortable with different types of risk.

Heritability

The first personality related gene to be discovered was identified as the risk-taking gene.[26] It is estimated that roughly 15% of the population is willing to engage in high risk.[27] Science has also found substantial genetic and environmental effects on impulsivity.[28] Highly heritable behavioural traits related to risk-taking are further shaped by environmental factors and individual influences.[29] In situations of high need, it is possible for many to shift from risk-aversion to risk-proneness regardless of dominant proclivity, making us highly adaptive.[30]

Teaching Responsible Risk in the Design Studio

What is an anarchist? One who, choosing, accepts the responsibility of choice.

-Ursula K. Le Guin

The iterative, creative process of the design studio is often fluid and unwieldy. The unique, explorative nature of the studio is often a journey of discovery, for both student and instructor and learning outcomes are sometimes difficult to fully identify at the start. As prevalent learning outcomes for the design studio, responsible risk-taking and the *Habits of Mind* can serve as a certain anchors for other goals.

There is a need for students to think about responsible risk and its implications for their work and development. The iterative process demands risk-taking, but how much risk is too much? What is the difference between recklessness and responsible risk-taking and how can we cultivate the latter?

Cultivating awareness

Cultivating new behaviors can only begin by fostering awareness. To teach responsible risk-taking, we need to first get students comfortable with being in a state of discomfort. They must develop awareness that their future growth is dependant on their willingness to stay on the edge of failure and take calculated, productive risks.

Awareness can be one of the most powerful motivators for inspiring a willingness to form new habits. This can begin with an honest and thorough self-assessment. In 2010, Erskine S. Dottin developed a *Habits of Mind* Inventory as a tool to help facilitate the assessment of professional educators. This assessment asks pertinent questions which help establish a person's relationship with risk based on past behaviours. A sampling of questions related to responsible risk-taking include the following:

- -Did you find yourself wanting to go beyond established limits?
- -Did you find yourself accepting setbacks as challenging and growth producing?
- -Did you find yourself knowing when to take educated risks and when not to take impulsive risks?

Design students would benefit from answering similar questions about their risk style relative to the iterative process in design.

There are less formal ways to incite awareness and prompt discussion. Asking students to participate in a friendly game of *ring toss* can segue neatly into discussions about risk-taking in the studio. Students can be asked analyse the risk strategies they employed and make a written self-assessment of their relationship to risk-taking based on the outcomes of the game.

Calculating risk

Working to one's strength is often just another variation of playing it safe. Students should be encouraged to develop a familiarity with their existing abilities and limits and identify opportunities for growth and expansion.

Insurance companies expertly assess risk for profit. It also makes sense for the design student to develop the skills necessary to form a qualitative assessment of their personal risk as they engage with a new studio project. Relevant variables can be carefully considered as students make an honest assessment of their opportunities for growth. For example, assessing how much time tasks take will encourage a more responsible risk-taking style and heighten confidence. Students who feel confident in their abilities are more likely to challenge themselves, mobilize efforts and persist for a longer period of time in the face of difficulty. [31]

Challenging our understanding of failure

The fear of failure can be a powerful motivator for success; it can also act as a restrictive and inhibiting force and limit our willingness to take risk. A fear of failure is best described as the fear of responsibility for choice. It is the same underlying fear driving the student who insists on knowing precisely what they have to do to earn an 'A' in studio. In this transaction, this design student is showing a reluctance to accept personal responsibility for his or her choices and is showing a preference for the 'sure thing' over the growth offered by risk. Insecurity prevents this student from choosing the more rewarding path.

Failure is fundamental to the iterative process in design. To accept failure, a designer needs confidence. Successful designers force mistakes to gain momentum, in an active process of constant decision-making. When a designer fails, a cognitive message registers to not repeat the mistake. Students must understand the power of failure. While it does not define who they are, it can have the power to prevent them from realizing their full potential.

There is a cultural stigma attached to failure, so we try to avoid it. In order to effectively teach responsible risk-taking in the iterative process, we must first seek to challenge a student's relationship with failure. Instead of fearing failure, we must cultivate a studio culture that celebrates it. Students should be encouraged to fail quickly and fail often. Students must persevere; learn to cope effectively with adversity and to rebound quickly from failure.

Conducting a premortem

Research psychologist Gary Klein developed the Premortem in 1998 as a managerial strategy. A Premortem is a cognitive exercise in which a student is asked to imagine that their design project has failed and to quickly write down all of the reasons for the failure. Conducting a Premortem enables students to determine threats and take preventative actions to protect the project.[32] By envisioning this failure, students are better able to identify what might go wrong before it does and then fix it. This exercise will correct for a natural predilection towards over-confidence and help students engage in a more responsible risk.

Encouraging metacognition

The iterative process benefits from regular intervals of brief reflection. Deliberately engaging written language to clarify and define experience not only clarifies future making, but also helps students improve their design vocabulary and critical thinking. At a project's completion, students should be encouraged to reflect more thoroughly on risk and the *Habits of Mind* dispositions as it informed their process.

Future Research

Further study is needed to distinguish how design students might differ from other demographic populations in their approach to risk. Results from a personality test, such as the International Personality Item Pool-Risk-Taking Scale, might better clarify these differences and help refine the way we teaching responsible risk-taking in the studio. The results of such a study might also reveal variances in the way that the different design disciplines approach risk-taking. As the design disciplines become increasingly interdisciplinary, this might prove to be a valuable knowledge.

In addition to this study, the creation of a Habits of Mind Inventory specifically developed for design students, might provide a powerful catalyst for encouraging better awareness of the behaviours necessary for success in the studio.

Acknowledgements

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References

[1] Costa, Arthur L., Kallick, Bena, Learning and Leading with Habits of Mind: 16 Essential Characteristics of Success (Alexandria, VA: Association for Supervision & Curriculum Development, 2008) 14-42.

[2] Reid L. Skeel, "*The utility of personality variables and behaviorally-based measures in the prediction of risk-taking behavior."* Personality and Individual Differences 43 (2007): 203–214.(www.sciencedirect.com).

3 David Carr, "*Steve Jobs Reigned in a Kingdom of Altered Landscapes*," New York Times, 27 April, 2011 (http://www.nytimes.com/2011/08/29/business/media/steve-jobs-reigned-in-a-kingdom-of-altered-landscapes.html?ref=technology&_r=0)

[4] Alice G. Walton, "*Steve Jobs' Cancer Treatment Regrets.*" Forbes 24 October, 2011 (http://www.forbes.com/sites/alicegwalton/2011/10/24/steve-jobs-cancer-treatment-regrets/).

[5] Twenge, Jean M., Generation Me (New York, NY: Free Press, 2006) 21.

[6] Twenge, Jean M., Generation Me (New York, NY: Free Press, 2006) 42-43.

[7] Joshua A. Weller, Erik W. Thulin, "*Do honest people take fewer risks? Personality correlates of risk-taking to achieve gains and avoid losses in HEXACO space*." Personality and Individual Differences 53 (2012): 923–926. (www.elsevier.com/locate/paid).

[8] Melissa A. Cyders, Gregory T. Smith, "*Clarifying the role of personality dispositions in risk for increased gambling behavior*." Personality and Individual Differences 45 (2008) 503–508. (www.elsevier.com/locate/paid).

[9] Zuckerman, M., 1979. "*Sensation seeking: Beyond the optimal level of arousal.*" Erlbaum, Hillsdale.

[10] Julie Maslowsky et al. "*Cost-benefit analysis mediation of the relationship between sensation seeking and risk behavior among adolescents.*" Personality and Individual Differences 51 (2011): 802–806.

[11] Zuckerman, M., Sensation seeking: Beyond the optimal level of arousal.(Erlbaum, Hillsdale: Halsted Press, 1979)

[12] Anita Cservenka et al. *"High and low sensation seeking adolescents show distinct patterns of brain activity during reward processing."* NeuroImage 66, (2013): 184–193.

[13] Moeller, F.G. et al., *"Psychiatric aspects of impulsivity."* American Journal of Psychiatry 158 (2001): 1783–1793.

[14] Serena Bezdjian et al., "*Genetic and environmental influences on impulsivity: A meta-analysis of twin, family and adoption studies.*" Clinical Psychology Review 31, (2011): 1209–1223. (http://www.sciencedirect.com/science/journal/02727358).

[15] Joshua D. Foster et al., "*Why do narcissists take more risks? Testing the roles of perceived risks and benefits of risky behaviors*." Personality and Individual Differences 47 (2009): 885–889. (www.elsevier.com/locate/jesp).

16 Laurence Kern et al.," *Risk perception and risk-taking among skateboarders*." Safety Science 62 (2014): 370–375. (www.elsevier.com/locate/ssci).

[17] Sandeep Mishra et al. "*Gambling as a form of risk-taking: Individual differences in personality, risk-accepting attitudes, and behavioral preferences for risk*." Personality and Individual Differences 49 (2010): 616–621.

[18] Apter M. J., The experience of motivation: the theory of psychological reversals (London; New York: Academic Press, 1982)

[19] Apter M. J., The dangerous edge: the psychology of excitement (New York: Free Press, 1992)

[20] Amy Chua, *The Triple Package: How Three Unlikely Traits Explain the Rise and Fall of Cultural Groups in America* (New York, NY: Penguin Press, 2014)

[21] Lee Crust, Richard Keegan, "*Mental toughness and attitudes to risk-taking.*" Personality and Individual Differences 49 (2010): 164–168.(www.elsevier.com/locate/paid).

[22] Bull, S., Shambrook, C., James, W., & Brooks, J. (2005). "*Towards an understanding of mental toughness in elite English cricketers*." Journal of Applied Sport Psychology,17, 209–227.

[23] Maddi, S. R. (2004). "*Hardiness: An operationalization of existential courage*." Journal of Humanistic Psychology, 44(3), 279–298.

[24] Duda, J., & Hall, H. (2001). "*Achievement goal theory in sport: Recent extensions and future directions*." In R. Singer, H. Hausenblas, & C. Janelle (Eds.), Handbook of sport psychology (2nd ed., pp. 417–443). New York: Wiley.

[25] Llewellyn, D., & Sanchez, X. "*Individual differences and risk taking in rock climbing.*" Psychology of Sport and Exercise 9(4), (2008): 413–426.

[26] C.R. Cloninger et al., "*Mapping Genes for Human Personality."* Nature Genetics (1995)

[27] "*Hovedrapport*" Norse Monitor (2003)

[28] Goldman, D. & Fishbein, D. H., "*Genetic bases for impulsive and antisocial behaviors - can their course be altered?*" In D. H. Fishbein (Ed.), The science, treatment, and prevention of antisocial behaviors: Application to the criminal justice system (2000): 9:1-18.

[29] Fishbein, D. H. (Ed.). "*The science, treatment, and prevention of antisocial behaviors."* In D. H. Fishbein (Ed.), The science, treatment, and prevention of antisocial behaviors: Application to the criminal justice system (2000): 1 –21.

[30] Sandeep Mishra, Martin L. Lalumière, "*You can't always get what you want: The motivational effect of need on risk-sensitive decision-making.*" Journal of Experimental Social Psychology 46 (2010): 605–611. (www.elsevier.com/locate/jesp).

[31] Bandura, A., *1997. "Self-efficacy: The Exercise of Control."* Choice Reviews Online, 1997, Vol.35-03*:(2007): 1826-1826.*

[32] Gary Klein, "*Performing a Project Premortem."* Harvard Business Review 85-9 (2007): 18-19.

The Studio and the Architect, the Post-Studio and the Artist

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Fig. 1. The final structure in the Art & Design studio

Introduction

This paper documents an overview of the activity for a live project undertaken as part of the Birmingham School of Architecture's Co.LAB initiative. The project contextualizes and informs a philosophical and pedagogic debate that forms the main body of the rest of the paper on the role of the architecture studio, adopting an art perspective to offer an ulterior view on improving student's awareness of external environments when interrogated within studios.

Mechanics of the collaborative laboratory

Co.LAB (abbreviation for Collaborative Laboratory) is a cross-disciplinary initiative at the School of Architecture using collaborative practices as the principle design methodology.[1] The school coordinates a number of 'elective' projects every academic year for students to choose from.

Whilst Co.LAB has developed a diverse portfolio of projects typical of a standard live project type, (both as assessed modules and extra curricular opportunities), the projects remain consistent with the academic's particular interests and expertise. It provides opportunities to develop research activity using a project as a catalyst to contribute to the research area. The project that forms the basis of this paper is a demonstration of this strategy with scholarly research undertaken during and subsequent to completion of the module, elaborating upon some of the more enriching themes highlighted during this collaboration.

The BAAD Studio

The project was a collaboration between the BA (Hons) Art & Design programme (BAAD) to design a freestanding structure in one of BAAD's new studio rooms in the School of Art; J.H. Chamberlain's Grade I listed building in the heart of Birmingham City Centre. The purpose of this new intervention was to enhance the distinction between this course and that of Fine Art, strengthen its visual presence in the building, and improve the working environment for the students using the space.

The project involved an architecture cohort of four 2nd year undergraduate students working alongside three 5th year MArch postgraduate students. Students from the Art & Design programme met with the architecture cohort at key points during the year for formal consultation and presentation sessions.

Defining the exploration

The 'live project' component referred to here is relatively self-contained - the design and fabrication of a structure. It was essential to acquire a base level of knowledge how the practice of art & design differs to that of architecture and to facilitate the 'exchanges' between both student groups. The programme refers specifically to *post-studio* practice; a term initially coined by conceptual artist John Baldessari[2] and more often associated with the philosophy of site artists Daniel Buren and Robert Smithson. Writings on the subject helped inform the final design proposal, but more influentially, encouraged both students and staff to reflect on our own architectural studio practice in specific terms to an education setting. The work questions what the studio represents as a concept in its own right and to the discipline of architecture. Does the ambition of productivity as an architectural process alter with a new perspective generated from contemporary art practice? The paper starts with an initial discussion on the relevance and parallels between post-studio practice and the architectural studio. The main body then focuses on one of the main student activities; a comparative study of studio usage

across both departments mapping the relationship between site, studio and context. Cross-department consultation meetings follow, highlighting the importance of communicative networks. Finally, a summary of the constructed proposal concludes the main points of discussion.

Post-Studio, Site/Non-Sites

The students carried out their first task to observe and critically reflect on their own studio culture with the comparison of another discipline's approach. Every architecture student developed their individual investigative techniques ranging from detailed mapping to photographic surveys, in addition to supporting secondary research into the subject of post-studio.

The Art & Design programme distinguishes itself from the more conventional Fine Art programme. Both departments are located within the School of Art, but it is important to highlight the relationship between the two courses and their respective spaces; Fine Art encourages students to establish their individual creative identity. The typical vision of isolated studio space per artist applies here where each student develops their work through personal and intimate investigations literally bounded by the confines of blank white walls. Conversely, Art & Design emphasise interdisciplinary working practices that incorporates design elements where work responds to a defined situation or problem. The work generated is not restricted to the studio, nor is the studio seen as the *sole* place of production. The crucial difference is where the end result is displayed and produced. In Daniel Buren's essay *Function of the Studio*, Buren describes the art world in terms of its market function, and the studio as a stationary place where objects are produced, acting as a filter for the artist to the outside world. The truth [of the art work] is lost in transfer to the gallery, partly due to the fact that the final destination of the work is unknown.[3]

However, artists working under post-studio conditions tend to produce commissions once they travel to the institution (or place) that is to display or curate the work. Artists use the site to inform their thinking, and exploration. As a result, negotiation is an important part of the making. Techniques and a critical awareness of one's design process are altered with in-situ exploration.

In this respect, what should the purpose of the BAAD studio be? Clearly it is a base for the taught programme where tutored guidance is provided, but independent study is an essential part of Higher Education. The ability for the studio to support students during these times is of great value to develop their practice. Architecture student A[4] used a photographic survey to record the balance of voids of a room (empty space) in comparison to the room size, attempting to relate this to student usage in formal/informal exchanges. The architecture studios showed a well-balanced arrangement with very little void space present – the rest being occupied for functional activities. The BAAD studio demonstrated an overbalance of void space in a studio that is comparable in its footprint. Upon discussing this with the Art & Design cohort, they admitted that the scale of the room was overwhelming and this sense of intimidation didn't encourage them to settle in a suitable work pattern for long periods of time unless specifically required to do so for scheduled activity.[5] The lack of student occupation and visible presence does reduce the sense of ownership during independent study time and results in a lack of spatial identity for the programme. This contradicts Buren's view on post-studio practice, suggesting that the work intends to be free from the constraints the artists have within their own space. Therefore the balance between creative and spatial identity seem to be independent from one another. Any design contributing to the BAAD studio needed to respond to this perception accordingly.

Extensions to the studio

'*The museum and gallery on the one hand and the studio on the other are linked to form the foundation of the same edifice and the same system'* – Daniel Buren.

The system indicate here is the art world; from creation to display and commercialisation. Each of the buildings and spaces within this system follow a recognizable character or typology. The function of the studio is already pre-determined as the place for art production. The professionalization of the art system requires an infrastructure and support system of technicians, assistants, curators, gallery owners etc. These satellite facilities extend the studio out into the city as a *dispersed* process of production. Professionalisation has fundamentally shifted the art discipline, forcing those involved to question the role of each satellite in a critical manner. For example, in researching for this paper uncovered a wealth of published books on the subject – aimed to help inform artists, students, and supporters to better understand these new methods of professionalised production.

To make a comparison with the professionalisation of the construction industry is obvious but inevitable. However, the role of the studio in architectural circles remains routed in understanding *studio culture* as a behavioural condition. Research are mainly disseminated in established academic conference networks and architecture journals, which often questions the impact of studio culture on optimizing pedagogic strategies and teaching delivery to improve student development - often through collaborative learning.[6] Further research on the subject evaluates student perception, and the pressures on schools of architecture by, mainly, non-disciplinary conditions (e.g. university room bookings).[7] What has emerged from completing this live project is realising how the art

discipline analyses the relationship between studio and its impact on the *nature* of the work, and not just the students behavior in them. Site specific work often has a different conceptual starting point to studio based practice. In addition to contemplation and reflection, in-situ work requires negotiation and representational devices to refer to real physical conditions so the studio system does not implant this with student allegory.

Studios nurturing stars?

Archiculture, a documentary film recording B.Arch students at the Pratt Institute, illustrates a typical studio scenario in most architecture schools. Even though the format of the film remains character focused, the work and the critique of the work remain very much in the realm of the starchitect designer. The film does not attempt to link the two conditions together, but it is clear (with the film director admitting this issue in an interview) that conventional studio culture often isolates design process and discussions of design within a limited circle of influence.[8] Here the confines of the studio have a strong resemblance to Fine Art where thought, creativity and debate are centered on the individual and the physical confines they set themselves in.

Architecture Student B's study on studio usage focused on the interactions between the people situated in the studio – namely the students and tutors. In both departments, a repetitive pattern emerged with the hierarchy of personnel generated the most influence on that space. Student B's visuals indicate the interactions emanate from the tutor who holds the attention of the group during a tutorial, or the student body itself during other activities. Both conditions reveal it is a personality that holds sway in the dialogue and development of design. Therefore it is totally reliant on the individual's constructed version of site rather than the reality.

Robert Smithson's work shall be referenced to inform the discussion on how studio usage can respect and involve context. Sites/Non-Sites, as a series of exhibitions, is well documented and interrogates the relationship between the artwork, viewer and context. Expanding on this relationship will draw parallels to the connections between the role of the architecture studio and the representational work located in a real environment.

Robert Smithson as an artist, writer and theorist, was renowned for his earthworks and material sculptures that challenged traditional categorization of the medium during the 1960's. Due to issues of scale and setting, Smithson's earthworks moved conventional practice away from making formal objects situated in a gallery, instead defining an entirely original notion of landscape.[9] Tradition and modernism were both dealt with and disregarded in equal measure, the manipulation of site and materials removes any notion of formalism or rules, whilst the work still retains a wider conception and representation idea of the sculptural medium.

The art works essentially brought found materials from a designated site into a gallery (non-site). The material would be excavated from the ground, or from an existing man-made structure. Once in the gallery, the 'matter' was placed in containers or dissected with mirrors and displayed with a series of maps - indicating the position where the material originated. The maps acted as 'a signifier and the site that is signified.'[10] The work involves concepts of reflection, correlating to not just a link between internal and external space, but once in the gallery, suggesting to the viewer to consider the space around the art work as a non-site and instead, focus on the matter in it's original location. The work is neither made for the gallery, nor is it a site-specific work.

The key to holding this complex relationship are the images (both location photographs and maps) connecting the sites to the non-sites - but more than just representational. All visual work accompanying the artefact projects a real and existing space, condition or ambience. The artefact on display is the site itself. Here, the viewer has no doubt in being forced to consider the environment that is beyond the gallery room.

Could this form of post-studio practice be applied to the architectural studio? And how does discipline define differences in the procedure? The limitation of Smithson's series is the choice of setting – often rural, uninhabited locations that simplifies the context to mere physical appreciation. Architectural work has to consider social and cultural conditions that affect the site. However, the form and medium of the artefact can be adopted to suit non-physical issues. The main attribute is to enforce the relationship between the work, viewer (student) and context. Due to the scale of projects typically involved in architecture, the work often reverts to representation. Certain design activities allow artefacts (of various mediums) to be brought into the studio because of its relative scale and ability to collect 'matter' – whether physical or non-physical. More of these opportunities could encourage students to review context as a reality through the process of making and curating the forces at work in the non-sites. This will require a greater degree in negotiating an understanding of site, and what 'matter' can be brought-in to the studio to make sure the view is projected towards the site rather than the student's representation.

The Remote Workplace

A series of consultations were completed between the architecture group with the Art & Design cohort. Five sessions were planned - the first two were informal with architecture students improvising when coming

across a group of BAAD students on site, the final three sessions were more formal with the BAAD group composed of a students across all three years of the undergraduate programme. The final meeting point was a presentation of the final design to the entire Art & Design 3rd year cohort in preparation for their end of year show.

Remote working plays a strong role in the BAAD cohort's production process. In the fourth consultation, one Art & Design student said, "the spaces required aren't just tables but also vertical surfaces."[11] Surface it seems is vital for production to occur. Architecture Student C promptly investigated the difference between the occupation of surfaces between the architecture and BAAD studio. Upon mapping the table 'usage' on a typical independent study day, Student C realized "what we surround ourselves with is not limited to the tools that we as students identify as necessary for work by the introduction of personal paraphernalia"[12]. The positioning of the tools and paraphernalia followed a simple pattern; the deeper the table, the more relevant items are closer to the student edge. Other items move behind inaccessible points behind the laptop screen – especially in cluster formations. Turckes & Kahl's investigation in studio design for the BV Centre in Kansas revealed that 'the process - not just the product - takes center stage'[13] based on the way students use tables to generate an increased number of communicative exchanges for a more creative and collaborative learning environment.

Negotiation and networks

The critique on Smithson's work alludes to an involvement in negotiation. Negotiation prioritises relationships between artists and citizens, shape the non-traditional aspects of our work into a metaphor, pulling out meaning from individual narratives.[14] This skill becomes useful when working with communities as one gathers conversations from various sources. Studios become nodes where general communication demands occur.

In Lane Relyea's essay Studio Unbound, the dominant resource of the practitioner is the network – one which is part of a system, (different to Buren's idea of the art system). As artists create, they display, explore, visit, curate, organize events, teach and disseminate. These all become part of a horizontal and reciprocal system that extends ideas beyond both the studio and the gallery. Relyea uses bricolage sculptures as a case for his arguement.[15] Positioned as site interventions, they remain open to the public and come into contact with a larger proportion of a community. Relyea declares them to remain independent enough to disassociate from contextualization but mobile so not to commit to one place. Architectural education and other forms of design promote the use of 'site interventions' often to disseminate ongoing research or at the end of a creative endeavour. Decentralized activity of and artist or designer is also prevalent. Relyea states such interventions keep continuity between studio and post-studio approaches to repurpose existing content with the aim being to access and link various databases and platforms - a network. Contributing to this network privileges flexibility and mobility over hierarchy and changes the approach of the 'lone artist'.[16] Referring back to Buren's essay, he declares the studio as an artist's 'purgatory' limiting their ability to disseminate their work and understand culture and society simultaneously.[17]

Digital devices encourage the artists (alongside designers /architects) to form part of this system/network. Robert Smithson never viewed his site works as natural due to the interference of technology that was required to map and shift land matter. Nor did he separate the trucks and machinery required to produce the Sites/Non-sites series. They were equally part of the work itself confirming that it was a result of human activity that brought the material into the galleries. For his series, technology produced and distributed the *idea*. Today, digital communications and portable devices engage artists and designers to continue new forms of post-studio practice using such devices. The laptop, for example, strips away most requirements of a studio. To the user, a laptop is very much part of Relyea's network of decentralized cultural activity. Once connected, it provides a platform for researching, sharing and collaboration, in addition to providing the tools to generate new work. The laptop still asks the artist to work alone but is also connected to everyone and everything that is relevant to one's site exploration.

Between privacy and openness

A resulting condition of such mobile and connected studio usage is enforcing privacy of ideas (as well as space). One BAAD student commented: "we do not want to show our work in progress to colleagues – we'd like workspaces to ensure an element of privacy."[18] Such comments may be sound closer to Fine Art practice and is representative as to why the BAAD department worked with Co.LAB to help students move away from such conceptions. The protection of ideas is less vulnerable in architectural disciplines as the application towards a specific site changes the resulting outcome of the design.

However, it does raise the feeling of competitiveness between students indicating privatised spaces tend to restrict willingness to share and participate in verbal (or visual) exchanges. This will no doubt restrict student's isolation from the contextual settings their projects are located in and reinforce a notion that creativity only stems from an individual rather than in situ. There is no recognizable unit teaching in art schools like the architectural system. Competitiveness reduces openness and disregards the social practice of sharing as a strategic element of the design process. With

unhealthy competition, the decentralized activity of creative disciplines cannot exist due to a lack of intensification of a collaborative network and thus, a wider pool of knowledge to work from.

Post-Studio Approaches

The result of the live project was a full scale built structure placed in one of the BAAD studio rooms to be used for their graduating exhibition. The structure will remain as a feature for future teaching activity next academic year. The scale of the structure acts as an individual space without isolating itself from the rest of the large expansive room. Its proportion and placing means it generates five distinct areas; four surrounding the structure and the final area being the structure itself. The division of the large room provides enough intimacy to encourage longer working periods, foster discussions and improve pragmatic issues such as storage and work surfaces. Crucially, the design does not cater to an individual's specific needs – it does not see itself as a working studio, one where a student might set themselves down to produce work permanently. The design consists of an exposed timber frame supporting additional vertical partitions and a raised floor. All these features are to encourage openness, and shared working without specific focus to a particular medium or approach to artistic creativity.

Vagueness in recognizable function encourages adaptability and inventiveness. It is not a design for one person to work on but for many to hold seminars, group meetings or encourage students to develop artistic work that displays around a complex timber joint rather than a conventional white wall. Further features stimulate a creative practice that does not specify itself where work should be made. The raised floor extend over one edge to act as a laptop bar – the laptop being a functional representation for connectivity, inspiring students to focus on the readings of site and our responses in non-sites.

Admittedly, this paper does not delve fully into the design work produced in either the Art & Design or Architecture studio. Nor is the finished structure an exact embodiment for a new application of post-studio usage. It does however, attempt to address some of the practical issues raised in response to both the studio study and consultation sessions. Traditional (art) studio practice does not prevent communication, but it can affect the process of engaging with others, including in-situ work.

Prof. Robert Mull, Dean at London Met, introduced the Studio Culture Conference in 2012 asking whether competitiveness and the conventional studio system should attempt to resolve the separation between the 'academy and the world around it.'[19] To achieve this chasm, educators and practitioners needs to look at the pedagogic *and physical attributes* of the studio across numerous creative disciplines - not just our own. For it needs to involve a debate over the impact of our mode of 'production' and not just how we learn inside it.

Notes

[1] The full Co.LAB manifesto is available to view online here: http://birmingham-colab.org/about/
[2] Jane Jacobs, Mary. "John Baldessari in Conversation" in *The Studio Reader* University of Chicago Press: Chicago. 2010. p 30.
[3] Buren, Daniel. "Function of the Studio" in October no.10, Autumn. 1979, p 51.
[4] Student's individual names have been removed for clarity.
[5] Student consultation meeting - 19th November 2013.
[6] Koch, Aaron. Schwennsen, Katherine. Dutton, Thomas. Smith, Deanna. "The Redesign of Studio Culture" in *AiAS Studio Culture Task Force Report*, Washington DC. 2002. p 12.
[7] Vowles, Hannah. Low, Jim. Doron, Holly. "Investigating Architecture Studio Culture in the UK" in *Journal for Education in the Built Environment*, Vol. 7, Issue 2, December. 2012. p 26-49.
[8] Full interview available online [last accessed 27th July 2014]: http://www.archdaily.com/365890/an-exclusive-interview-with-ian-harris-director-of-archiculture/
[9] Online [last accessed 28th July 2014]: http://www.robertsmithson.com/introduction/introduction.htm
[10] ed. Flam, Jack. "A Provisional Theory of Non-Site" in *Robert Smithson: The Collected Writings* University of California Press, Berkley. 1996. p 364.
[11] Student consultation meeting - 4th March 2014.
[12] Extract from Student C's report for their Co.LAB submission.
[13] Online [last accessed 27th Jul 2014] http://www.fastcodesign.com/1665654/4-lessons-the-classroomcan-learn-from-the-design-studio
[14] Lucy, Suzanne. "Beyond Necessity: The Street as Studio" in *The Studio Reader* University of Chicago Press: Chicago. p 317.
[15] Reyea, Lane. "Studio unbound" in The *Studio Reader* University of Chicago Press: Chicago. p 348.
[16] Ibid p 348.
[17] Jones, Caitlin. "The Function of the Studio (When the Studio is a Laptop" in *The Studio* MIT Press: Cambridge, MA. 2012. p 116.
[18] Student consultation meeting - 21st January 2014.
[19] Fulcher, Merlin. "Education Speaks" in *Architects Journal*. Vol. 236, No. 4, 26th July 2012. p 38-39.

'Liveness' Beyond Design Studio Pedagogy: Layers of '*Live*' Within and Across the Boundaries of Classroom Settings

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Introduction

This paper is a response to some of the predispositions that continue to typify teaching in lecture-based courses in architecture and related disciplines. It aims to interrogate various degrees of 'liveness' in design pedagogy and the way in which they can be introduced in typical lecture formats. 'Liveness' has been recently emphasised as a 'university without walls' approach to teaching in studio settings but has received little or no attention as a mechanism that can be accommodated in classroom settings. Departing from communication modes such as instruction/reaction and showing/telling that rely only on knowledge consumption, the paper introduces mechanisms by which knowledge can be constructed. It presents a number of mechanisms, which were developed by the author and were implemented through a series of exercises in various lecture-based courses in different universities. Two layers of '*live*' are conceived; the first is an approach that aims to bring the built environment into the classroom, while the second utilises the built environment as an open textbook. Categorized under these two layers, the exercises place emphasis on critical reflection, interaction with behavioural phenomena, contemplating settings and systematic observations, behavioural mapping and active engagement. Students' feedback and outcomes manifest the uniqueness of these approaches and their potential contribution to effective learning beyond studio settings.

The Crux – A Glimpse of Theoretical Tenets

The search for new forms of design pedagogy in classroom settings can be viewed as a response to the limitations of the prevailing and increasingly rather out-of-date teaching methodology that favours the rote acquisition of norms and principles of design rather than the promotion of new avenues of investigation and discovery. This old prescriptive approach is essentially a hindrance to introducing a more per-formative and effective way of teaching. Discontent with this, and increased exposure to the 'education-as-process' and 'education-as-experience' theories, may eventually result in the re-evaluation or even reform of the traditional learning paradigm to reformulate a new one in which there is an inherent understanding that the teaching of creative and resourceful budding professionals can best take place in an environment that is student-centred. The argument here builds on the voices that opine reducing the dominance of the studio[1] while capitalizing on the notion of 'pedagogical events.'[2]

'Liveness' as a form of inquiry-based learning (IBL)

IBL is an instructional method developed in response to the perceived failure of more traditional forms of instruction, in which students were required simply to memorize and reproduce instructional materials. Active and experiential learning are sub-forms of IBL while at the same time represent approaches to addressing 'liveness,' in which students' progress is assessed by how well they develop experiential and critical thinking skills, rather than how much knowledge they have acquired.[3]

The value of active learning is evident since the amount of information retained by the students declines substantially after ten minutes.[4] Comparing lecturing versus discussion techniques indicate that students favour discussion methods over lecturing and the one-way mode of knowledge transfer. Experiential learning, on the other hand, refers to learning in which the learner is directly in touch with the realities being studied.[5] It is contrasted with learning in which students only read about, hear about, talk about, or write about realities they never experience as part of the learning process. Mistakenly, some educators equate experiential learning only with off-campus or non-classroom learning. In architectural and pedagogy, however, a class in history or theory might incorporate periods of student practice on theory and critical thinking exercises, rather than consist entirely of lectures about theories of architecture and the work of 'starchitects.' Similarly, a class in human-environment interactions or design principles might involve critical analysis exercises about how people perceive and comprehend a built environment or a portion of it. Both classes might involve field visits to environments where students engage closely with real-life situations, exploring culture, diversity, and people's behaviour while being part of those situations.[6] These mechanisms involve inquiry-based components and are amenable to effectively integrate 'liveness' both within and across the boundaries of classroom settings.

'*Live*' – Layer One:
Bringing the Built Environment into the Classroom

One of the first core courses for beginning architecture students, delivered in 2010 at Qatar University by the author, was 'Introduction to Architecture and Allied Arts,' addressing the fundamentals of design in architecture. In order to comprehensively integrate 'liveness' as an IBL learning mechanism, a series of experiential exercises was offered to students in a typical lecture format. These exercises were designed to complement different knowledge bases: all tasks were linked to the content previously discussed in the lectures as well as any prior experiences students may already have had. Some tasks involved pair work while others were individual exercises. Each exercise was followed by a moderated group reflection session where students were encouraged to voice their thoughts to the class. Samples of these exercises are selected to delineate this endeavour.[7]

Exercises for experiencing 'liveness' in the classroom

The first exercise was concerned with relating visual attributes of buildings to culture. It offered students the opportunity to translate their understanding of a building image into considered responses that required them to relate culture to architecture and link the built environment to the community within. Students had been earlier introduced to the dialectic relationship between culture and environment and how culture is manifested in human artefacts as well as buildings and built environments. Students also learnt that aspects of culture are based on a set of predetermined values and beliefs and thus culture can be represented both in objects and in the built environment as a result of people's interpretation of such an object or environment. To inculcate understanding of these concepts, three different building images that represented different cultures were presented. For the fifteen-minute exercise, students were paired and required to work together on their agreed responses. Each pair had to describe the three images in a maximum of two sentences; they also had to determine the provenance of or decide what culture each image belonged to and state at least three visual/formal attributes that had influenced their answer (Fig. 1).

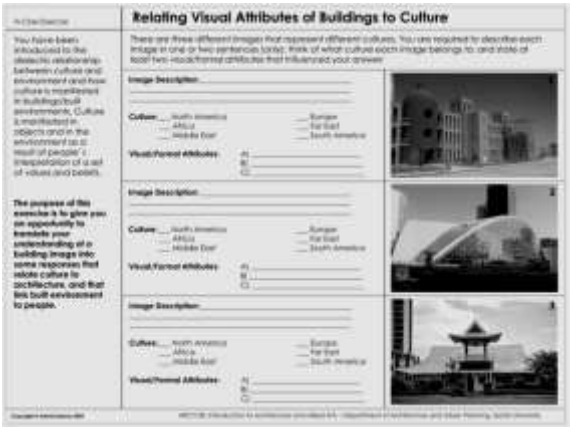

Fig. 1. Relating visual attributes of buildings to culture.

The second exercise was designed to promote students' understanding of the built environment by developing their perception abilities on how to recognise different building types. Through a series of lectures, students were introduced to notions that pertain to 'expression,' how buildings have certain qualities that convey messages about their use, functions, and activities that take place inside them, and how they offer clues about who uses them. For this task, students were required to relate twelve building images to their functions and users based on their own understanding of the buildings' visual characteristics and the messages they convey. Students had to select a partner; each pair was given a worksheet with twelve images of various buildings selected from different built environments. Each pair was required to carefully examine and discuss the images and then reach a consensus on identifying the building type, activity as well as building users (Fig. 2). The exercise lasted a total of 45 minutes. Students were able to add to their own personal knowledge a better understanding of the importance of identifying a building type, function and activities and how these relate to the built environment.

Fig. 2. Relating building images to functions, activities, and users.

The aim of the third exercise was to elicit evaluative comments from students about their understanding of different environments. Students were encouraged to verbally express their concerns about different environmental settings and learnt how collaborative dialogue help designers and clients work toward improving existing environments or designing new environments. Additionally, the task helped students to differentiate and recognise the terminology used by the public and that used by professional architects and designers (Fig. 3).

Fig. 3. Seeing and verbalizing the environment.

Through lectures, students were introduced to the way in which buildings and building issues relate to, and can affect, the psychology of users and how there are, in any given environment, certain physical features can evoke positive or negative feelings or responses in users. An awareness and understanding of perceived and real environmental effects is critical for students both as users and as future architects. This apprehension is the first step in understanding the delicate balance between the various aspects of a built environment and their psychological and even physiological impact on people. Each student was given six images of buildings with lozenges or boxes of adjective pairs. They were required to look carefully at each of the images and consider which of the adjective pairs best described the image and then tick the box or lozenge with the most appropriate adjectives. If they felt that neither adjective pair was applicable, they were to tick the box in the middle. They were also required to write comments based on their understanding of the environmental setting shown in each image. The exercise was conducted individually; students were given 30 minutes to complete the task and were advised to spend no more than five minutes on each image.

Students' feedback and learning outcomes

As a follow-up to these exercises, students were asked to provide feedback by describing the benefits and gains of the assigned tasks; additionally they were asked to reflect on their learning experience. The feedback findings show hoe mechanisms for addressing 'liveness' enabled most students to make more informed judgments about the built environment and provided them with an opportunity to give reasons for their views. However, a few students were unable to recognise similarities and differences between the building images, or to fully comprehend the crux of each exercise. Despite these glitches, these students felt that the checklists and discussion tools for relating the content of the course to the exercises about real-life situations helped them identify what they needed to look for in the building images. Students stated that they enjoyed doing the exercises; in addition, the majority felt analysing the buildings in a structured manner and discussing the tasks in pairs helped improve their understanding of many of the concepts more typically delivered in a standard lecture format. As well, students felt that discussion and dialogue on architectural issues at this introductory stage was important and they recognised their need to further develop their communication skills. The discussions that followed each exercise underscore the value of introducing in-class 'liveness' mechanisms at an early stage as they create a positive and amenable learning environment conducive to responsive reflection and critical thinking.

'*Live*' – Layer Two:
The Built Environment as an Open Textbook

The examples presented here were utilised in a 'Socio-behavioural Factors and Design' elective course offered at Queen's University Belfast (2008-2009), and in an 'Environment-Behaviour Studies' course offered at Qatar University (2013-2014). Two major tasks were assigned; the first was 'Contemplating Settings' by a multimodal exploratory approach and the second was 'Procedural Evaluation' by a structured walking tour procedure. The exercises adopted the premise of the built environment both as an open textbook and as a teaching tool. Students were prepped on key issues related to research ethics through assigned readings of various documents adopted by the 'Research Ethics Committee.' They were given selected settings to photograph, document and analyse. Most importantly, they were to behave unobtrusively, both when taking photographs and when doing their walkthrough, in a respectful inconspicuous manner that did not interfere with people's activities, personalities or identities in the public spaces they observed.

Multimodal approach to explore 'liveness:' Photography, mapping, and contemplation of environmental settings

In the first five weeks, students were introduced to a number of socio-cultural and behavioural phenomena such as privacy, personal space, territoriality, wayfinding, crowding and density. Students were shown examples to illustrate what each phenomenon encompassed (Fig. 4). In order to complement the

knowledge they had acquired in lectures, students were also exposed to real-life conditions. They were required to examine the abstract concepts underlying each phenomenon and, through their description and interpretation of the situations observed, turn them into concrete expressions.

Students had to record and document cultural and behavioural phenomena by photographing and mapping selected settings (Fig.5). Two photographs were required to illustrate each phenomenon; the photographs had to depict a real-life situation - represent indoor or outdoor settings. Students were also required to write a brief statement describing the setting in physical, cultural and behavioural terms. Each statement had to include information and responses to simple questions such as who is doing what, where, how, for how long, and with whom. Students were given the evaluation criteria prior to the task; additionally the selection of the setting was an important assessment criterion. They were assessed as to how accurately their text and photographs reflected the meaning of the phenomena discussed in the lectures and on whether their interpretations showed a scholarly understanding of the term. The overall quality of photographs and graphic layout of their submissions

Fig. 4. Sample of environmental settings discussed with the students: Top: domination of the setting, and claiming full control over a space designated for sharing. Bottom: sharing a space, but claiming a smaller unit.

were also important criteria to evaluate their work and whether they had fulfilled the overall learning outcomes.

One important finding was the fact that while all students were able to observe, document, and interpret the information, most were unable to phrase concise statements to describe the phenomena represented in each setting. However, later in a group reflection session, they were able to recognise how people behave in specific environmental situations. This was identified by analysing body gestures, degrees of socialization, how people attempt to control their environment, and how they shape and transform the physical aspects of the setting to support their activities, enhance their position in space, and create views, or block distractions.

Fig. 5. Photographing and mapping environmental settings.

Procedural evaluation and assessing spatial/sustainable design characteristics

A survey tool devised to conduct the procedural evaluation mechanism helped students to ultimately become more spatially aware and take control of their own learning. This was done by establishing links between spatial and sustainable design parameters of a building or a group of buildings. The exercise involved self-guided tours: students were provided with checklists to identify certain features; the list provided for an impressionistic yet structured and focused walkthrough in and around the selected building. By having students focus on specific aspects and features of the building and its users, the evaluation strategy helped increase their awareness of the built environment. For the assigned task, students were divided into four groups; the groups were instructed to use the multiple category building appraisal tool when

conducting the exercise. Four well-known buildings in Belfast were selected: the Student Union and the Professional Education Centre (both on the Queen's University campus), the University of Ulster College of Arts in Belfast, and The Grove Health and Well Being Centre. Using a designated tick or checklist, students were required to identify a number of key factors listed under four categories: (1) planning and zoning, (2) landscaping, (3) designing, and (4) energy and waste.

The checklist contained specific, generically arranged, questions for each category. Students were informed that the list of questions for each category was not exclusive; rather the questions were designed to help structure and guide their walkabout tours of each building. The task also required students to use notes, sketches, and diagrams to record information that they would later use in verbal descriptions of these places. Numerical scores based on a point scale method were assigned to the questions to determine the degree of appropriateness underlying each factor. Theses scores were then tallied and averaged and an overall score for the building was computed. The final submission asked students to provide the following:

- A detailed description of the building supported by photographs and illustrations;
- A generic appraisal of the building using the checklist scores assigned to each question;
- An analysis of numerical ratings: the average score for each category and the overall score;
- A written commentary based on students' impressions and understanding of the building.

The findings clearly show that by the end of the task most students were not only able to make sound judgments about the built environment but also to give reasons for these. However, one major shortcoming was the inability of some students to provide appropriate follow-up commentary: several students could not express their concerns verbally while others were unable to write an organised well-thought out reporting statement. Also, a smaller number of students were unable to discern the similarities and differences of some of the questions; these, however, reported that checklists and survey tools for investigating the built environment helped them to know what to look for in the building and to understand relationships between different factors. The checklists also helped them to determine the impact of one factor as opposed to others.

Conclusion: Toward a Better Integration of 'Liveness'

While architectural educators strive to divulge the knowledge requisite for professional practice, the approach to this is often divergent and may depend on the priorities and ideals of the educator and the school. Nevertheless, despite the amount of knowledge that may be imparted, it is the way in which such knowledge is transmitted that has actually significant professional and social implications. Concomitantly, there is an urgent need to confront issues that pertain to the nature of reality (liveness-what) and the way in which knowledge about that reality is conveyed (liveness-how). Traditional teaching practices reveal that gaps frequently exist between 'what' and 'how.' Traditional practices often represent passive learning environments and do not usually generate debates in the classroom unless there is a Q&A session afterwards. While there are attempts to utilise site visits to observe different phenomena, these visits are often not framed to support any form of inquiry to seriously experience 'liveness' in a structured manner. One should note that the pedagogical cases presented are not exclusive. However, their positive outcomes clearly highlight the value of introducing 'liveness' in the form of controlled interactive learning mechanisms and of using the built environment as an educational medium in lecture-based courses. The two widely held conceptions of the built environment, the conceptual/subjective and the physical/objective, are firmly embedded in the 'liveness' learning techniques employed.

The built environment is diverse, complex, organic, and fluid. Its structures, spaces, and the people within need to be re-defined as objects for learning. In order for an object to be taught and learnt, its components must be adapted to specific pedagogic and cognitive orientation to introduce issues about specific bodies of knowledge relevant to 'liveness.' However, brining the built environment into the classroom or utilising it as an open textbook does not provide the panacea to remedy all the ills that characterise traditional teaching, nor does it have the capacity to address all the complexities of the physical environment. Nevertheless, incorporating 'liveness' into the curriculum helps students focus on specific aspects of the built environment; particularly those that pertain to human-environment interactions, in addition to filling in the gaps between 'what' and 'how' types of knowledge. Integrating 'liveness' into the classroom for discussion, reflection and critical inquiry enables students to shift from being knowledge consumers to knowledge producers. One would conclude by emphasising the need to develop experiential pedagogical approaches that effectively help students to shift from being passive listeners to being active learners and cogent thinkers. A considerable portion of students' education is based on 'experience,' 'making' and 'active engagement.' Students are encouraged to study the existing built environment and attempt to explain it through theories or typologies, by always looking at and even referring to outstanding examples. However, underlying these approaches are hidden assumptions about the built environment and the people associated with it. It is in this grey area, in this vague and often inchoate relationship wherein lies the 'lesson' to be learnt.

Notes

[1] Anderson, J. (2013). Undercurrent: Swimming away from the design studio. Proceedings of the first international conference of the Association of Architectural Educators-AAE: (un)common currency. Nottingham Trent University, UK. Available: http://architecturaleducators.wordpress.com/conference-2013/conference-2013-papers/ (accessed: 21 July 2014)

[2] MORROW, R. (2007). Creative transformations: The extent and potential of a pedagogical event. In A. M. SALAMA and N. WILKINSON (eds.), *Design studio pedagogy: Horizons for the future* (269-284). Gateshead, UK: The Urban International Press.

[3] See Koch, A., Schwennsen, K., Dutton, T. and Smith, D. (2002). *The redesign of studio culture.* Studio culture task force. Washington, DC: The American Institute of Architecture Students-AIAS and SALAMA, A. M. (2012-a). Knowledge and design: People-environment research for responsive pedagogy and practice. *Procedia-Social and Behavioral Sciences*, *49* (2012): 8-27.

[4] Bonwell, C. (1996). Building a supportive climate for active listening. *The National Teaching and Learning Forum*, *6* (1): 4-7.

[5] See Keeton, M. and Tate, P. (eds.) (1978). *Learning by experience*. San Francisco, CA: Jossey Bass Publishers and Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

[6] Salama, A. M. (2006). Learning from the environment: Evaluation research and experience based architectural pedagogy. *CEBE Transactions*, *3* (1): 64-83.

[7] The three examples presented are selected from a wide spectrum of exercises utilised as in-class active learning mechanisms. See SALAMA, A. M. (2012-b). Evaluation research and inquiry based learning (IBL) in architecture and urbanism: Consumption versus production of knowledge. In S. Mallory-Hill, W. Preiser And C. Watson (eds.), *Enhancing building performance* (277-284). New York, NY: John Wiley and Sons and Salama, A. M. (2013). Seeking new forms of pedagogy in architectural education. *Field Journal*, *5* (1): 9-30.

Dead Letter Office

Bradley Walters + Mark McGlothlin

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If the student of architecture could master the mathematical and scientific branches taught in modern polytechnic schools, make himself proficient in drawing, attend an academy of architecture, and then become in succession a good carpenter, mason, stone-cutter, painter, sculptor, and decorator—no doubt such a student would be eminently well prepared for professional life, and produce marvels of architectural art; but as human life is too short to enable one man to master practically so many arts, the question to be answered is reduced to this: Shall the pupil of architecture be educated in some mechanical workshop, in an art studio, or in a polytechnical school?

– Leopold Eidlitz, 1881 [1]

The practice of architecture has, for centuries, occupied a contested ground between craft-based practices and a discipline rooted in art, history, and cultural production. While defined literally as "master carpenter," the Greek *architekton* was used to refer to both those skilled in building and artists, with backgrounds in sculpture and metalwork.[2] After largely falling out of use during the Middle Ages, the word "architect" was revived in fifteenth-century Italy, but with a different usage. During the Renaissance, "architect" was used principally to refer to those familiar with the forms of antiquity, especially those skilled in painting and sculpture. We see in this era the emergence of a fissure between the *architect-as-scholar* and *master builder*: "Because they were not building craftsmen and did not belong to the construction guilds, these men were called architects rather than master builders. As the cult of the artist developed during the Renaissance, some commentators carefully distinguished architects from master builders and craftsmen." [3]

In the nineteenth and twentieth centuries, universities developed similarly parallel models of education based on liberal or mechanical arts, drawing at times sharp lines between competing educational models. [4]

While these differing science- and art-based curricular models were being developed, the study of architecture also became more firmly institutionalized within the university. This was reinforced by a certain professionalization of the discipline, growing out of genuine concerns for the public's health, safety, and welfare as well as advocacy from professional organizations. University programs were charged with delivering a rigorous education in preparation for professional practice in architecture. While legal frameworks vary from country to country (and also from one local jurisdiction to another), completion of an accredited professional course of study is typically required for practice today.

Professional programs, however, do not fit easily within the structures of either liberal arts colleges or major research universities. In either case, professional programs transgress boundaries, either positively cross-pollinating or negatively diluting the integrity of deep silos of academic knowledge. With few exceptions, the faculty of schools of architecture are diverse, representing a range of intellectual positions and roles: the humanist, the scientist, the historian, the writer, the mentor, the researcher, the practitioner, the artist, the draftsperson, the inventor, the craftsperson, the teacher, the friend, the technician, and the artisan, to name a few. Most research universities value the individual expertise developed within these separate roles. The roles, separately identified, form a faculty; considered together, they form an architect.

Disciplinary Bounds

Fertilior seges est alienis semper in agris, Vicinumque pecus grandius uber habet ("*The seed's often more fertile in foreign fields, and a neighbour's herd always has richer milk"*) – Ovid [5]

The lines between faculty and between areas of expertise can be sharply or loosely drawn, depending on the nature of the institution and the personalities of the faculty. But one of the most common fault lines is one that emerges between practitioners and those who are principally engaged in work of the academy, whether it is teaching, writing, or other research work. Those on one side or the other usually either believe passionately in their own approach or long to crossover and switch places with those on the other side.

Practice is valued largely because of its connection to materials and productive, synthetic cultures outside the university. Believers advocate for the power of constraints imposed by "the real world," and the need to prepare students for this work. For those who advocate strongly for practice-based education, the academy can be seen as disconnected and/or aloof to the realities of practice, including regulatory issues, client management, teamwork, budget, and schedule. Those not involved in practice often have little

appreciation for the tremendous amount of work involved in even modest built projects.

Those most rooted in the academy will, at times, eschew practice as a corruption and/or distraction from more rigorous educational pedagogies. Learning to do something, it can be argued, is not the same as doing the thing itself. Conventional practices, responsive to disparate local concerns but not critical of themselves cause concern for many educators. As Stan Allen writes, "too often, contemporary practice oscillates between mechanical repetition and shallow novelty. Conventional practice renounces theory, but in so doing, it simply reiterates unstated theoretical assumptions. It works according to a series of enabling codes, which themselves comprise a random sampling of the dictates of professional practice and the learned habits of normal design culture. It is these unexamined codes that give practice a bad name." [6] In their worst incarnations, educational models that emulate conventional practice can prove diluted and/or devoid of opportunities for deep and meaningful learning. Worse yet, students can come away with an incomplete understanding of the opportunities of practice, hobbling them for many years to come.

Transgressive Models: Live Projects

Recent educational experiments in design-build and community-based design strive to address the broad professional requirements of practice while also training students through direct, hands-on work with materials, users, and/or community organizations. The "live project," as it is most commonly known, "comprises the negotiation of a brief, timescale, budget and product between an educational organisation and an external collaborator for their mutual benefit. The project must be structured to ensure that students gain learning that is relevant to their educational development." [7] This is an important turn in education, one that embraces the responsibilities of practice in a direct way. The live project opens the path for students to bring together aspects of practical experience while also being a part of an academic community.

As articulated by the University of Sheffield, "Live Projects set real constraints, responding to budget, brief and time. In each project there is regular contact with the client and a defined end result, normally a presentation, report and sometimes physical building work. The projects place a large responsibility on the groups to deliver; as opposed to most student projects these are public and accountable." [8] Students learn to work within serious and typically unyielding constraints, whether they are physical, material, formal, or political in nature. The validation of the work comes principally through the ability of students to meet the goals of the project, solving thorny problems in creative ways. Teamwork, collaboration, and communication are highly-valued; the need to be accountable to schedule, budget, and program requires clear decision-making processes and organizational structures.

The merits of the live project are largely self-evident, and the projects are typically affirmational in their structure, providing the students and faculty with positive tangible products (buildings, reports, plans, etc.) that serve as physical evidence of their work.

Disciplining Practices: Dead Projects

To speak of "live" projects is also to acknowledge the presence of "dead" projects, those for whom there is no client and at the end of which there is no plan to implement or full-scale project to occupy. The dead project is severed from implementation and/or actualization, disconnected from productive processes, and often lands in the architectural *dead letter office*, a place of unbuilt or unbuildable ruminations that cannot quite find a way into the world of built things.

The dead project gives us a way to frame a reconsideration of live projects by reflecting on the role of speculation and incompleteness in architectural education as contrasted with similarly fertile possibilities of the specific and determinate. This is not to suggest that these two aspects of practice work in opposition to one another, but rather it is to say that each approach can serve as a vehicle through which it is possible to better understand the possibilities of the other. By intertwining these processes, we have an opportunity to allow more projects to come alive, to unfold into or across productive streams, and to inform our discipline in inventive and unanticipated ways.

Both types of projects are included in some manner within the "*practicum*," as defined by Donald A. Schön. He writes that "a practicum is a setting design for the task of learning a practice. In a context that approximates a practice world, students learn by doing, although their doing usually falls short of real-world work. They learn by undertaking projects that simulate and simplify practice; or they take on real-world projects under close supervision. The practicum is a virtual world, relatively free of the pressures, distractions, and risks of the real one, to which, nevertheless, it refers. It stands in an intermediate space between the practice world, the 'lay' world of ordinary life, and the esoteric world of the academy. It is also a collective world in its own right, with its own mix of materials, tools, languages, and appreciations. It embodies particular ways of seeing, thinking, and doing that tend, over time, as far as the student is concerned, to assert themselves with increasing authority." [9]

Both types of educational projects rely on a process of learning through doing, typically based on a direct engagement with matter and materiality. There is an important process of reflective "self-education" at work in both kinds of projects, where the student's iterative design efforts gradually close the gap between

an idea or intention and the thing that he or she makes. Both live and dead projects can develop within a studio-based environment, where students learn from one another as much as they learn from precedent or studio faculty or tutors.

The parallels between the structures are so close and overlaps so many, that the lines that define and divide live and dead projects are actually quite fine. That said, it may be useful to consider the particularities of dead projects as vehicles for understanding their unique attributes, and also for informing future incarnations of live projects.

Spaces for failure

A central hallmark of the dead project is that it occupies a "safe space," where failure is allowed and encouraged. This safe space allows for open-ended speculation and experimentation, without the obligations of protecting the public's health, safety, and welfare. Risks to others are minimized or often non-existent, and cost, budget, and schedule are typically non-issues. To develop this kind of space requires the careful construction of student/faculty relationships, where both recognize that neither of them are fully in charge of the work, and that the work itself has a certain autonomous existence.

Spaces for failure are critical for development of design processes that do not have a fixed or known endpoint. Students can allow the design process itself to direct and shape subsequent studies, such that even a "failed" attempt actually provides useful seeds for the next study. Work can proceed in a fluid manner, allowing the students to recognize the value of design processes, developing along the way strategies for interrogating both themselves and their work.

When the studio becomes this kind of "safe space," we also find that students produce more work with greater enthusiasm and enjoyment. Students are encouraged to make without over-thinking, and this is reinforced by discussions that celebrate the possibilities of the tentative, incomplete, and even the naïve.

It is, in many ways, the failure that allows for critical learning to occur. Mistakes, missteps, and dramatic failures of construction or intent are accepted as a part of the learning process. They are not always pretty and are rarely appreciated by the student at the time, but they are the moments that often define a project or even a student's overall trajectory.

Disciplining

More often than not, the dead project is one that operates at the scale of the drawing board or cutting mat. Even if the project is contemplating the future of a vast urban territory or the full-scale details of a wall assembly, the fact that it is often studied at the scale of the author's body through drawings and model constructions is important. The bodily scale of drawings and models allows the student to work in a rapid manner, making and re-making the project. This allows for an iterative process to be developed, especially one with short cycles of production, testing, measurement, and evaluation. Students benefit from this *disciplining* as a means of learning through a continual process of making.

Fig. 1. Disciplining. Associate Professor Martin Gundersen during studio reviews of work in progress. Architectural Design Four, Spring 2014. Photo: Mark McGlothlin.

The manageable scale of work products means that students can efficiently complete them and gain useful feedback quickly, which allows for numerous cycles within the course of a project's development. With multiple iterations, students gain a tacit understanding of how to work critically, allowing them to become both more precise and more efficient over time.

Lumpy pedagogies

Viewed from a certain distance, many professional projects share a similar structure: beginning, middle, end. Nothing to something. Ideas to buildings. Vague to specific. General to particular. While live projects do not portend to be "professional" in the same way, it is common for them to adopt some of the same delivery structures and often even the same nomenclature for phases of design and/or construction. This is a certain strength for the live project, as it helps introduce students to the professional structures and languages that will be expected of them in practice.

The dead project, however, does not have to respect the linearity of this process nor does it need to follow predetermined professional sequences. There is the opportunity for the project to be structured in alternative ways that allow for targeted learning to occur at particular moments within the project's development. The process can be intentionally weighted in uneven and lumpy ways to develop certain skills or sensitivities in our students.

This requires careful construction, and often the work of numerous faculty members working in concert across a student's educational curriculum. There are many possible approaches to create this kind of lumpiness: shifts and oscillations in scale, changing project parameters, alternative methods of inquiry, and shifts in media, to name but a few. This can be a part of a curricular dialogue between students and faculty, one that requires "thinking on your feet" and that encourages a nimbleness in critical thought. It reinforces the notion that there is not one solution, approach, or process, but in fact many. When faculty remain nimble, they can adjust sequences such that exercises occur at precisely the moments when students may be most receptive to the particular skills, concepts, or subject matter at hand.

The difficulties of lumpy pedagogies are two-fold. Firstly, the faculty must be willing to recognize the need for lumpiness, and that there is value in uneven learning. Secondly, there is greater emphasis on the school's overall curricular structure to provide balance. The shifting of emphasis from the course to the curriculum is not in fashion today, but it affords much greater educational value than is possible with singular, isolated courses or projects. We would suggest that this is both the limitation of lumpy pedagogies and its power, as it necessitates faculty collaborations, communication, and consensus.

Full-scale and real-time

One of the aspects of the live project that is most celebrated is the fact that many of these projects involve full-scale project work, built by students or produced as a result of the design work prepared by students. It is one of the most meaningful results of design-build projects, as everyone involved grows through a direct engagement with matter, materiality, and space. Drawings and models are typically used as interim studies, representations, and approximations, operating as placeholders for the building that arrives at a certain point in the process.

The dead project gives us the opportunity to challenge this representational aspect of drawing and model constructions. It is possible to create an environment in which the drawing is not representative but is rather the thing itself. In other words, a physical or drawing construction can be the end and not the means, allowing students to participate in shaping and occupying it in real-time.

This follows the educational structure promoted by Maria Montessori, one that proceeds from concrete towards the abstract. For Montessori, the bodily engagement with space and matter is primary and allows for the creation of deep knowledge.[11] By approaching the architectural design process in the same way, the drawing and model can serve as the center of the educational process and need not refer to something else that is absent and largely not understood by students.

Fig. 2. Moving from concrete to the abstract. "School at Tarrytown, N.Y. The two girls at the left are constructing the big stair and the tower. The boy in the center has constructed the long stair, and is placing the figures beside the corresponding rods. The child to the right is tracing sandpaper letters." Photo circa 1912. [10]

In his review of the 1983 exhibition of Daniel Libeskind's *Chamber Works*, Robin Evans recognized precisely this point: "Architecture, which has always involved drawing before building, can be split into prior and subsequent activities: design and construction. The building can be discarded as an unfortunate aftermath, and all the properties, values, and attributes that are worth keeping can be held in the drawing; perhaps a better way of putting it would be to say that they retract back into the drawing." [12] When architecture "retracts" in this way and resides solely in drawings and models, students have an opportunity to become more directly and intimately involved in its making. They can fully know and own their work process, and can grow through direct, full-scale and real-time experimentation. The immediacy of cause and effect allows for a rapid and immensely rewarding learning process.

Alternative paths

One of the most important outcomes of the live project is its preparation for practice. Students often develop skills that are carefully honed to allow them to move into positions of responsibility in planning, design, and construction firms.

The dead project can similarly be structured to predetermined outcomes. However, it can also be structured to provoke students to pursue a wide range of individually-determined paths. The dead project can embed within it questions that allow students to respond in divergent and expansive ways, which may at times result in "architectural" projects that are not buildings or urban plans. The dead project can, in this way, become an entrée into art, graphic design, fashion, film, and/or writing. It can be a lens with many foci, allowing students to find different possibilities

within it depending on their particular approach. Within our own field, the dead project can provoke different design approaches and material resolutions, possibly suggesting alternative methods of practice. Many young design practices find their voices through this kind of exploratory thinking.

To expect that an architectural education serves solely as a preface for practice, however defined, is somewhat myopic and limiting. It is important that students are afforded the opportunity to seek out or created paths that may suit them better than a single predetermined mold.

Conclusions

As educators who are intensely interested in issues of both live and dead projects, the real questions do not center on which approach is better or worse in the abstract, but rather how to structure either kind of project as a component of an architectural education.

If the question was simply "how should we teach our students to do 'X,'" our job would be simple. The structure of this mandate suggests a certain clarity of intention and of outcomes, with a performative measure based on the ability of students and faculty to meet predetermined objectives and goals. There might still be some discussion around best practices, about sequencing and order, or about the relative importance of certain steps in the process. But in the end, our job would be manageable.

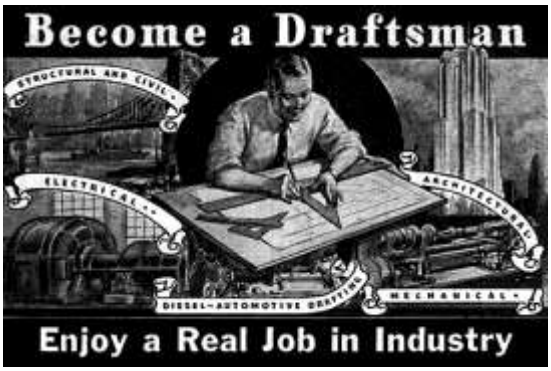

Fig. 3. Training or education? Image excerpted from advertisement for American School, Chicago IL, as printed in *Popular Mechanics Magazine*, published by Hearst Magazines, March 1938, Special Advertising Section, page 11a.

The difficulty we face is that the intention and outcomes are not uniformly known. As Donald Schön wrote in *Educating the Reflective Practitioner*, "the problems of real-world practice do not present themselves to practitioners as well-formed structures. Indeed, they tend not to present themselves as problems at all but as messy, indeterminate situations." [13] Curricular discussions sometimes find comfort in the simplistic breaking down of complexity into manageable tasks. And similarly, enthusiasts of design-build and live projects sometimes rally lovingly around the building or refined, singular plan. In either case, we see an over-simplification of the discipline, a conscious editing of the complex, a reduction and streamlining of process to both create end points and to reach them.

This is admittedly an important part of what we do as educators. It is, after all, our job to structure the educational process, to formulate strategies for building competency and knowledge in our students. But what and how we edit to structure the learning process is of critical concern. As Schön has written, "the most important areas of professional practice now lie beyond the conventional boundaries of professional competence." [14] If we recognize the truth in this statement, the education of architects must be always inventive, projective, forward-looking, and adaptive. It can benefit from the lessons of both live and dead projects, as well as a blurring of the distinctions between life and death.

Acknowledgements

At the University of Florida, the curriculum is a shared project of the entire faculty. The present work is developed within the context of a thoughtful curriculum that benefits from the work of many hands over many years. The curriculum continues to evolve, and it is hoped that this document furthers that mission. Thanks to the many students and faculty who contribute every day to the vibrancy of the discourse at the University of Florida School of Architecture.

References

[1] Leopold Eidlitz, *The Nature and Function of Art, More Especially of Architecture* (London: Sampson Low, Marston, Searle, & Rivington, 1881), 479.
[2] Mary N. Woods, *From Craft to Profession: The Practice of Architecture in Nineteenth-Century America* (Berkeley, CA: University of California Press, 1999), 5.
[3] Woods, 5.
[4] Joan Ockman, "The Turn of Education," in *Architecture School: Three Centuries of Educating Architects in North America* (Cambridge MA: MIT Press, 2012, 13-17.
[5] Publius Ovidius Naso ("Ovid"), *Ars Amatoria* (*The Art of Love*), AD 2, translated by A. S. Kline 2001, < http://www.poetryintranslation.com/klineasartoflove.htm>, accessed: 4 August 2014. Original Latin from: < http://www.thelatinlibrary.com/ovid/ovid.artis1.shtml> (lines 349-350), accessed: 4 August 2014.
[6] Stan Allen, *Practice: Architecture Technique + Representation*, Expanded Second Edition (New York, NY: Routledge, 2009), xii.
[7] Jane Anderson and Colin Priest, *Live Projects*, <http://liveprojectsnetwork.org/liveprojects/>, accessed: 4 August 2014.
[8] *About Live Projects*. University of Sheffield School of Architecture, <http://www.liveprojects.org/>, accessed: 4 August 2014.
[9] Donald A. Schön, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (San Francisco: Jossey-Bass, 1987), 37.

[10] Maria Montessori, *The Montessori Method: Scientific Pedagogy as Applied to Child Education in "The Children's Houses" with Additions and Revisions by the Author*, trans. Anne E. George (New York: Frederick A. Stokes Co., 1912), 349.
[11] Montessori, 199-200.
[12] Robin Evans, "In Front of Lines That Leave Nothing Behind," in *Architectural Theory Since 1968*, ed. Michael K. Hays, K. Michael. (Cambridge, Mass: The MIT Press, 1998), 488.
[13] Schön, 4.
[14] Schön, 7.

Enabling Professional-Self Design: Educating for Praxis/Ethos/Poiesis

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Introduction

Architectural education generally implies a form of professional education, with a focus on design as the underlying process and outcome. Professional education is fundamentally about the education of professionals i.e. live, living people, rather than inanimate objects. A direct focus on the education of professionals in design contexts naturally leads to curiosity around the design of the designers-in-the-making, drawing out the constitutive elements of the personal/professional interface.

We are thus in the realms of *professional-self design*, where the subject and object of the designing is the prospective designer themselves – in terms of what they intend to profess, and how, and why. This is subtly, but significantly, different from a focus on the essentially impersonal subject matter – in this case, architecture. The intent here is to privilege *architect education* (rather than architectural education) i.e. the making of architects, rather than the making of architecture.

The associated professional education needs to be more consciously designed to support this distinction, which may be accomplished through an extraordinary regard for extraordinary integrations. This presentation reports on some learning from an ongoing experiment in enabling such professional-self design (Friesen and Wight, 2009), by approaching the education challenge as an effort to realize certain integrations. These key 'makings' of professionals (involving much *inner* work), are named here as *praxis* (personal), *ethos* (inter-personal) and *poiesis* (trans-personal) (Wight 2012b). This triad represents the form-response to the questions: What makes a professional? What does a professional make?

The forum for pursuing this triad of integrations - of students' perceptions and intentions – has been a capstone professional practice course, in a graduate professional planning program, within an architectural design school[i]. Over two decades of ongoing experimentation the course was progressively evolved from a conventional (professional practice) seminar course to more of a post-conventional *professional-self design studio*, featuring praxis-making and ethos-making (Wight 2011b, 2011c and 2013). These in turn were envisaged as laying the ground for an anticipated over-arching poiesis (a form of collective poetry-in-action on a grand scale) – still very much 'under development' or 'being evolved'.

The whole course came to be positioned within the context of 'place-making, as well-being by design' (as the hypothesized poiesis) (Wight 2011a, 2013). The main concern became the associated professional preparation requirements. An underlying interest was – effectively - to enable students to bring their 'professing' alive; they – the students – were being positioned, aspiringly, as 'the agents of the next enlightenment'. How might they be best helped to be effective in such a role?

With regard to the AAE 2014 conference theme, liveness can be considered to have been invoked in the context of wholeness – supporting students in bringing their whole selves to their professional life: body, mind, soul and spirit. It is all about whole-making – the common denominator in place-making and well-being. Liveness was also evoked in terms of in-the-moment presencing, within a wider field, of collective intention (Senge et al 2004); Scharmer 2007). This is about noticing what is being noticed, about what is intended, and what garners attention - manifestations of sense-making and meaning-making.

'Practice' is thus translated into 'making' – the mobilization of knowledge as action, of intervention with intention - with 'professional practice' being conceived in terms of three particular 'makings', together encompassing one's professional-self design (Wight 2012b).

Praxis, *ethos* and *poiesis* represent professional development places with professional wellbeing in mind; they are enduring places for life-long learning, for having a well-developed learning life. They harness and foster triple-loop learning (Torbert et al 2004), transcending the small self, and are evolutionary in orientation. They are fecund environments for growth and development – in the realm of consciousness.

This is the three-cylinder container for the living and learning – a unique design challenge, where the subject and object of the design is one's professional self, individually and collectively. And where the design intent concerns one's integrated-ness, on the inside, and one's integration-ability, on the outside - both on one's own, and with others.

This happens to be the manifestation of an 'integral life' perspective (Wilber et al 2008), of integral education theory in practice (Murray 2009; Dea 2010; Esbjorn-Hargens et al 2010) (see Fig. 1).

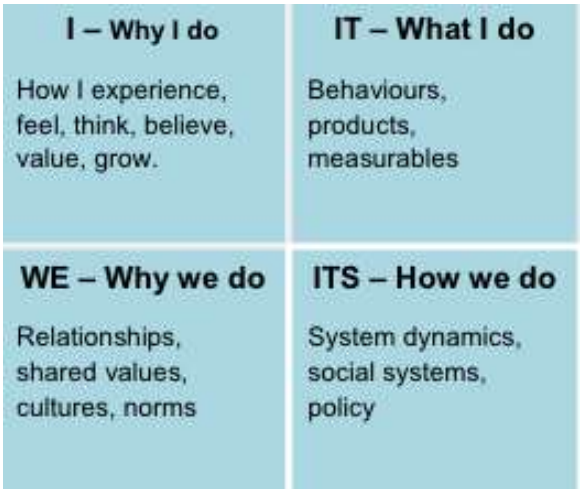


Figure 1: The Four Integral Quadrants (Wilber, 2000)

The Professional-Self Design Inquiry

The pedagogy is highly student-centered, with a strong focus on self-inquiry – 'knowing thy self and being they self'. As a professional-self design studio, the guiding questions emerged as:

> What is calling me? What is my calling? What am I being called to profess?
>
> What do I want to make of myself, personally and professionally? What does the world want of me… to use me for?
>
> What is my unique gift or gifts - that I cannot not give? How do I plan to be of service in the world, to the world?

The context is very much experiential learning, but with an interest in integrating the 'experiencing' within a wider, implicitly integral, framework where individual (inner) experiences (I) are meshed with collective (inner) inter-relationships (We), individual (outer/exterior) behavior (It), and collective social or institutional (exterior) systems (Its) (See Fig. 1 for further integral 'quadrant' elaboration)

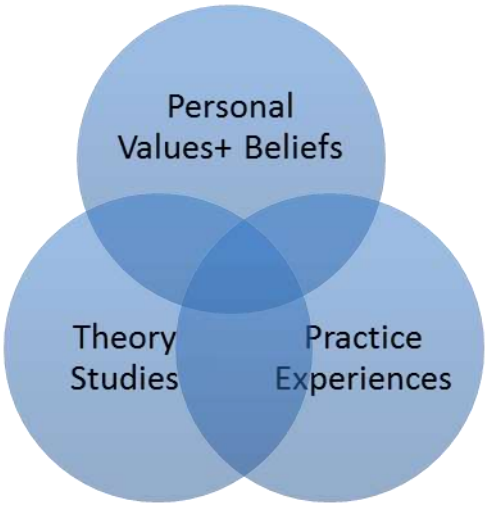


Fig. 2 Professional Development Places of Intersection, Integration and Making

In broad terms the professional-self design concepts are structured as an integration of theory, practice and (personal) essence, i.e. the students' theory studies, practice experiences, and personal values and beliefs – in effect, their emerging sense of professional 'essence' (their 'prof-ess-ence') (Fig. 2). The latter critical component (often downplayed in 'modern' professional education) could be conceived as their élan vital, or anima – their life spirit, thus engaging the core of their aliveness. The design challenge is for them not only to bring life to their designing, but to bring their life – and themselves as a whole – self-consciously into their professional self-design, and thus into their 'professing'.

The triad being advanced here defines a critical and complex professional development place, for the making, and makings, of professionals. Praxis (and ethos, and poiesis) may be envisaged right at the intersection of - and as an integration of - all 'theory studies', 'practice experiences' and 'personal values + beliefs'. This intersection, which is in the form of an integration – and in practice a 'making' - is like a sweet spot, right in the middle, reflecting one's (individual or collective) core - where thinking, doing and believing meet, which feed off one another, which are always evolving, and which are inherently full of life.

> **Theory Studies:** This is where the head rules, the work of the mind - at work. A place of perceptions and interpretations, of patterns that matter…. thinking, reasoning; mental, perceptual.
>
> **Practice Experiences:** The body at work; hands-on. A place of behaviours, of doings, of realizations… acting, enacting; practical, radical.

Personal Values and Beliefs: The work of the heart, and soul, en route to the whole; the place of the personal touch – the place of feeling, sensing, and intuiting; the realm of essence.

The latter territory (essence) represents an inner place with outer manifestations - the main conduit to praxis (and ethos and poiesis). It informs the 'I' (rather than the 'me') of professionals; it goes to what a professional 'stands for', what a professional ultimately 'professes' – from, or out of. Ideally, this 'I' is expressed as the 'undivided self' (Palmer 2007), as a whole being at work in the world; as such it is much more than a combining of theory and practice – there is also a spirit of sorts at work - interpreting, discerning; fundamental, transformational.

Meshing the Personal and the Professional

To begin to personally relate to this triadic scheme it is necessary to first appreciate a distinction between one's 'practice' and one's 'praxis' (Praxis is featured here, for illustrative purposes, but a similar patterning may be inferred with regard to ethos and poiesis). Praxis embraces practice (it transcends and includes it) but practice is more habit and routine – going though prescribed motions. Praxis, by contrast, is transformative – an ongoing evolution, on a trajectory to the ever-more-whole.

Praxis may be variously represented as: foundational, formative, performative and generative. It is more than (just) theory; more than (just) practice; and, self-reverentially, it is more than (just) 'me' in action. It represents a significant integration of important differentiations - an embryonic form of (and format for) professional-self design. Praxis is clearly underpinning – a form of elemental professional DNA (Figure 3).

Fig. 3: Praxis – Underpinning.

Praxis is being represented here as the prime - and primal - 'making' of an aspiring professional…. a truly transforming place. This is a place where it should be safe, educationally, for the personal to encounter the professional, and for some necessary meshing of the personal and the professional. The associated professional-self design should also encompass other dimensions of 'the personal', namely, the inter-personal dimension in *ethos*, and the trans-personal dimension in *poiesis*. These traverse highly transformational terrain (See Figure 4, over page).

The three elements of the triad should be viewed in terms of their nested inter-relatedness (praxis as foundational; but being transcended by - while being included within – ethos; with poiesis similarly transcending, while including, praxis and ethos).

Personal	Interpersonal	Transpersonal
•me •Trans-form: From me to I	•We •Trans-form: From I to We	•All of (pl)us •Trans-form: From We to All of Us
•Praxis	•Ethos	•Poiesis

Fig. 4. The personal/inter-personal/trans-personal - and the professional

Praxis is personal professing territory; ethos is essentially inter-personal; and poiesis is potentially trans-personal, trans-disciplinary, trans-professional. In developmental terms, the integration within praxis is mostly an expression of personal transformation – from 'me' and one's defining grasping ego, as a human 'doing', to 'I' as an in-relation self-construct, as a contribution, as a human 'being' (and – prospectively - as a human 'becoming'). The integration within ethos is a development beyond discrete codified ethics (Wight 2011c; 2013). The integration within poiesis is a development beyond networking and partnering into the realms of meshworking and collaboration – a form of collaborative developmental action inquiry (Nicolaides and McCallum 2013).

Pairings and Presencings – To Be Integrated

Each of these integrations – prototypical makings of professionals-in the making – may be articulated in part in terms of particular pairings that engage, and animate, the 'whole' of a person, their whole self – body, mind, soul and spirit. These 'pairings' – of inner dimensions and outer manifestations – may be referenced to help students focus on what matters, and what merits an alignment effort, with respect to their professional-self design (see Figure 5)

Such 'pairings that matter' – that engage mind, soul and spirit more directly, and intentionally – may aid in the articulation of one's praxis, as well as a shared ethos, en route to an enhanced propensity for poiesis (Wight 2011c). In total, these pairings and their alignment

amount to a considerable 'presence' – of one's professional self, both on one's own and with others.

Fig. 5. Pairings that Matter, to be Aligned, via Professional-Self Design

This presencing (Senge et al 2004) can be viewed as a series of larger inter-related 'makings' – sense-making, meaning-making and place-making (see Figure 6).

Fig. 6. Presencings: To be Integrated

Sense-making involves making sense of one's world, through the senses that we are all equipped with. Meaning-making is, ultimately, something we do with others – establishing what is meaningful, meaning-filled, in common. Place-making builds on both – it is a fundamental human act, which may be regarded here as a form of poetry on a grand scale, rippling with truth, goodness and beauty.

Conclusion

These pairings and presencings are the possibilities, the potential, in 'All of Us', and - from an educator's perspective - in our students, if we might better enable their professional-self design: i.e. being professional + comprehending the meaning in being professional + being discerning being professional. Might we aspire, as professional educators, to graduate students not only with an accredited degree credential, but also with a praxis, an ethos and a propensity for poiesis?

References

Dea, Willow (ed) 2010 *Igniting Brilliance: Integral Education for the 21st Century*. Integral Publishers

Esbjorn-Hargens, Sean, Jonathan Reams, and Olen Gunnlaugson (eds) 2010 *Integral Education: New Directions for Higher Learning*. SUNY Press: Albany

Friesen, Edith and Wight, Ian. 2009 Integrally-Informed Journaling for Professional-Self Design: Emerging Experience in a Graduate Program Context. *Journal of Integral Theory and Practice* 4(3): 59-86.

Murray, Tom 2009 What is the Integral in Integral Education? From Progressive Pedagogy to Integral Pedagogy. *Integral Review* 5(1), 1-38, June 2009

Nicolaides, Aliki and David McCallum 2013 Accessing the Blind-Spot: The U Process as seen through the Lens of Developmental Action Inquiry, Chapter 4, pp 48-60, in Olen Gunnlaugson, Charles Baron and Mario Cayer (eds) *Perspectives on U Theory: Insights from the Field*. IGI Global.

Palmer, P.J. (2007). A new professional: The aims of education revisited. *Change*, Nov-Dec. Available at: www.changemag.org.

Scharmer, O. (2007). *U-Theory: Leading from the future as it emerges—The social technology of presencing*. Society for Organizational Learning.

Senge, P. (2004). *Presence: Human purpose and the field of the future.* New York: Society of Organizational Learning/Currency Doubleday.

Torbert, W. (2004). *Action inquiry: The secret of timely and transforming leadership.* San Francisco, CA: Berrett-Koehler.

Wight, Ian 2011a Planning by Design in Community: Making Great Places? *Plan Canada*, Summer 2011, 29-32.

Wight, Ian 2011b 'Enacting Ethics Education as Ethos-Making: Meshing the Personal, the Professional and the Spiritual'. Paper presented at WPSC 2011 Perth, Western Australia (Track 12: Planning Education + Professional Practice)

Wight, Ian 2011c From Codified Ethics to Co-Created Ethos: Staking Common Ground in Uncertain Times. *Plan Canada*, Winter 2011, 32-35.

Wight, Ian 2012a Place, place-making and planning: An integral perspective with wellbeing in (body) mind (and spirit), Chapter 15, 231-248 in *Wellbeing and Place*, edited by S. Atkinson, S. Fuller and J. Painter, Ashgate Publishing.

Wight, Ian 2012b Praxis + Ethos + Poiesis: The Making/s of Professionals – An Elephant of a Professional-Self Design Project *Warehouse Journal 21*, 2012, 78-81 (The Journal of FAUM Students).

Wight, Ian 2013 Exploring Inter-Being and Inter-Becoming – as Ethos-Making: The Integrally-Informed Pursuit of Professional Community Wellbeing. *Journal of Integral Theory and Practice* 8(3 and 4): 82-96.

Wilber, Ken 2000 *A Theory of Everything: An Integral Vision for Business, Politics, Science and Spirituality*. Boston MA: Shambhala

Wilber, K., Patten, T., Leonard, A. and Morelli, M. 2008. *Integral*

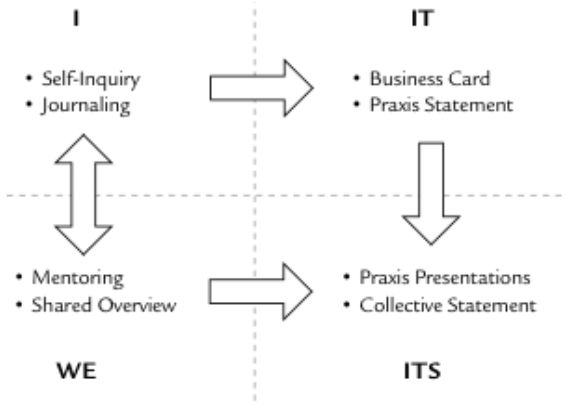
Life Practice: A 21st-Century Blueprint for Physical Health, Emotional Balance, Mental Clarity and Spiritual Awakening. Integral Books: Boston and London.

Notes

[i] CITY 7470 Professional Planning Practice is a required second-year (M2) graduate course which aims to serve as a capstone for the University of Manitoba's Masters in City Planning program. It 'book-ends' the 'theory/practice' stream, which includes Planning Theory – at the beginning of the program, and the internship module – in the middle of the program. The MCP program is anchored by three main planning design studios; CITY 7470 has been taught as a 'de facto' fourth studio, with an emphasis on integration, and professional-self design.

The course is built around several active learning assignments: maintaining a professional journal (Friesen and Wight 2009); designing a business card; developing an 'elevator pitch'; relationship-building with mentors; interfacing with other professionals in various settings (mainly outside the classroom); collaborating with a practitioner on original planning practice case study research – on some aspect of best-practice/cutting-edge planning of mutual interest; developing/presenting a personal planning praxis statement ('a plan for your own professing of planning – i.e. a professional-self design presentation'); and a collective 'ethos' statement – as a class, as emerging planners, directed to representatives of the professional planning establishment.

The course development and delivery has been informed in recent years by integral education theory, including coverage of the four quadrants featured in integral theory (see below)



For more background on integral framings see Friesen and Wight (2009) – the source for the above diagram, as well as Wight 2012a.

The course draws on several standard texts including: The *CIP Professional Practice Manual* (2002), by D. Witty; *The Profession of City Planning: Changes, Images and Challenges 1950-2000,* (2000), by Lloyd Rodwin and Bish Sanyal (CUPR Rutgers); *Making a Living While Making a Difference: The Expanded Guide to Creating Careers with a Conscience* (1999, 2nd Edition), by Melissa Everett (New Society Publishers); and *Developing sustainability, Developing the Self: An Integral Approach to International and Community Development* (2005), by Gail Hochachka (Polis Project, and Drishti).

More recently, as the professional-self design focus has become more prominent, there has been an emphasis on a range of less conventional sources, that – together – might convey a better sense of how students have been supported, to really stretch themselves. The latest set of such resources are indicated below:

Professional Planning Practice
[CITY7470 w2013]
Professional-Self Design Support
Reading Resource Inputs

The Art of Possibility:
Transforming Professional and Personal Life
Ben and Rosamund Zander

Landscapes of the Interior:
Re-Explorations of Nature and the Human Spirit
Don Gayton

The Highest Goal
Michael Ray

Integral Sustainable Design:
Transformative Practices
Mark DeKay

Truth Beauty and Goodness Reframed:
Educating for the Virtues in the 21st Century
Howard Gardner

Awareness to Action:
The Enneagram, Emotional Intelligence and Change
Robert Talon and Mario Sikora

Changing on the Job:
Developing Leaders for a Complex World
Jennifer Garvey Berger

The Three Marriages:
Reimagining Work Self and Relationship
David Whyte

Crossing the Unknown Sea:
Work as a Pilgrimage of Identity
David Whyte

Reflective Building: Feedback from Living and Working within Design/Build Pedagogy

Charlie Hailey

University of Florida

Introduction: Design/Build

More than one hundred architecture programs in North America now provide studio courses that combine design work with some degree of hands-on, full-scale construction. In the classes, students actually build what they design. Much has been written about the role of craft, one-to-one scale, pedagogical goals, curricular placement, and community involvement in design/build coursework. But relatively uninvestigated is the role of feedback between design and build. Feedback is the return of output as input. Put another way, process—rather than product—transforms the process itself. In both cases, feedback frames a loop that links phases, procedures, even forms.

How do the two traditionally distinct phases and realms relate to each other? Is their connection temporally, methodologically, or formally defined? How does design transform build and how does the impetus to build inform the design process? More specifically, how does a particular project's context—its program and its situation (environmental, social, and political forces)—inform this feedback process? The latter question is this paper's focus, and its treatment begins a process of addressing the larger questions of feedback between design and build.

Design-slash-build. In an interview, I asked the designer/builders Jersey Devil why they use the slash—rather than another diacritical mark—between design and build. For them, this insistent bind builds a word that embraces a way of living and working. The slash between design and build signals feedback. To frame and track this feedback is to understand how hands-on, on-site architecture studios define what I have called reflective building. This process entails constant communication between maker and context, while it also inspires consensus and responds to materials.

In the Spring 2014 semester at the University of Florida, I taught a design/build studio, which enrolled sixteen fourth-year students. Our client was a migrant family who lived and worked on a farm twenty minutes from campus (fig. 1). The family lived in a mobile home and hosted another family who stayed in a nearby travel trailer. After

Fig. 1. Measuring, planning, and repairing before project start: (top) discussing renovation of kitchen and dining area in mobile home, (bottom) repairing travel trailer's entry threshold, (photographs by author)

Meeting with the family, we determined that the studio's overall objective was to renovate and, where possible, to expand the family's living spaces in three areas: mobile home interior, travel trailer interior, and travel trailer exterior.

In the mobile home, we reconfigured the kitchen, added a room for a home office, and removed a wall to link the main living space with the kitchen and dining area (fig. 2). For the travel trailer, students installed fold-out murphy beds, added storage, and created a small dining area. Along one side of the trailer, we constructed a wooden deck that allowed the interior living space to flow to the exterior. This project's objective was to allow for multiple uses and to make room for the activities that the family requested and that we observed during our time on the site (fig. 3).

Fig. 2. Renovation of mobile home interior: (top) temporary framing between living spaces, (bottom) installation of central beam to open the living area (photograph by Alex Sanchez)

Fig. 3. Outdoor wooden deck attached to travel trailer in design/build project for migrant family near Gainesville, Florida, Spring 2014 (photograph by author)

This paper focuses on the deck project. Reading the deck closely—its phases of design as well as the outcomes of each part of its construction—allows for a critical look at how feedback works in each of three frameworks: Donald Schön's reflection/action, Maurice Merleau-Ponty's physical/vital, and William James' experience/milieu. Each part of the deck links to a particular feedback model and helps answer the question how a reflective process that acknowledges methodological, physical, and social levels of feedback can anchor design/build pedagogy. Overall, the deck also demonstrates how a fourth framework—the live/work model—augments and intensifies the learning experience.

Reflection/Action: The Floating Cantilever

After determining the overall dimensions of the project, students decided to begin with the western side of the deck. The group discussed how this part of the deck might be used. Was it merely a circulation zone? Could it serve as a place to pause, even sit? Students combined functions of step and seat but then sought a driving concept. The term "float" became the guiding principle at the same moment as concerns about how this part of the deck would actually be built entered into the discussion. After a few study models and mock-ups, a simple cantilever served as the vehicle for this main idea of floating.

In this sequence, reflection on the problem (how to allow for stepping) and a definition of the concept (floating) led the process of design into the building phase. At the project's early stage, with their inchoate construction skills, students reverted to what they knew, based on their experiences in studio where idea leads to design and physical construct. The line of feedback moved from contextual problem back to studio background and on to building with cantilever construction, something they could also readily draw from earlier coursework in structures.

This first part of the deck initiated a dialogue between learning and practicing. What they knew or thought they knew came into contact with a situated problem. "Thinking on their feet," as Donald Schön would say, students privileged the lessons of their previous learning experiences in the process of Schön's "reflection-in-action."[1] Although, as inchoate reflective practitioners, students were doing more than simply applying knowledge from previous studios, their thinking (or knowing) was not yet embedded *within* their doing. The cantilever floated, just as the concept hovered around what had been made.

Physical/Vital: The Folded Bench

In the following week, students completed the beam and joist framing and, halfway through the decking, began work on a threshold for the trailer doorway and a small bench along the side of the trailer. In this phase, students were much more comfortable with their emergent skill set of cutting, fitting, and fastening boards; and they began the design process with a series of mock-ups for the bench. Another commonly deployed studio term "fold" influenced their work; but this time the operative device was one of a set of tools that came from the materials and constraints at the site. The concept of "fold" was now cast within the context's physicality—what the students felt and saw through their contact with materials (wood) and objects (tools and the presence of the trailer) and what they considered possible with their new set of hands-on experiences (fig. 4).


Fig.4. Students assembling the deck's folded bench (photograph by author)

At this stage, the project came alive with contradictions and improvisation, and this 'liveness' avoided oppositions as it also promoted feedback. Design decisions were more closely linked to acts of making. And the body itself—with its dynamic movements (gestures and actions) as well as limitations (imbalance and reach)—became the locus for many of these decisions. When Maurice Merleau-Ponty treats physical and vital as two different levels in the same process of integrating form, he resists a dualism of matter and craft. For many students, craft can be a mystery either in terms of their disconnect from full-scale making in studio or their perceived lack of expertise on site, but the bench provided a site where actual material conditions—dimensions as well as the weight of wood—linked matter with new-found skills of making.

Students discovered that the nature of form might be embedded—"inlaid" as Guiseppe Zambonini noted—in the process of making.[2] The students were working with form, guided by the term "fold," that was inextricably linked to their bodies and the physical conditions of the materials and the partially built deck. Consequently, students came to an understanding that their engagement with the project might sometimes be "lived rather than known."[3] With their body as both active agent and test case, students developed greater intentionality with this second phase of the project.

Experience/Milieu: The Communal Work Bench

> The world experienced comes at all times with our body as its center, center of vision, center of action, center of interest.[103]

William James echoes Merleau-Ponty's ideas of embodiment in which human perception falls within a figure-ground context where edges between the two are blurred. James called these zones "fringes," where the interplay of experience and milieu provides a background for living. Here, memories and expectations mix with immediate perceptions as operative agents in the feedback process. When they began their last part of the deck, students were fully engaged in the process of


Fig.5. Students framing the communal work bench (photograph by author)

building, an engagement that allowed them to make deeper connections with the family and how they might use the construction (fig. 5). What they had already built and what they understood as a constantly changing context—a site of necessity filled with everyday domestic activities—fed back into their final construction piece.

For James, consciousness—and by extension design's engagement with the world—is a continuous flow of experiences, rather than a sequence of ideas. And, according to his radical empiricism, we experience relations, fringes, even inclinations directly. Students saw this part of the deck as an opportunity to engage the daily activity of washing and rinsing. A segment of framed deck reaches out to serve as table and auxiliary bench for the existing water source. The rest of this part of the deck forms a multi-levelled "L" shape that completes the edge for communal gatherings (fig. 6).

Fig. 6. Completed communal work bench area (top) and final review of design/build studio (bottom) (photographs by author)

Fringes are also anticipatory and speculative, and sometimes the relational gap is not always filled. The father of the family living in the mobile home is not only a farmworker but also a local pastor, and when students completed this part of deck he discovered that it would serve as a gathering space for small groups of his congregation during prayer services. With this phase of construction, students' increased confidence with building techniques, the materials at hand, and the vocabulary that could result allowed them to experiment with the systems, ultimately yielding this anticipatory, open-ended architecture that would allow for multi-faceted use. Cantilevers returned but with the purpose of leg-room, storage for washing implements, and separation from damp areas—along with the aesthetics of "floating" and "folding."

Conclusion: Live/Work

> Every nail driven should be as another rivet in the machine of the universe, you carrying on the work.[4]

In the design/build project, we engaged this additional level of feedback as we became a part of the family's daily life. Renovating their home, we were quite literally living in the work. Feedback occurred within a social milieu—the dynamic relation of students and client, underscored by a stability made fragile by migrancy and tangible need. As the project progressed, students gained an increasing level of intentionality, and by degrees my influence as instructor diminished.

Each phase of the deck project brought the students closer to the context in which they worked. And living in the work became working in the lives of those around us. It is difficult to parse such work into discrete data, so we are left to evaluate this design/build project based on feedback, the relations between things, which—as it turns out—is the critical foundation of design/build itself.

The deck project, in particular, linked experiences of construction and the family's domestic life in a similar way that James' radical empiricism suggests a "continuous stream" in which "conjunctive relations" (including reflection/action, physical/vital, experience/milieu, live/work) become part of direct experience (fig. 7).[5] And ultimately, students might understand how each "nail driven" has significance for even broader contexts of living.

Fig. 7. Children helping with clean-up and construction of the travel trailer deck (photograph by author)

References

[1] Donald Schön, *The Reflective Practitioner* (New York: Basic Books, 1983), 54

[2] Giuseppe Zambonini, "Notes for a Theory of Making in a Time of Necessity," *Perspecta*, vol. 24. (1988): 2-23.

[3] Maurice Merleau-Ponty, *The Structure of Behavior*, trans. Alden L. Fisher (Boston: Beacon Press, 1963), 170-3.

[4] William James, *Essays in Radical Empiricism* (Lincoln: University of Nebraska Press, 1912/1996), 170. For James, the fringe is "part of the object cognized—substantive qualities and things appearing to the mind in a fringe of relations." (*The Principles of Psychology* (New York: Henry Holt, 1918), 259)

[5] James, *Essays in Radical Empiricism*, 107

Translating Vernacular Hybridity into a Living Matrix -- Reflections on the Production and Occupation of a School Building

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Introduction

When the term 'architecture' meets the term 'education', it not only relates to architectural schools, professional curriculums, or educational buildings, but also relates to the boundary and capacity of architectural action, as both aim high to empower a wider audience. The process in the production and occupation of architecture, especially the school buildings, has potential to become more engaged into broader educational process.

As quoted from Louis Kahn: 'Schools began with a man under a tree, who did not know he was a teacher, discussing his realization with a few who did not know they were students.'

To explore the notion of 'liveness' in between architecture and education, to some extent is to explore the essence of this school spirit – 'under a tree' as mentioned above. Literally, producing a school building is one of the straightforward ways to respond. Regardless of cultural specificity, the design of contemporary learning environment has been transformed globally in quite a similar way in recent decades. Analogous concepts have been emerging, ranging from informal learning streets, collective learning neighbourhood, to real-world live projects, in order to adapt to the major shift from the teacher-centred to the student-oriented pedagogy.

What is not so clear, firstly, is that how these new understandings of pedagogy help to 'translate' what has already been there into local architectural action, such as the hidden wisdom of vernacular. As Pérez-Gómez notes that the shared foundation of diverse cultures is poetic tectonics, and translation is the approach to poetic tectonics. [1] With its unpredictability, translation is a hermeneutic process to create meanings as well as values, which also closely correlates to educational process.

Secondly, for a long time there exists a gap between the neutrally producing architecture and the diverse occupation of architecture. On one side the architects' self-representation as master-builders pursues the completed perfection and resists sharing the authorship in the production process; on the other side, the complexity, the roughness, and the diversity of the praxis grows in their own rights.

Bridging a link to the above two questions, this paper of work-in-process produces the concept of 'vernacular hybridity' to 'translate', in relation to explore the notion of 'living matrix', or 'liveness', with a reference on a school project (architectural design of the branch of 45th High School in Hefei City, PRC) [2].

'Vernacular hybridity' lies in two layers here: the first layer is about the mediation between vernacular elements and contemporary languages in the architectural production; and the second one relates to the (co-)production with the creative users after occupancy.

The first part of this paper reviews the production of the selected school building case, mainly on translating the organizational language of local vernacular settlement into this school 'village'. In the second part it reflects on its occupation and reproduction through texts as a piece of architecture, noting that the users rebuild a hybrid layer mentally and spiritually upon the built physicality and that is exactly the potential catalyst and living matrix to cultivate the 'liveness' of this school as an educational device.

Finally the paper puts that the 'liveness' in between architecture and education is far more than merely the creation from the professionals, but the messy, roughness, provisionality, and ordinariness, through creative inhabitation by the occupants. Learning from those vernacular settlements and architecture without too much professional's involvement can provide an alternative for contemporary architectural action, in living and being 'liveness' by translating those ordinary, vernacular, hybrid things in temporal dimension at the grass root level, rather than rushing to the perfect product.

Keep 'liveness' by translating.

Learning from Vernacular

Does 'hybridity' facilitate the notion of 'liveness'?

As architecture without architects, vernacular settlements in traditional Hui Prefecture, PRC (Fig.01) can be interpreted as a system of 'liveness' through creative adjacency of basic environmental units. The village presents strong self-similarity and self-

organization in spatial structure. The simplicity in single building unit enhances the complexity of whole settlements, generating a spatial tension in-between.

The organizational language of vernacular settlement is a hybrid of the 'archetype' and the 'patchwork'. As for the archetype of basic unit, it was the courtyard dwelling mostly presented in 'U' or 'H' type in which the buildings enclosed the internal light well. Then this basic unit formed a series of variables or clusters through different degrees of rotating or connecting, while maintaining the main structure relatively stable; As for the patchwork, it was the servicing part (e.g. kitchen and storage) which act as hollow boundary defining the inner void, adjusting the entrance orientation, and adding screen to adapt to the left-over space of the irregular site, etc.

It is this hybridity achieved through creative adjacency that allows much more flexibility for inhabitants to adjust and refine elements in plans, facades and even sections, according to their changing needs throughout time. Through this agency the 'liveness' of the whole vernacular settlement has been facilitated.

Fig. 1. Creative adjacency in vernacular settlements
(Source:http://www.mucai.org.cn/materials2/slide/201210/1/4201/75167.jpg)

The 1st Translation: Production

The following reflects on a built school project in traditional Hui Prefecture (the branch of 45th High School in Hefei City, PRC), discussing the production of this building as an educational device in translating vernacular hybridity into contemporary moment.

Fig. 2. Site before architectural interventions
(Source: Google Earth. Accessed: December 2010.)

Fig. 3. Site after architectural interventions
(Source: Google Earth. Accessed: December 2013.)

Fig. 4. Site after architectural interventions
(Source: Google Earth. Accessed: December 2013.)

Located at the edge of an industrial zone of city periphery and formally as a generic farmland, the site for the proposed school was seen as a 'tabula rasa' (Fig.02) without any useful reference onsite or adjacent plots. New architectural intervention was not able to re-write the site, but had to construct it as a self-reference. Inspired from those vernacular settlements settling down in the wilderness, key strategy was to propose a village-like school (Fig.03-04) as a loose-fit framework and matrix for future evolution.

Fig. 5. Masterplan in schematic design phase
(Source: Produced by the author. February 2011.)

Fig. 6. A School village; a village school
(Source: Google Earth. Accessed: December 2013.)

Fig. 7. Bird-eye in schematic design phase
(Source: Produced by the author. April 2011.)

Key step was ground articulation (Fig.05). The ground plane was regarded as open-air classrooms and it was divided into two roughly equal parts, the north one was local stone paved for formal assembly and the south one is local bamboo cladded for informal activities. The two were in different heights while the south ground was elevated 1.5 meters higher to accommodate a semi-buried (2.4 meters) bicycle parking space underneath, for 2400 students of the school.

This floating plaza act as a vibrant hub of the school, with four terraced teaching buildings anchoring the boundary in slight different angles to allow overall spatial porosity. 1.5 meters height was set as it is the visual height of average students and the threshold of distinguishing semi-underground or underground building in local architectural codes. And most importantly it makes students' everyday experience in entering teaching buildings step by step into a kind of ritual movement, which corresponds to that in wandering about civic plazas in vernacular settlements.

The terraced structure remained consistent as a formal language, however the focus shifted from the single building to the inter-relations in-between each single component which shared the same formal and tectonic logic. The terraced teaching buildings, the folded art and administration building, the round canteen and stadium building, and the crevice, the cavity, the void inside and in-between, all based on a village-like matrix where each actor could make dialogues with the other (Fig.06-07).

The matrix is living, as it provides an event-structure capable of multiple activities and celebrates different participations and interpretations from the users. In this way the very nature of the 'liveness', the presence of daily life in vernacular settlements would be grafted, which is beneficial to inform a pedagogy appropriate to the study, thinking and living of the users mainly from the age of 13 to 15.

The 2nd Translation: from Production to Occupation to Reproduction

Barthes's 'The Death of the Author' provides a lens to explore 'liveness'. The interrelationship between writer-text-reader is seen as analogous as to that between producer-building-user ('producer' here is not limited to the professional architect).

The physical built work of this school was a co-product of a professional design team, as well as a construction team with trained construction workers. The design and construction process was operated in quite a top-down mode within limited timeline and tight budget, as similar to most cases in Chinese urbanization. In this view the role of the architect of this building ended immediately after physical forms being built -- the 'death' of the architect.

However what worth noting is that in the production of vernacular architecture, the role of craftsman as master-builders and the process of coordinating the design and construction are much more open and engaged, as can be demonstrated from 'sophisticated carpentry system and much interaction between villagers in the building process, including all the building rituals, mutual assembly, ancestor worship, the Feng-shui and so on'[3] .

To large degree the vernacular architecture was produced without professional involvement, for example, without the completed design or construction drawings. Loads of details were decided on site after the communication and testing from the builders, designers, or in most cases, the builders-as-designers. Thus both the process and product of the essence of vernacular were a hybrid. From this point of view we argue about the definition of the architect as an empowered creator and solo author of this school building. And we are extremely interested in the fleeting notion of 'building' co-produced by the inhabitants and the participants (including everybody who gets involved in the architectural activities), such as the hand scratches on the building materials by construction workers (Fig. 08), as well as the fleeting moments of construction site (Fig. 09).

Fig. 8. Scratches by construction workers
(Source: Photographs by the author. November 2011.)

Fig. 09. Fleeting moment of construction site
(Source: Photographs by the author. November 2011.)

It is no doubt that end-users should be reactivated to be more creative from the beginning. If we could, we would. But in this case the design team couldn't get in touch with the real end-users – those students except some of the teaching staff representatives. It's a shame. To compensate, we highly value those unexpected additions onto the building by the end-users after occupancy, such as those flags attached temporarily on the balustrades of roof terraces (Fig. 10), and the vegetable planting which made use of the triangle left-over space behind the bleaches of football pitch (Fig. 11).

It is those living elements that make the 'dead' building alive again, at the same time make its authorship more hybridized. It's those users, from passive to active ones in a bottom-up way, who rebuild their environment initially shaped by the buildings as a top-down product from professionals.

Fig. 10. Temporary attachment on the balustrades of roof terraces by the users
(Source: Photographs by Jiaming Cheng. May 2014.)

Fig. 11. Vegetable planting in left-over space by users
(Source: Photographs by Jiaming Cheng. May 2014.)

Thus the efforts put into the spatial production of this school building in design phase does not result in offering an autonomous, fixed, and incomplete thing anymore, as much as it might be any piece of architecture; but it acts as an open text to the creative readers after occupancy (Fig. 12-13).

Fig. 12. Perspective of teaching building in conceptual design phase
(Source: Produced by the author. January 2011.)

Fig. 13. Perspective of built teaching building
(Source: Photographs by the author. September 2012.)

As quoted from Sarah Wigglesworth: 'It is not surprising that the architecture is obsessed with notions of the iconic, the one-off, the monumental. It privileges the final product over the process, the perfect moment of completion over the imperfections of occupation… High architecture is unravelled by the habitual and banal events which mark the passage of time. There is a thudding disappointment as a gap opens up between the image of architecture and the reality of its making and occupation.' [4]

From this perspective, the whole process of architectural action includes two 'actors': one is a building guided by disciplinary expertise, such as architect's involvement as a form-giver; recorded in professional drawings; built in limited timeline and budget by trained construction workers; etc.; the other is a building (might be in same physicality with the first one, but more time-based and at the grass root level) shaped by creative users in the process of occupation and reproduction (Fig. 14-15).

Fig. 14. Plaza in-between teaching buildings in the first week of occupancy
(Source: Photographs by the author. September 2012.)

Fig. 15. Plaza in-between teaching buildings after two years' occupation
(Source: Photographs by Jiaming Cheng. May 2014.)

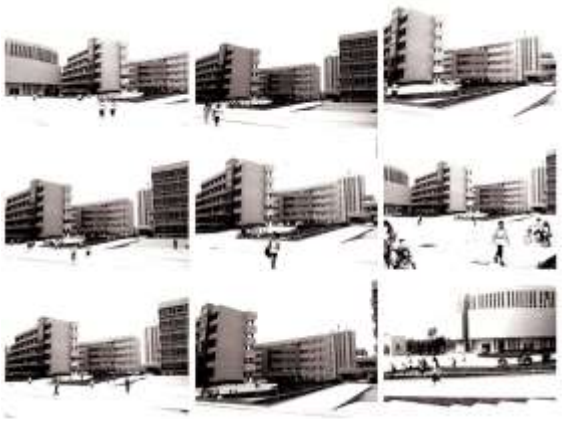

Fig. 16. Montage of gaps
(Source: Photographs and redrawn by the author. September 2012.)

It matches the viewpoint from constructivist stage in the evolution of pedagogical theory. [5] As Vygotski argued that 'remembering and application of knowledge had to be situated in the students' lived world in order to become authentic learning. In other words, students construct their own meanings and they do so in social context'. [6]

We believe that the inhabitants are building a new 'school' during their occupation, both physically and mentally, based upon the built work by professional. The new one could be read as a hybrid layer compared to the existing, as it attaches and overlaps on the old to some capacity and still keep the possibility to merge the two layers into one hybrid. That leads to a more thought-provoking situation, when the two encounter and evolve together, into a montage. (Fig. 16) As quoted from Jonathan Hill referred on Walter Benjamin's 'The Arcades Projects': 'In the montage of gaps, authority is shared between the producer and the user. The montage of gaps is particularly appropriate to user creativity in architecture because the building is not experimented all at once. It is experimented as a montage, piece by piece, in moments separated by gaps in climate, space and time.' [7]

Conclusion

In short, through the reflection of the process and product of the local school case, this paper holds that 'vernacular hybridity', as both a critical mediation and productive context, has the potential to be translated into the production and occupation of the building as a living matrix beyond physicality. By translating those vernacular, hybrid, and ordinary things as a living matrix rather than rushing to the solution, the approach to the essence of 'liveness' could be cultivated, from the school spirit under the tree of Louis Kahn, to the much more expanded field -- the 'liveness' in between architecture and education.

'Architecture is far more than the work of architects.' [8]

In one of the return visits to this school, the author stood against a wall in the corner of the plaza in-between the teaching buildings for the whole afternoon, watching the students passing, playing, interacting… there was a moment when the author suddenly realized that only the users are the final authors of the built environment; their activities are rendering the building; they are part of the buildings; each of them is and will be translating his/her classroom, terrace, plaza, school… The sum of them will be a hybrid, a living matrix.

Finally, to make a pause quoted from a Chinese poet: 'I wish I could rebuild a city through my texts… in this city, time was reversed, dead trees were brought to life again, disappeared smell, sound and light were recalled, missing courtyards, lanes and temples were rediscovered to the original appearance, traditional tile roofline expanded to the sky, children were well aware of seasonal change, residents got their own orientation to settle down. I opened the gate of this city, welcoming homeless and all the guests full of curiosity.' [9]

References

[1] Pérez-Gómez, Alberto. "Built upon love: architectural longing after ethics and aesthetics". Cambridge, Mass.: MIT Press. 2006.

[2] The author got involved into this architectural design project (the branch of 45th High School in Hefei City, PRC) as the architectural design team leader in conceptual design and schematic design phase from 12/2010 to 05/2011.The major construction of the school was completed on 08/2012 and the school has been applied into use from 09/2012 to now.

[3] Selected from an email conversation with Prof. Peter Blundell Jones, School of Architecture, the University of Sheffield, on 22/07/2014.

[4] Wigglesworth, Sarah and Till, Jeremy. "The Everyday and Architecture" in Architectural design profile, 134. Wiley, Chichester. 1998. p7-9.

[5] Dovey, Kim and Fisher, Kenn. "Designing for adaptation: the school as social-spatial assemblage" in *The Journal of Architecture*: 19:1, 43-63, DOI: 10.1080/13602365.2014.882376. 2014. p 45.

[6] Vygotski, Lev. "Mind in Society". Cambridge Mass., Harvard University Press. 1978. p.57.

[7] Hill, Jonathan. "Actions of architecture: architects

The BEAM Project - Real Life Complexity in a Design Studio Context

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Introduction - Isn't Architecture Hard Anyway?

Studying architecture is hard; architecture courses are cited amongst the most challenging of those on offer to students. In an interview with Tom Dyckhoff published in the Times newspaper article 'Who would want to be an architecture student?' [1] Laura Allen, BSc Architecture Programme Director at UCL, illuminates the familiar experience of students in architecture schools throughout the UK:

"Architecture students aren't like other students," Allen says. "They've always worked a damned sight harder. You won't find them living up to the student stereotype. Hundred-hour weeks are quite normal. Flatmates never get to see them. They're strangers in their own home because they're here working till dawn day after day." "It has to be like that", she adds. "Architecture is an immensely broad subject. It straddles arts and sciences. You have to learn the past 200 years of knowledge about building, cities, landscapes, sociology. And you have to have designed - and come up with the brief and the site for - five or six buildings by the time you leave, right down to the smallest detail. And then you've got to learn actually how to be an architect - the law, the business, the contracts, running a team. You just can't do it in less than seven intense years."

This account openly conveys the conventional Design Studio teaching environment in the UK and around the world.

This synchronises with the critique expressed by Awan, Schneider and Till in Spatial Agency [2] reflecting on architectural education as 'the continuation of the master tutor and willing servant students, the privileging of the visual, the inculcation of absurd modes of behaviour (sleep deprivation, aggressive defensiveness, internal competition), the raising of individuals onto pedestals, all these and more self-perpetuate in schools of architecture around the world'.

The authors' experience of Design Studio on the MArch programme at the Leeds School of Architecture (LSA) at Leeds Beckett University correlates with this. It is within this environment that most Live Projects at LSA are situated. Whilst at the time of writing there appears an emergence of Live Project pedagogies distinct from orthodox Design Studio and many Live Projects are no longer situated in the Design Studio context, this paper is focused and limited to those that are.

Fig. 1. BEAM Collaborative Working

Design Studio modules can exist in different forms and it is important to review the particular context at LSA. Like many Schools of Architecture a vertical studio system is employed across years. For the Master of Architecture course this is across the two years. There is also the distinction in architecture courses where the learning outcomes can either be the same across all studios or specific to the studio, (studios are normally known as 'units' in the latter). At LSA there are common learning outcomes for all of the studios in Design Studio modules.

The Design Studio modules state, '*The content is specific to each of the studios on offer, but all studios have the same learning outcomes, and each studio will explore the full range of issues which impact on the design process, albeit starting from their own frame of interest.'*

Live Projects – Making it Harder?

In this setting the architecture Live Project, as defined by both Anderson [3] and Sara [4] can seem insurmountable. The additional factors for consideration are well known, the most prominent amongst them being; client requirements and interface, procurement methodology, site specificity, cost, group and collaborative working. See Fig. 1.

Through the experience of experimenting with differing forms of instruction, it became apparent to the authors that the key to a student cohort navigating their way through the increased complications of the Live Project is the brief. It is this component, the 'Live Project brief' that this paper explores. How can a Live Project be conceived and communicated to a student such that the outcome is not only appropriate and desirable from the client perspective, and suitably address the module criteria, but also satisfy the desire to produce beautiful architecture?

BEAM Live Project

The question is explored through the case study of the BEAM Live Project undertaken by nine year 1 postgraduate students in the CITYzen Agency studio at the LSA. Three projects were produced by three student groups during 10 weeks of Semester 1 in 2013/14.

Taken from the organisations website, BEAM is an 'arts, architecture and learning company dedicated to the imaginative understanding and improvement of the public realm. BEAM is also committed to further developing its base at The Orangery as a creative centre, venue, and visitor destination as part of Wakefield's growing cultural ecology.'

Fig. 2. BEAM Brief

The client's headline task required a 'demountable / permanent' space or structure that might combine the uses of café/bar, meeting space, and space for creative activities. As with most live projects LSA has been involved with to date, the scope of this requirement as defined by the client was insufficient to meet the module criteria.

Consequently the tutors' construction of the brief must bridge the gap between the two, whilst generating stimulus for interesting and exciting results. Brief writing is alchemy and artistry and is where Live Project educators can be at their most influential.

Here the brief was expanded by integrating an urban design concern:

'Through collaborative praxis produce a fine and practical work of 'demountable-permanent' architecture at The Orangery, Wakefield set within a re-imagined urbanscape. Using 'change and identity' as foci, produce an alternative urbanscape to that which is developing.

The output to be generated was a *'Comprehensive Urbanscape design project underpinned by a theoretical approach demonstrated in the portfolio.'* This was to be seen alongside a piece of design work which is '*intelligent, resolved, beautiful, technological, sustainable, economically viable, communicative and creative.'*

The brief is generally project and cohort specific and is assessed in a portfolio format. The portfolio must align with the module criteria. The brief writing process is iterative, with client involvement crucial. Ideas are noted down, discussed, embellished, drawn back and moved forward until a finished proposal is fleshed out. Whilst difficult, a useful starting point lies with the EU Criteria.

All learning outcomes are directly linked to relevant EU criteria and on the face of it marry surprisingly well with the specific area of interests within the architectural Live Project. The architecture Live Project is an extremely potent vehicle for the delivery of EU criteria.

Academic Value

Despite the role of architecture schools to produce individuals capable of working in the profession a set of pragmatic and practical skills such as client liaison, project management and value engineering are often not appreciated as highly by the most academic of architectural educators. It can be their perception that Live Projects display a lack of theory, criticality and pure architectural visioning. The responsibilities of addressing this are once again contained within the brief. Create a project whose virtues can be understood by all who view it, and the value of Live Projects become easier to accept.

The point here is that although Live Projects work well in the regulatory context, the interpretation in a Design Studio context is often of a lacking theoretical approach to the subject. This undermines their potential, particularly at assessment points. To address this issue, each project component can be broken down and given a credit rating. The significance of this move is twofold. Not only does the student understand the elements worth in their overall portfolio, allowing them to concentrate more time and effort toward aspects of greater importance, but also moderating educators comprehend what was deemed valuable and can therefore adjust their assessment comparatively.

At LSA, denoting credit ratings for associated pieces of work has proven successful. All studios have now adopted this practice to enable an easier and more consistent assessment process that is particularly useful when demonstrating parity across the diversity of the studios.

How to Play the Design Studio Game?

The final hurdle to overcome for the Live Project educator is that of Design Studio itself. Traditionally, Design Studio promotes above all else, a visual hegemony. The drawing is king. Scroll through the President's Medals website http://www.presidentsmedals.com for a cornucopia of drawing gymnastics and pyrotechnics. The truth, we are told, is that the only authentic production of the student is the drawing. When this emphasis is altered, the usual reading of Design Studio is disrupted. How can the viewer compare a drawing of propositional architecture with that of real-world drawings for an actual building? The final challenge of the Live Project brief therefore, is to enable the student to 'compete' with the authority of the Design Studio drawing.

In the BEAM project the brief made reference to different forms of outputs that enabled students to participate in the drawing contest. This has always proved difficult for Live Projects because by their nature they are often small scale and the complexities are not easily drawn in an orthodox Design Studio manner. See Fig. 3.

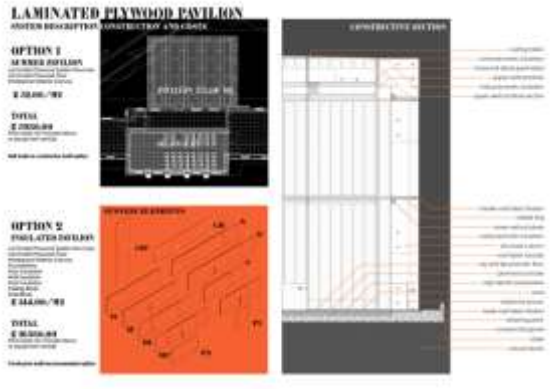

Fig. 3. Team Translation; Cost Options Drawing

Student, Mike Powell reflected on this in his project:

'The physical parameters in which the BEAM proposals were constructed offered the students the opportunity to design within a confined and difficult space. The site was small, triangular, north facing and sunken; offering little opportunity for glamorous imagery that has become inherent in high appeal student presentations. However, where the student lacks these 'portfolio' opportunities, they learn valuable real world experience; for in practice the architect does not get to choose the place in which he alters, therefore having to stimulate a client using the resources available. This in itself is a skill to master and by introducing these criteria into the curriculum, whilst balanced with 'freedom' projects, will only better prepare the student for a career in architecture.'

The BEAM brief made a clear requirement for drawn outputs, *'Beauty of the drawing, the model, the medium'*. Students were set the task to communicate their work in an equally but alternatively stimulating way to other studios.

The representations of the architecture should communicate the additional constraints and motivations of the Live Project. For example, procurement methodology and site specificity drawings of architecture under construction is encouraged, as illustrated in Fig. 4. This conveys the aspects of site constraints, construction sequence, construction methodology and procurement methodology.

Fig. 4. Team Ligneum; Construction

Agency

The methodology the tutors employed was to bestow the status of 'agents' and therefore 'agency' on the cohort. Design process was recorded and reflected upon through the contention that the student designers were 'agents' within the real life project. For this reason students were asked to explore ways to represent themselves in their work. Here 'documentary-ising' was coined.

Live Project architecture in most cases will not produce the set of 'killer' architectural drawings viewers are familiar with. We contest that the drawing should be seen as a tool rather than an end in itself, so that it serves the Live Project portfolio in being a documentary expression of 'living with the project'.

One part of the drawing output at BEAM was to produce an edited book of the three projects in a form distinguished for the client rather than academic assessment (although it was part of the submission). The skill was to communicate to an audience other than the academy the architectural design. This work in quantity would be similar to the purpose of submitting an orthodox piece of work to communicate in the language tacitly developed in Design Studio. Here there is hidden learning, and learning particularly relevant to practice.

'Agency' is visible in the concluding element of the BEAM brief through individual reflection of the project. Each team's repository of documentary work was the material for individual reflection. Through compelling the student to

comment upon their own learning experience, each was able to recognise and validate the distinctiveness of the Live Project compared to their previous experiences. They also critiqued how they had developed skills, viewpoints and approach within the process.

The documentary style of authenticating their involvement evolved during the Live Project process; students are seen 'doing' and witness their own interaction with clients, tutors and more. The individual reflection was edited for inclusion in the portfolio.

Throughout the three BEAM portfolios the student team evidenced engaging in similar design activity, but recording it using differing techniques.

The Secret Garden team preferred working together in the architecture studio, before heading home to work individually on assigned tasks. The process was documented as a scrapbook, with the working drawings from time spent together forming the bulk. The group also experimented with video and audio recording for interviews, site visits, and meetings with clients and suppliers etc. Although in its infancy, and with the group struggling to embed the work succinctly within the portfolio meaning it lost some value, video making will develop particularly in a documentary process driven manner.

The *Translation* team worked remotely using email. This felt more akin to consultants communicating in practice but resulted in little useful material to reflect upon.

The *Ligneum* team also worked remotely but used social media for contact. Daylong Skype conference calls twinned with sharing information through a Facebook group provided not only an excellent platform for collaboration, but also an instant repository of the conversations discussed and work shared. For the portfolio, the Facebook group was archived and compiled into a book of 200 A4 pages, bearing witness to the immense dialogue between the three students. It is a visual feast that captures process and reflection in the raw of the now. It cannot be re-edited it can only be reflected on.

Beyond being a pedagogical instrument this move to 'agency' and 'documentary-ising' is, significantly, the best way the authors have found to demonstrate to other academics the value and additional constraints and motivations of the Live Project.

Fig. 5. Team Secret Garden; Material Considerations

Conclusion

The BEAM Live Project portfolios, demonstrate that the Live Project can flourish in orthodox Design Studio contexts through 'documentary-ising' of the student experience as the principal method rather than the 'the privileging of the visual' architectural drawing.

Some notable specific examples from the BEAM Live Project are listed here; students demonstrated their verbal and visual communication skills appropriately to client and stakeholder audiences, they described how they had creatively and effectively responded to a fluctuating brief (because the client was responding to their encounters with the students). They illustrated pavilion designs as a series of possibilities through the real-life need to vary the design criteria. There were more matter-of-fact experiences documented such as the evolution of an effective way of working in a team, and what happens when you visit a timber yard to select appropriate materials, see Fig. 3. When designing a consultation tool (which destined one team to stand in the centre of Wakefield talking to passersby) students verified its effectiveness by evaluating it. Additional concerns demonstrated how each team responded to cost constraints dynamics because the client was non-specific on the budget. The cohort considered solutions to site and procurement realities – which included prototyping of a new constructional system and to a self-build strategy.

Ruth Morrow in the Foreword to 'Architecture LIVE projects – pedagogy into practice' [5] describes Design Studio as:

'providing 'the perfect risk-free environment to strip away context, conditions and uncontrollable complexities and allow an abstracted space in which to examine concepts in detail and isolation. If Live Projects are to take up a different role from that of Design Studio projects, it is because they exist in complex, unpredictable spaces where skills of negotiation, fleetness of foot, resourcefulness, time management, and an ability to deliver within (changing) constraints to a range of audiences are at stake and of

value. In that case, live Projects must be assessed in a different way to Design Studio projects.'

Morrow's position is seen as a longer-term goal as the authors continue to evolve Live Projects at LSA. For now the projects work within the system. However, encounters with Design Studio are proving informative, enabling a range of approaches to be tested that could be appropriate and adaptable to future Live Project pedagogies.

For now, the authors play, though not exclusively, the Design Studio game. There are virtues and pitfalls. It can be argued that this skews the development of a clear Live Project pedagogy. The counter is that this pragmatism, in itself, resonates with the 'fleet of foot' territory of the architecture Live Project.

Fig. 6. Team Ligneum; Facebook Reflective Compendium

The final word is left to student Amy Featherstone whose experience of the Live Project in Design Studio is so well documented through the Facebook book, Fig. 6. Amy concludes:

'Working on the BEAM project as part of a group of three was a refreshing and intense task. In previous university projects both the brief and the final design were theoretical, whereas the task our Design Studio group CITYzen Agency was set, bordered much closer to a real 'in-practice' project as we had to juggle working towards the brief set by tutors, the ever evolving brief from the client, designing whilst keeping a focus on 'buildability' and cost as well as learning how to work as a team and designating tasks fairly and equally which played to our individual strengths and weaknesses. Personally I gained a huge amount from becoming a 'CITYzen agent'.


Live Projects as meaningful exchange, or simply tourism?
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SYMPOSIA

SYMPOSIUM: Rethinking Architectural Education – the New EU Directive and the Role of Live Projects (4 papers)

Sandra Denicke-Polcher, Dann Jessen, Torange Khonsari, Anne Markey, Maurice Mitchell, Bo Tang

The Cass. School of Architecture, London Metropolitan University

Symposium Summary

The symposium will encourage the participants to discuss the teaching method of Live Projects as part of the typical 5 year architectural education in the UK. Within the context of the new EU directive and the potential for a rethinking of the "3+2 years" (+ 2 years in practice) usual architectural education in the UK, Live Projects play an important role, adding practical experience to a shorter "5+0 years" model (without the year in practice). The information and knowledge delivered in the symposium can play a demonstrative and exemplary role in future architectural educational reform.

At the Cass. School of Architecture, several studios at Undergraduate and Diploma level choose to work on Live Projects with their students as the year-long programme. These Live Projects play an important role within the students' architectural education and increasingly will do so in the future, as Live Projects add practical experience to a potentially reduced architectural education to 5 years without a year out. The studios at the Cass do not only teach students about the professional side of architectural practice (e.g. real clients), but also contribute to research in architecture. Three studios will be presenting their work and methodologies as a base for discussion at the beginning of the Symposium, followed by a short Q+A session, involving the audience and other institutions.

The faculty based RIBA Chartered practice *CASSprojects* supports the live projects at the Cass by providing the professional environment for live projects carried out by students and staff, using the professional structure of the RIBA practice. CASSprojects will be presented as a neutral enabler for Live Projects at the Cass. The issue of balance between consultancy commissions and research projects as well as issues of health and safety will be presented.

Followed by a short Q+A session, the four presented papers intend to encourage an in-depth discussion about what professionalism in an academic context can mean. A number of the presented projects, mostly public in nature and often located in deprived areas with non-paying clients, are only possible within the university context where students are offered opportunities to be involved (often as part of their studies), supported by academics who happen to be professionals as well. As part of the proposed symposium we want to explore how projects are experimental in nature, can equip students with research and communication skills, and contribute to new ways of practising when the young architects leave the university.

The symposium will suggest three themes to be explored jointly by the audience or in groups (according to the size of the participants).

- What makes a project *live*?
- What support is needed for Live Projects?
- What is the role of the architect within the Live Project?

The outcomes of the discussions will be presented to the other groups for conclusion.

1 - Undergraduate Studio 3: Self-Initiating Community Projects Through Multi-Disciplinary Practice (Sandra Denicke-Polcher and Torange Khonsari)

http://www.thecass.com/courses/studios-units/architecture/undergraduate/studio-3-2013-14-brief

method establishes a non-hierarchical relationship where trust can start to form without the requirement of a direct and efficient outcome. The dialogues establish a series of relationships, which act as the future support network of the social and political architectural/urban project.

Fig. 1. Bringing the Archive out, Liverpool 2010

In a context where public and civic spaces of the city are being privatised and architects are more and more responsible for this action, it is important that we teach future architects to self-initiate socially engaged and politically driven projects. These projects aim to reclaim public and civic spaces of the city for its citizens and enable citizen participation in its management and authorship.

The methodology of engagement happens through intriguing built objects and structures called "conversation kits" which initiate dialogues. This

The second methodology insists on programming regular events. This not only maintains and strengthens the relationships but also expands the network of future empowered citizens. The built enclosure - or conventionally known as *the architecture* - is the final formalisation of a civic program and civic community. This process insists that architecture needs to slow down and rigorously and critically consider what it builds, at the same time judging its social and political implications in the city.

As Hannah Arendt mentions, acting within the city cannot be singular, it has a plurality, which involves local residents, partners and collaborators. This cannot be taught from the safe environment of the academic institution or in front of a computer screen, it needs to be *live* and engaged. Live projects in a social and political context can teach students how to construct a politicised project and architecture practice.

2 - The Brazil Programme at the Cass: Living in the City (Sandra Denicke-Polcher and Dann Jessen)

http://www.thecass.com/projects/projects/current1/brazil-living-in-the-city

A series of lectures and an exhibition, both at the Cass and in São Paulo, contribute each year to the dissemination of these *live* projects beyond the Cass and the partner school.

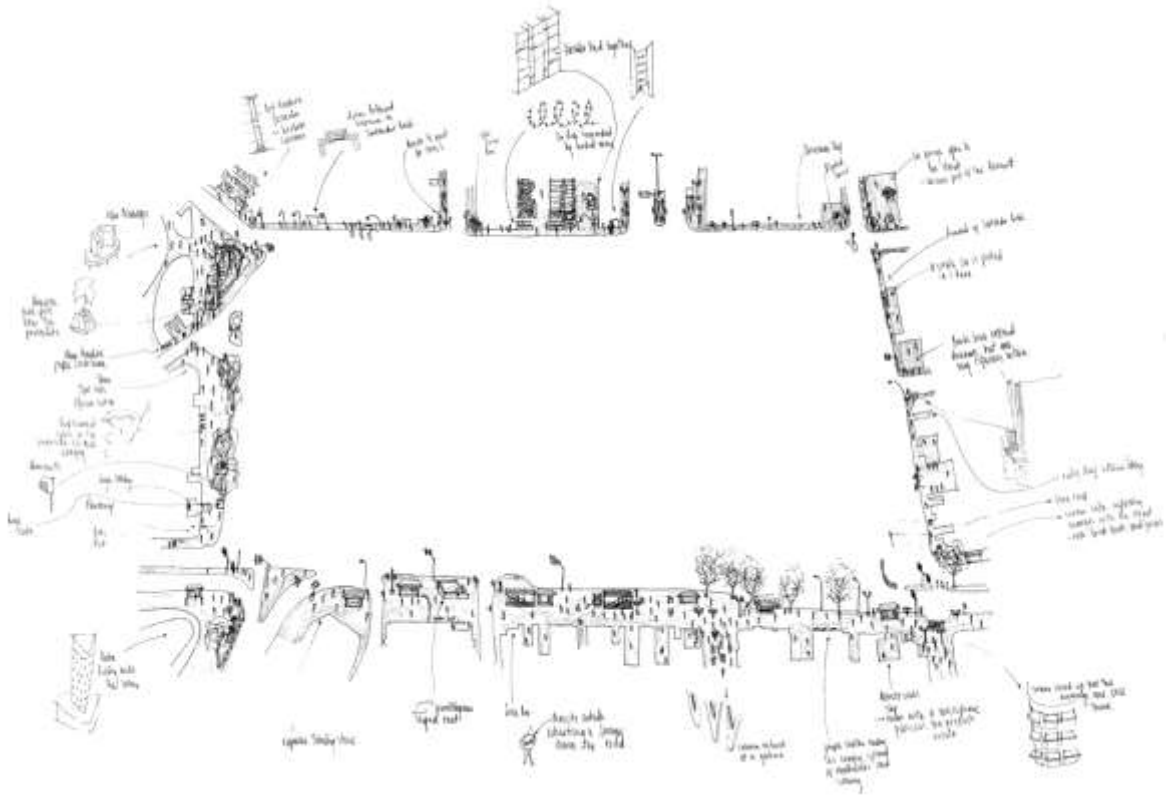

Fig. 2. Mapping Praça Républica, São Paulo 2013

The programme explores transformative outcomes for a fresh approach to urbanism. Each year a group of students immerses itself for 2 weeks into the city fabric of São Paulo exploring urban situations through observation and testing spatial opportunities of these across all scales.

Working with different cohorts of students (5 year programme = 5 different cohorts) students are contributing to an overall body of work and develop a "common" expertise.

Throughout each academic year, projects are developed from this joint *live* experience and the information jointly gathered is used for propositions.

The programme is researching opportunities for how the city can be carefully designed to strengthen existing qualities and contribute to the public realm with generosity. Collectively, proposals have strong potential for influencing future attitudes towards development within the centre of São Paulo, and the potential role of these districts within the wider city.

3 - Architecture of Rapid Change and Scarce Resources: Live Projects as a Tool of Research (Maurice Mitchell and Bo Tang)

http://www.thecass.com/research1/research/arcsr

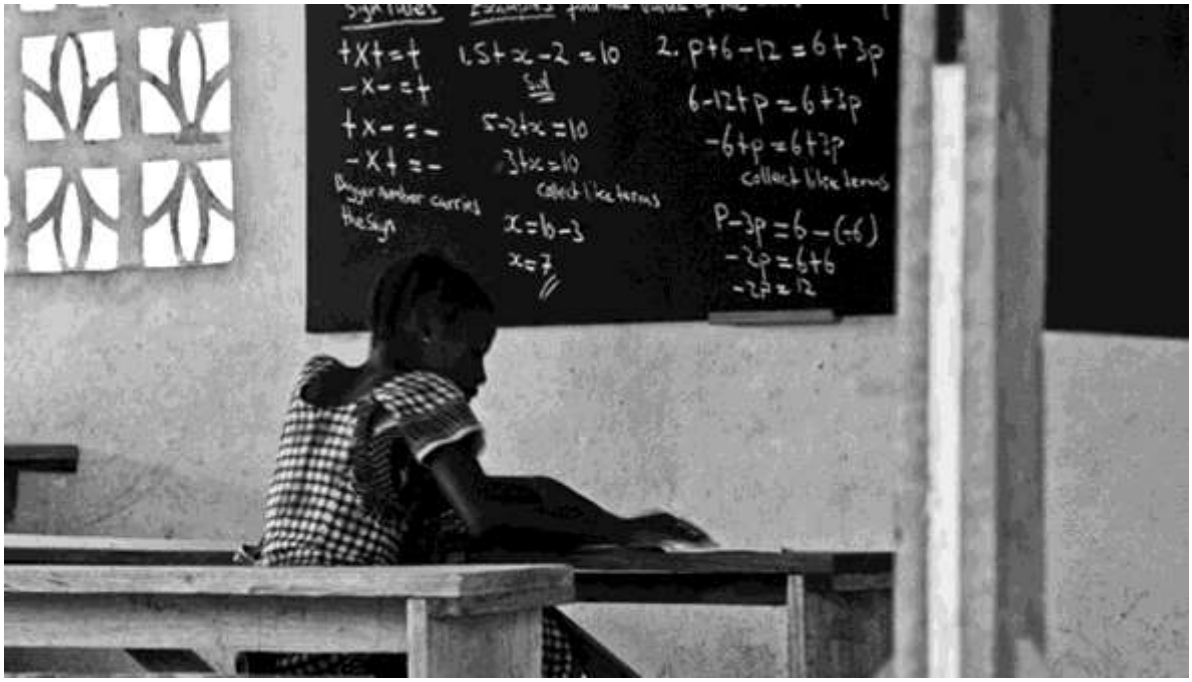

Fig. 3. Classroom Furniture Workshop, Ivor Leigh Memorial School, Freetown, Sierra Leone, 2013

The talk will review how involvement with a live project to build a modest primary school in Freetown Sierra Leone provided a dynamic learning context within which students were able to gain first hand an understanding of the local physical and cultural topography in and around the school site sufficient to both ensure an appropriate fit for proposals and to sustain an educational programme.

Students went on to represent the future potential of the peri-urban place within which the school was situated and in combination with two other survey areas were, after an exhibition of their work at the British Council in Freetown, introduced to two live conversations at city level which have seeded 5th year projects to design both a new school of architecture and a national museum. Both of these projects are ongoing and have the real potential to go live.

4 - CASSprojects: Supporting Live Projects by Combining the Discipline of Research and the Discipline of being Professional (Anne Markey)

http://www.thecass.com/projects/projects

An interactive workshop is proposed that will address the practicalities involved in setting up projects offices within schools of architecture such as health and safety issues; liability and professional indemnity insurance; co-ordinating the demands of the client with the academic needs of the students; initiation and acquisition of projects.

The workshop will be chaired by Anne Markey Director of CASSprojects, a RIBA Chartered Practice embedded in the Sir John Cass Faculty of Art, Architecture and Design at London Metropolitan University. There will therefore be an opportunity to explore the potential to offer practical training, that meets prescribed criteria, through live projects during the 5 years of academic study instead of through conventional years out in practice.

Time permitting, the workshop can also discuss the framing of live projects as research outputs for staff.

Figs. 4 & 5. New Classroom and Outdoor Play Area, Kingsmead Primary School, Hackney designed by Anna Page during her Year Out with CASSprojects

SYMPOSIUM: ACTION–LEARNING IN CITIES (3 papers)

From the Studio to the Field: Learning and Teaching in Context

Elena Archipovaite

Norwegian University of Science and Technology, Department of Urban Design and Planning

Introduction

"The first few days in Kampala was the days of facing harsh realities. […] The first visit that we had to an informal settlement was a slum that was called "Kivulu" , a settlement under the huge threat of eviction, with lack of basic sanitation units and high density of the area.[..]. In one of the lectures that was presented by the representative of ministry […] the new master plan of Kampala. It was basically a rip off of the developed cities master plans in the western world like Chicago, London and etc. with a lot of glass made high rises, huge highways and parks. It proved to me how the authorities are unaware of the realities of the city or even if they are, how easily they ignore the informal settlements and low income earners who are the majority of people living there." (From a UEP student's reflections, 2013).

This is the first week reflection made by a student that subsequently spent two months in Uganda doing fieldwork as part of an international master program in Urban Ecological Planning (UEP). This paper will reflect on my own teaching experience in the Global South and the discussion will be based on student reflections made during and after their studies. My main focus in this discussion will be built around the professional approach applied in the field where we tend to focus singularly on 'what we do', and thus ignoring 'the way we do it'. This is the common challenge I detect in the teaching environments of the Global North in spite of a growing interest by various student groups and organizations of engaging with the Global South. In this paper I would like to use the UEP experience as a basis for discussion in order to expose the shift in our approach 'of doing', and thus explore the potential of context-based 'living and learning' as a catalyst approach for local development. My own experience mirrors that of the top Norwegian athlete Tore Øvrebø. He sees insights (and thus knowledge) as the top tier of a ladder that starts with a physical and emotional 'sensation', which only through 'reflections' emerge as 'experience' - the prerequisite for gaining insights. In the end I would like to see if this way of thinking could be used as a basis for generating an approach that could be applied to other live projects irrespective of professional affiliation.

Context based teaching in UEP

"Fieldwork in study program always gives the unique opportunity to student to get a taste of what the world of practice is like." (From a UEP student's reflections, 2013)

For a number of years we've had the privilege of cooperating with the National Slum Dwellers' Federation, Uganda (NSDFU). Last year this relationship resulted in the students taking on feasibility studies and project proposals defined by ACTogether, the Federation's administrative & technical NGO. These were real projects where funding was already committed, or early-stage projects where the Federation was looking for alternative approaches and models. These challenges were taken on by a multi-disciplinary group of 23 master students, some with years of practice, some straight out of university, from altogether 10 different countries. 6 architecture & planning students from Makerere University were enrolled as NTNU students for this. This mode of learning "although [is] time consuming, asks students to function as participants rather than consultants" (Hoyt, 2006, p.23). 'Living and learning' processes in the field require a lot of energy and commitment, not only from students, but also from educators and local 'partners'. This is a learning journey full of sensational moments, reflection in action, experience in past and present, and insights you leave behind in the environments where you work.

Sensations

Sense of reality

"I see what I see clearly [...] - but what am I looking at?" (Hamdi, 2010, p.230)

"The area was filled with filth, children running around bare-chested with no shoes, mothers cooking on the verandas, floods and others. We wondered how they could afford to live the way they do, in fact, quick as we were, we started prescribing solutions to the so-called appalling situation. Here, we were dealing with symptoms rather than the primary cause" (From a UEP student's reflections, 2013).

Sensation is the first stage of impressions fired by the environment you are exposed to. The quote above is a typical first week's reflection. When exposed to unfamiliar environments the students tend to generalize and build perceptions on the first immediate impressions. It is essential for practitioners to be able to use this sensation-based process as a catalyst for 'reading it through'.

There are small 'tricks' we use the first weeks in the field that help to 'read' and understand. As students are eager to document what they see, they usually take pictures of objects - instead of collecting the story behind it. First rule: no cameras! To discover 'what is this picture about' in the first week is really challenging and it takes time to understand 'what you actually are looking at'. To access a community and then have time for observation is, of course, quintessential in learning. UEP has a long partnership with local NGOs and the students are always introduced to community members from the beginning.

This process of 'sensation' emerging from being in the field and given a professional task, not only challenges the students in relation to their own actions, but also raises awareness of the professional and ethical challenges surrounding their actions. It cultivates a lot of questions while giving few answers. Relevant here is a quote from The Carl Rogers Reader (Kirschenbaum and Henderson, 1989, p.302): "only learning which significantly influences behaviour is self-discovered self-appropriated learning". Reading the students' reflections I am rediscovering, once again, these processes:

"There is no other way to better learn and fully understand the depth of problems and issues facing communities unless we immerse ourselves and become one with these communities. [...] It provided me with the opportunity to be part of a think tank from which a possible solution can be arrived at for the various problems for the people living in informal settlements" (From a UEP student's reflections, 2013).

Reflections

Learning process though discovery in action

"First, it's a very thick darkness with no light at all. The more we engaged the community, the more ideas we got, the more we understood them, the more our pre-conceived ideas were washed away or shaped and the more we felt like we were onto something" (From a UEP student's reflections, 2011).

I always wondered what would happen, and what we would do differently in the UEP approach, if we were to have only two weeks in the field. Are we then only into 'impulsive action' that comes from the first observations and perceptions? My teaching experience shows that it takes two weeks for the students to leave the sensation-based level and start reflecting critically on their perception of seeing. It the end it is an amazing opportunity to have two months in the field where you teach, learn and discover. As part of the fieldwork learning environment, the students are to write weekly reflections as an instrumental tool in the 'living and learning process'. The students thus become more conscious of how the environment influences their thinking. Otherwise it is so easy to leap into the 'safe' (but often so dismally irrelevant) role of the professional and start 'doing' instead of 'thinking' - before doing. Every Friday we would have reading sessions based on the issues raised during the week. We discuss and reflect upon it together. This takes time from the project and sometimes builds up frustration because 'we have so much to do on the ground'. In hindsight, however, the students recognize its positive contributions to the learning process: *"The duality in our approach, with a combination of on-ground field studies and theoretical/factual lectures and readings, made my first visit to Africa into an in-depth analysis and a very special learning process" (from a UEP student's reflections, 2013).* In this process students become "reflective practitioners", as described by Schön (1987), and start to be more humble and think carefully about 'what you do is actually the way you do it'.

Teachers' role and learning to fail

In the beginning it is hard for the students to grasp the role of the teachers in these working settings where traditional authority 'collapses' once you say 'I do not have the answer to (all) your questions'. It 'hits the rock' even harder when you as a teacher start helping students "to develop a conformable attitude towards [the] unexpected" (Sletto, 2010, p.405). My role as teacher is carrying agency that mediates between partners in the field and assists students on their way to discover potentially 'right answers'. I really agree with my colleague that 'the way we learn is not by 'being told', but by 'being part of' (Skotte, 2011, p.42). It is therefore crucial to give space for students to experience, and be close when they really need us. Students are given a professional task and in response they come – over and over again – with a perception of the practitioner in the field as someone who should always know 'how to do it'; followed by the question of who decides and takes responsibility for it? In the end "You [students] have to make your decision and live by its consequences" (Skotte, 2014, p.45). "*Action happens in real time. There is no chance to foresee and little to review. [..]. Getting a complete picture, to fully assess possibilities and consequences, is impossible. […] In the latter case the action one takes will to a large degree be based only on what feels right there and then. This is what it felt like to work in the field. And I believe that this is what I have learned the most from" (From a UEP student's reflections, 2009).*

Experience

The role of professionals

Taking risks and responsibilities and at the same time being flexible, challenges our conventional role in the field: *"I got this project […], I looked [at] it as a typical planning project but the more I learned doing the homework on it, it helped me in enhancing my knowledge and changed my perception towards how to deal with planning problems at a ground level" (from a UEP student's reflections, 2013).* Building relationships with people you work with, taking responsibility and making decisions that might even lead to 'failure' is crucial for a learning process. "As teachers we are challenged to prepare future practitioners for 'messy' planning processes" (Sletto, 2010, p. 403), "where they must build partnerships through effective communicative strategies" (Wiewel and Lieber 1988, cited in Sletto, 2010, p.403). And students clearly identify it *"We need to incorporate the people and the place in our plans because the problems of today's cities require collaborative approaches like having an open minded approach of frank questioning, political creativity, tolerance and understanding" (From a UEP student's reflections, 2013).* This leads to recognizing the power embedded in local knowledge and it takes time to reflect and thus experience it through your own 'skin'. *"It was harsh to see their reality and how things that are so simple and not even a thought in our society can be so crucial a point in another." (From a UEP student's reflections, 2013)*

Recognizing the power and local knowledge

"[…] ingenious ideas they have, especially in artificial charcoal making where they use waste materials to earn a living, but most importantly they have a wealth of practical ideas that actually work" (From a UEP student's reflections, 2011).

To recognize the power of local knowledge – and thus learn from it – you need to experience it, relate to it, and be given responsibility as part of the process. Through the assignments given by our local partners, students were confronting a professional challenge where they had to act strategically and responsibly towards the people they work with. As Nabeel Hamdi argues: "The expert comes to be seen as a special kind of person, rather than that every person is a special kind of expert" (Hamdi, 2010, p.145). Once recognized, the strategic potential for local development emerges.

"Communication between local authority and the community is important. I think we often believe that people who are not professionals wouldn't understand the process, so there is no point in trying to explain it to them. But I think not knowing anything is worse than not understanding everything" (From a UEP student's reflections, 2013).

From these self-learning discoveries you start to reflect and refer to your previous experience in the present. Students see and draw parallels in their experience, start to recognize that approach is independent of the context and has the potential to make a strategic impact in the future of their professional practice, irrespective of place.

"Above all, this field-trip gave me in-depth understanding of housing for low income earners. Believe I can make a positive change when I return back to Nepal. I must admit that my thinking has changed due to what I learnt in Uganda" (From a UEP student's reflections, 2011).

"Another important experience from Uganda semester is how one can grasp an apparent overwhelming problem. I got used to identifying a starting point without a clear idea about the end result and that design processes could incorporate the unforeseen and other sudden and unexpected possibilities (From a UEP student's reflections, 2012).

Insights

"EXPERIENCE + REFLECTION = GROWTH"

"As ⌈the above⌋ quotation suggests, we do not actually learn from experience as much as we learn from reflecting on experience (Posner, 2005, p.21). For educators, the most important thing is to catch this 'growth' process of learning. Reflections are the most heavy and critical part of this process. It consumes time and energy and asks us to sit down and critically think about what we just experienced. There is not so much excitement in this learning process as there is in a 'hands-on' approach, but it is important to show that this is the way we learn and understand our role in practice. In the field, growth happens individually and professionally and I believe if we are able to guide students thought this journey of reflection to experience and discovery of insights, we are part of a great achievement.

Being able to reflect upon sensory or intellectual sensations as a basis for personal experience will enable future development practitioners to apply an approach that is useful in any other context. Based on my experience, I believe that the UEP fieldwork approach is the best way for learning interventions to also carry an impact on local development. And that's what we are there for in the first place, isn't it?! A wider question would be if this approach could be applied independent of the organizational setting and with the minimum length of time in the field. In this symposium I would like to discuss the main aspects of this learning approach and its relevance in other live project practices.

References

Hamdi N., 2010. *The Placemaker's Guide to building community*, Earthscan, London

Hamdi, N., 2011. *The Resourceful Architect*, RSA Projects, London

Hoyt, L.M., 2006. A Core Commitment to Service-Learning: Bringing Planning Theory and Practice. In: *From Studio to the Streets: Service-Learning in Planning and Architecture*. Sterling, VA: Stylus. 17-33.

Kirschenbaum, H. and Henderson, V. L., (eds) 1989. *The Carl Rogers Reader*. New York: Houghton Mifflin Company.

NTNU.UEP., 2009. *Planning for action-action for planning,* [Fieldwork executive summary]. (Students' reflections).

NTNU.UEP., 2012. *Kisenyi II &III* [fieldwork executive summary]. (Students' reflections).

NTNU.UEP., 2013. *Kampala & Jinja* [fieldwork executive summary] (Students' reflections).

Posner, George J., 2005. Reflecting on Field Experiences: Fieldwork Logs. In: *Field experience: a guide to reflective teaching*. 6th ed., Person Education. 21-28

Schön, D. A., 1983. *The reflective Practitioner; how professionals think in action*, Basic Books, New York

Skotte, H., 2014. Teaching to Learn - Learning to Teach Learning Experiences from Reality of an Ever-changing World. In: *Alternative Development: Unravelling Marginalization, Voicing Change*, Brun C., Jones M., Blaikie P., Farnham: Ashgate.

Sletto, B., 2010. '*Educating Reflective Practitioners: Learning to Embrace the Unexpected through Service Learning'*, Journal of Planning Education and Research vol.29 pp.403-415.

From 'Live' Projects to 'Lived' Environments: 'Practised' Architecture and Design Scales in the Contested Territories of the Global South

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Beyond the 'Live Build': Situated Learning and Situating Knowledge

Over 20 years ago, Lave & Wenger developed the idea of 'situated learning' based on the idea that knowledge production and exchange is a socially constructed process that does not occur only in the mind of an apprentice.[1] Affirming this shift from psychological to social learning, the authors elaborated the notion of "legitimate peripheral participation" to describe the dynamics leading to participants' wholesome involvement in the socio-cultural practices of a particular community.[2] Building on such an analytical frame, Jane Anderson et al. have recently developed a flexible framework for live projects, expanding their boundaries beyond the 'live build' only.[3] The engagement of learners in a nexus of communities' socio-cultural practices is central to this expanded definition. Such inclusive delineation of the ingredients which make a project "live" is essential for reflecting on pedagogical experiences that do not have the prime objective of culminating in a physically tangible construction but focus rather on the generation of critical thinking and reflecting on the positionality of one's practice.

At the Department of Architecture of the KU Leuven, process-based urban transformations have been explored through long-term engagement with the Global South in a variety of contexts and institutional/ academic frameworks. Education and research within a postgraduate programme on Architecture and Human Settlements – now running for almost 40 years – have been part and parcel of this commitment, and students from a wide range of backgrounds, working experiences and geographic origin have been prime participants.[4] Alongside this endeavor, undergraduate work in the context of the Global South's uneven and unequal (urban) development has gained growing vigour, supported by a number of individual travel grants funded by the VLIR-UOS.[5] While there are several challenges to overcome in the way the scholarship profiles and outputs are framed, their existence has allowed for a considerable amount of final year architecture-engineering students from Flanders to experience immersive fieldwork and tackle issues of 'developmental relevance' in their thesis work. The latter experience will be the main focus of this contribution because of the particular challenges it exposes vis-à-vis action-learning in cities of the Global South.

The travel fund expects grantees to spend a minimum of 8 weeks in one of the 54 countries on the VLIR list,[6] allowing for a research period which is longer than intensive 2-week workshops commonly related to design studio work, but shorter than the immersive stay of ethnographers and anthropologists with whom we collaborate on several occasions. For many students it is the first extended and non-touristic involvement in the Global South, allowing them to live in the communities they will be completing research in. Their first experience is therefore also a first-hand experience. To date NGOs, training centers and higher education institutions have been preferred partners to set up collaborative research questions which student work can contribute to, acknowledging VLIR's mission to search for sustainable solutions to social challenges deriving from global threats, such as poverty, migration and climate change. The 'developmental relevance' of the research topics is therefore a chief requirement to earn a grant, and for their final thesis students have worked in domains as varied as post-occupancy assessments of social housing projects and slum upgrading initiatives, or research-by-design work in water management, as well as envisioning futures for Palestinian refugee camps.

Modern Living in Contested Territories of the non-West

One of the sub-themes students have tackled in the past years consists of a research topic titled '*Modern living in contested territories of the non-West*', where active learning is framed in the context of understanding and documenting the dwelling practices of increasingly vulnerable communities in the rapidly transforming metropolitan areas of the Global South. While not culminating in actually built projects or approved master plans, these experiences have been conceived to expose students to the importance of giving voice to communities' tacit knowledge before developing recommendations and proposals. This process is in stark contrast with the comfortable professional environment students have commonly been embedded in until their experience abroad,

where the role of architects is well-established, professionally respected and rarely put into question vis-à-vis the production and reproduction of inequality within cities. Likewise, this environment seldom relates to clients who cannot afford and/or recognize design practitioners as their partners in urban transformation.

In such a context, the ambition to apprehend and uncover city-making practices has first and foremost rendered necessary the exploration and assemblage of notions considered relevant for self-built environments and for contested spaces, where 'voicing' user-based design and re-positioning the idea of architects as sole or prominent makers of an urban environment is crucial. More specifically, the notion of 'lived-in' architecture has been developed as a premise to understand how urban dwellers contribute to the production of urban environments in the context of forced resettlement and insecure urban futures. Stretching further than a post-occupancy evaluation of resettlement projects, lived-in architecture analysis stresses the dialectic relationship between urban artifacts and user-based transformations.[7] As such, it has the potential to provide insight on the capacity of self-builders but also on the value of designed spaces that may encourage users' appropriation.

Placing Space, Scaling Design

For students, action-learning in the Global South within the context of 'lived-in' architecture is an experience that strives to stimulate a reflection on positionality and the diversity of ways in which this affects both their worldviews and their understanding of design practice. Essential points of reflection that have emerged from the experiences of previous years are as follows:

Mapping the palimpsest

Dealing with human settlements located in the Global South requires the sharpening of one's gaze towards the complexities and injustices underlying (urban) development; a process students have not necessarily been confronted with in their studies prior to their departure. This implies that even standardized urban analysis tools need to be questioned and reformulated in order to represent the history of contested spaces. In the formation of territories, the layers that need to be unfolded concern displacement, resettlement, neglect and inequality that all require depiction well beyond even the most refined GIS maps. Such understanding also poses serious challenges, since it becomes arduous for students to venture into a projective representation of the city – that is, however, instrumental for envisioning alternative urban futures – rather than being overwhelmed by its challenges.

Downplaying solution-driven project(ion)s

In architectural and urban design education, projects and design processes are commonly devised as answers to specific difficulties that neighborhoods and other urban sites are experiencing. The retroactive, problem-solving nature of urbanism is intrinsic to its epistemological construction.[8] In the Global South, though problems may be easily identified when it comes to vulnerable communities experiencing multi-dimensional deprivation, it is rarely the case that students can respond with clear-cut design solutions, especially if the emphasis lies on questioning current urban development modes, such as understanding the social costs of introducing a new housing typology and/or infrastructure.

Gaining consciousness about the scales of design

While many seminal development practitioners have emphasized the impact and importance of 'small' change (and small scale), it remains essential to re-scale design actions 'back to the city'.[9] Besides grasping the ideas of 'smallness', it is crucial to understand inter-scalar relations, and what many 'small' actions might actually imply for a metropolitan area when multiplied and reiterated.[10] Correspondingly, it becomes of central importance for action-learners to grasp that small-scale transformations may be over-ruled by 'large' change. The field of tensions generated by upholding proximity with smallness and apprehending metropolitan dynamics is the 'discomfort zone' where reflexive practice should actually be located.

Understanding space and practised architecture

Apprehending the multiple dimensions of space, first and foremost as an entity claimed by constituencies in conflict and/or in temporal collaboration, undoubtedly leads to revisiting the role of the architecture professional. The notion of 'practised architecture' becomes central to this process of understanding space (including designed space) as perpetually and dynamically under appropriation by a variety of users (or lack thereof).[11] It also dissolves the idea of architects as only producers of space and invites us to read user-based design as a key component of qualifying their living environment.

Great Expectations?

Placing communities first is an obvious 'must do' when being involved in the physical and social transformation of the built environment. The concrete implementation of such positioning, however, is far less evident when it comes to the contribution by design of VLIR-UOS grantees' to communities' improvement. The largest danger in this regard, may be the considerable anticipations local groups might develop during an action-learning experience, fostered by the naïve attitudes some students might actually express.

Secondly, while re-positioning their profession, students may also be inspired to become amateur community developers without recognizing the damage this may generate. Three sets of oppositions synthesize the ethical challenges that action-learners (and action-researchers) are likely to be confronted with when engaging with communities in the Global South, particularly with regard to the legacy of projects that do not leave a tangible, 'built' result behind:

Precision/ Integration

Placing one's tools and capacity at the service of local constituencies requires focus and the vigour to avoid extreme disorientation; becoming a 'community builder'/participatory planner is a profile calling for specific knowledge and cannot be improvised. Considering the limited timeframe and expected deliverables from VLIR-UOS, the major threat for communities is to see students raise expectations by mutating from architects and urbanists to 'community' spokes(wo)men. Rather, professionals with a design background can make relevant contributions if they are aware of the specific information they can deliver, and participate in the generation of complex and multi-disciplinary knowledge. Communities can be best served by a precise and integrative engagement, which can also entail the recovery and reaffirmation of a particular discipline.[12]

Intentionality / Involvement

In line with viewpoints that understand the urban palimpsest as the receptive terrain for an ever-changing field of tensions between claimants of contested spaces, communities are rarely a compact 'whole'. Explicit or latent imbalances characterize most constituencies in conflict and for an action-learner it becomes crucial to gauge whether the supposed intentionality of communities corresponds to shared views or favours instead the assertions of a particular sub-group. Co-producing a shared expression of 'needs' is therefore an arduous achievement and a process of community building *per se*. Action-learners from the design disciplines (and more specifically the VLIR-UOS grantees who are the focus of this contribution) are generally not proficient in this sphere, as it does not feature in their curricula. When not always aware of this deficiency, they may misrepresent intentionality (or lack thereof) and/or enforce their own viewpoints as they become increasingly involved.

Exchange / Extraction

In many notable cases, both remote and recent, engaging in the Global South is framed as consisting of a uni-directional progression of a 'knowledge transfer' that local communities are receptors of.[13] Such understanding disregards the idea of knowledge exchange, whereby for all participants spending time together means taking part in a truly transformative learning experience. This ambition underlines the significance of 'live projects' (in their expanded definition) as catalysts for interchange, but also points to the fact that without a 'tangible' construction left behind, it may be easier for local communities to be disappointed and feel abused by extractive researchers. Partnering with socially engaged practitioners becomes key to ensuring not only the sustainability of the 'live project' itself, but also to sustaining the enormous efforts of local professionals. For many, striving to reduce urban inequality and environmental injustice means facing extreme difficulties in a context where professional legitimation for socially engaged designers remains dire.[14]

From Live to Lived

Action-researchers and design educators working in the Global South not only experience the challenges above fundamentally, but are also confronted with their own problematic positionality and its related drawbacks. Pedagogical offers need to be suited to the requirements (and limitations) set by available funding bodies promoting student fieldwork in the Global South. While this may appear as an excessively pragmatic preoccupation, the reduction of financial opportunities is patent, as are the shifts in preferred research topics, having therefore a strong impact on content development. Although aspiring to stay critical, design educators may stand the peril of becoming part and parcel of skewed developmental discourses while trying to secure funds for their ambitions to materialize, especially given the (growing) scarcity of monies actually released within academia.

Support mechanisms aside, encouraging reflexive practice in a student body eager to discover the Global South for the first time compels design educators to identify (and where feasible coin anew) concepts and methodologies that can both sustain learners' critical explorations and which are embedded in the working sites' specificities. One particular danger is represented by the worrying tendency to exoticize and romanticize 'marginalized' people and 'vulnerable' communities, rooted in a form of paucity voyeurism or 'poorism'.[15] Design educators therefore, need to pay special care to set the limits to potentially morally controversial investigations. Pinpointing working methods and instruments that can mitigate the latter danger while building the confidence of local constituencies in their everyday city-making, would therefore be an essential achievement.

Lastly, although most VLIR-UOS students travel in small groups with a comparable background, the need to learn from the existing and from other disciplinary domains becomes an obvious necessity in the very early stages of their fieldwork preparation. Alliances with social scientists and local professionals are always written into the action-learning experience itself, meaning that students are being prepared to operate in

a multi-disciplinary constellation, rapidly recognizing it as the only effective assemblage for envisioning improved urban futures and meaningful socio-spatial change. More arduous is understanding what the precise contribution of designers may be in such an assemblage.

To date, the notion of 'lived' dwelling environments has fundamentally supported the preparation of students who, for the first time, engage with the socio-cultural practices of communities made increasingly vulnerable by rapid urban change. It builds on a sturdy albeit uneven acknowledgement of 'informal' city-making and the careful documentation of its physical manifestations and socially-driven processes.[16] While some of its tools derive from typo-morphological analysis and the study of 'pattern languages', its significance also resides in the interpretation of user-based built form as the clearest available artifact of local constituencies' socio-spatial requirements. It illustrates both ambitions and on-going conflicts and is a context that reflective designers can document and rely upon for envisioning activities. This mapping (both as basic documentation and as a more projective cartographic exercise) is also a tangible and specific result of what a designer can provide to the multi-disciplinary debate.

Moreover, the time and resources actually available to most local authorities and professionals to document the multi-dimensionality of space and city-making, and then interpretatively map user-based self-building in vulnerable areas, is generally scarce. Where there may be interest, there may not be instance. While this challenge became particularly clear on more than one occasion of our involvement as action-researchers and learners in the Global South, so did its relevance to support the rare but crucial socially engaged design activities.[17] Far from being salvific, a 'lived' approach to design reveals the fundamental re-negotiation of architecture and urbanism's terms of reference as, once again, paradigms change.

Conclusive Interrogations

For the design disciplines, the concepts and methods actually available to action-learners and design educators involved in the Global South still appear to be lacking the efficacy and poignancy of approaches developed in the field of community development and participatory planning. The plethora of appellations used to describe urbanism and architecture is telling in this regard: whether 'handmade' or 'tactical', urbanism seems all about reading into the practices of engaged citizens, whose resources – if properly channelled – can help cities attain their full potential.

The promises of citizen-led urban change may appear to define a clear focus for the adaptation of governance structures to grassroots initiatives. For the design disciplines however, the particular contribution they can provide in this process remains hazy, especially in the light of ever-more valued self-build practices and community-led transformations. Unsurprisingly, while renegotiating their terms of reference, the design disciplines appear to be engaged in deep thinking about their social responsibility,[18] building on several decades of oscillations related to shifting interpretations of 'development'.[19]

While on the one hand architecture and urbanism would benefit from recovering disciplinary confidence, on the other they urgently would need to refine tools in order to sidestep the pitfalls of considering physical manifestations as the main embodiment of a community's expression of needs. Acknowledgement of an expanding body of knowledge from the South is already leaving its mark, stretching beyond the apologetics of socially engaged scholars whose reflections, however precious, are indicative of the 'existential' difficulties the discipline proper is experiencing.[20] Design professionals appear in need of a're-education' comparable to the one John F.C. Turner called out for in the early 1970s, where the critical link between space and society (and thus the particular place of architecture) was emphasized and then became instrumental for the development of significant approaches for 'barefoot' architects and more hybrid practitioners.[21]

Notes

[1] Lave, John & Wenger, Etienne, *Situated Learning: Legitimate Peripher*al Participation Cambridge University Press: Cambridge, 1991.
[2] *Ibid.*
[3] Anderson, Jane, "Developing a Live Projects Framework and Flexible Methodology for Live Projects", paper presented at the *Architecture Live Projects Pedagogy Symposium*, Oxford Brookes School of Architecture, 24-26 May 2012.
[4] For a brief overview see:
http://eng.kuleuven.be/arch/english/education/mahs
[5] The VLIR-UOS was founded by the Flemish Interuniversity Council (VLIR), an overarching consultative organization between the Flemish universities and the Belgian government. In 1998 the VLIR gained responsibility for the federal funds for university development cooperation of the Flemish universities and founded VLIR-UOS as the VLIR-secretariat for university development cooperation. For more details see: www.vliruos.be
[6] Benin, Burkina Faso, Burundi, DR Congo, Ethiopia, Gambia, Ghana, Guinea, Ivory Coast, Cameroon, Kenya, Madagascar, Malawi, Mali, Morocco, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe, South Africa, Bangladesh, Cambodia, Philippines, India, Indonesia, Jordan, Laos, Nepal, Palestinian Territories, Sri Lanka, Thailand, Vietnam, Bolivia, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Haiti, Mexico, Nicaragua, Paraguay, Peru, Suriname, Uruguay.
[7] This position is rooted in seminal contributions emphasising the social production of space as an act of agency and post-colonial gesture, e.g. Holston, James, "Autoconstruction in working-class Brazil", *Cultural Anthropology*, Vol. 6, issue 4,

pp. 447-465; see also: le Roux, Hannah, "Undisciplined Practices: Architecture in the context of freedom" in Vladislavic, Ivan and Judin, Hlton (eds.) *Blank_architecture apartheid and after,* NAi, Rotterdam; 1998.

[8] e.g. Benevolo, Leonardo, *Le origini dell' urbanistica moderna* Laterza,: Bari, 1991.

[9] See: Hamdi, Nabeel *Small Change: About the Art of Practice and the Limits of Planning in Cities*, Earthscan, London: 2004; see also: Lepik, Andres (ed.) *Small Scale, Big Change: New Architectures of Social Engagement*, Museum of Modern Art, New York, 2010.

[10] This challenge is well illustrated by the long-standing debate on the fortunes of self-help housing in relation to the evident disconnect between dwelling type and city fabric derived from espousing the model uncritically.

[11] Jacobs, Jane & Merriman, Peter, "Practising Architectures" *Social & Cultural Geography*, Vol. 12, Issue 3, 2011, pp. 211-222.

[12] Pinson, Daniel "*L'Urbanisme: une discipline indiscplinée*?" Lieux communs, revue du LAUA, Ecole d'Architecture de Nantes, n° 7, 2004 (available at: http://hal.archives-ouvertes.fr/docs/00/78/92/07/PDF/ArtUrbanismeFutures.pdf)

[13] VV.AA., "Pro and Contra: Design-Build Projects as a Form of Knowledge Transfer" in Lepik, Andres, *Afritecture: Building Social Change*, Hatje Kantz, Ostfildern: 2014, pp. 210-219.

[14] For the Ghanaian context, where the author has mostly been working, see: Pellow, Deborah, "'Everybody Thinks They Can Build': The Architect as Cultural Intermediary in Ghana" *Architectural Theory Review*, Vol. 19, issue 1, 2014, pp. 56-75.

[15] Frenzel, Fabian, Koens, Ko and Steinbrink Malte (eds.) *Slum Tourism: Poverty, Power and Ethics*, Routledge, London: 2012.

[16] e.g. Rybczynski, Witold, *How the Other Half Builds*, Centre for Minimum Cost Housing, McGill University, Montreal: 1984.

[17] Action-research by students has for example fed into of low-cost housing design in Greater Accra, e.g. Vandembempt, Anke, Van Puyvelde, Eva and Turelinckx, Stef, *Compound Culture Revisited: A lived-in assessment of low-income housing strategies in Tema and Ashaiman,* KU Leuven, Leuven, 2014.

[18] e.g. Lepik, Andres (ed.) *Moderators of Change: Architecture That Helps*, Hatje Cantz, Ostfildern: 2011; see also: Feireiss, Lukas and Bouman, Ole: *Testify! The Consequences of Architecture*, NAi, Rotterdam, 2011.

[19] d'Auria, Viviana, De Meulder Bruno and Shannon, Kelly, *Human Settlements: Formulations and (re)calibrations*, SUN Academia, Amsterdam: 2010.

[20] e.g. Boano, Camillo, *Architecture must be defended: informality and the agency of space*, April 2013 (available at: https://www.opendemocracy.net/opensecurity/camillo-boano/architecture-must-be-defended-informality-and-agency-of-space)

[21] Turner, John and Fichter, Robert (eds.) *Freedom to Build, dweller control of the housing process*, Collier Macmillan, New York: 1972.

Learning Amidst Urban Practices

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Interrogating Practice

Our aim in the following paper is to reflect on action-learning as a means to engage with the complexity of circumstances and constraints that built environment practitioners have to respond to when addressing issues of poverty and inequality in cities of the Global South. We elaborate this reflection as contributors of a network called Architecture Sans Frontières International, which includes approximately thirty organisations working at the intersection between architecture and international and community development.

Within this network, the work of Architecture Sans Frontières UK (ASF-UK) in particular strives to address the unequal distribution of resources and life opportunities that accompany contemporary urbanisation processes, by building the capacity of community groups, activists and professionals to work vis-à-vis the increasing inequality of current urban contexts. Among the objectives of ASF-UK is to support built environment practitioners in developing the skills and critical thinking needed in order to engage constructively with processes of social change and mobilisation in the rapidly transforming cities of the Global South. Especially concerned with the interface between design and social action, our training and capacity building activities are based on the recognition of the limits of professionalism and specialist education for addressing complex urban development questions.

In her seminal publications on education and democratic citizenship[1], Martha Nussbaum highlighted the risks entrenched in an education model that produces "smart professionals" who are incapable of engaging with any "serious critical thinking about class, about whether foreign investments is really good for the poor, about whether democracy can survive amidst such huge inequalities"[2]. In contrast to education initiatives focusing narrowly on technical skills, Nussbaum alludes to the inherent power of the art and humanities and suggests three key *abilities* that a human-centred approach to education should attempt to cultivate. The first is critical thinking, or the capacity to critically examine oneself and one's own traditions; the second is world citizenship, the understanding of one's own positionality and of the ties of recognition and concern that link all human beings across cultures and places; the third is imaginative understanding, or the ability "to think what it might be to be in the shoes of a person different from oneself … and to understand their emotions, wishes and desires"[3].

Architecture Sans Frontières UK deeply share Nussbaum's preoccupation with the emergence of a "competent tech and business elite" that is at best unaware of its role in a global landscape where inequalities grow unabated and urban progress in particular is defined in light of economic competitiveness and market efficiency[4]. It is based on the understanding of the existing limits of professional architecture education in particular that ASF-UK was started as a charity in 2007, with the aim to inspire and equip architects to take a human-centred, participatory approach to design and spatial change – putting their skills and experience at the disposal of marginalised interests and communities worldwide (ASF-UK, 2007). In the course of several years, this aim has been pursued through a programme of action-learning initiatives including a set of two-week workshops undertaken in diverse urban contexts across the Global South, and through the development of an independent learning programme entitled 'Challenging Practice'.

In the following essay, we attempt to explore ASF-UK's evolving approach to action-learning in the context of urban development and the knowledge we gained as an organisation through our experience in this area. We first frame our interest in action-learning by drawing some links to the areas of design and spatial practice. We then explore our pedagogical approach in detail through the example of the independent learning course Challenging Practice, run in collaboration with ASF-International. Finally, we address the implications of this work in relation to wider notions of *critical urban learning* and *transdisciplinarity*. By exploring our own journey into the realm of action-based teaching, we aim to articulate a reflection on the ways in which action-learning has induced for ASF-UK a shift in focus from built environment professions to urban practices and an expanded definition of 'learning' within this context.

Reframing Architecture in Action

Along with strategic concerns referred to the specific contexts of engagement of each initiative, ASF-UK's action-learning workshops navigate some key tensions in the thinking and practice of design and spatial practice in contexts of uneven urban growth.

Over the past forty years most literature and practice of urban development have prioritised the relevance of decision-making processes and urban governance over spatial morphologies and practices[5]. Although there are relevant signs of a partial re-emergence of space and design, in the field, nonetheless mainstream development practice and education have similarly focused on the immaterial aspects of urban transformations. Such focus on processes has largely contributed to generating new ways of addressing complex and multidisciplinary questions regarding the governance of cities and the multi-scalar structures of decision-making underlying uneven growth and contested urban transformations. At the same time however, contemporary narratives of urban development tend to be characterized by a stark de-spatliasation of thinking and action. Within this context, the possible roles of design and to a lesser extent of spatial thinking are largely under scrutinised.

Meanwhile, responses to the dramatic acceleration of global urbanisation processes have started to stretch the boundaries of architectural and urban design practice, disclosing a more prominent role for the production of housing and social facilities for the benefit of the most marginalised sectors of urban populations[6]. The growing international prominence of design-led practices such as the Urban Think-Tank and Elemental and the increasing attention towards the role of architects and urban designers vis-à-vis conditions of urban inequality and marginality, highlight the on-going necessity and opportunity of readdressing the consequences of architecture and design in the framework of poverty reduction strategies and urban development planning. Not without contradictions, these practices draw attention to space as a key interface between the processes of urban governance, and self-organised/citizen-led urban transformations.

With others, the work and research of ASF-UK explore these challenges, in a back-and-forth method oscillating between the world of architecture and critical social sciences. Part of the organisation's background lies in the work of Nabeel Hamdi, who has been pivotal in highlighting the role of small scale, self-organised spatial practices in generating urban forms and meanings. Based on this approach, the work of ASF-UK explores the emergence of built form at the intersection between social and physical interactions across multiple scales. Theoretically, our practice is informed by a critical spatial theory perspective, inspired by debates on spatial and environmental justice and exploring the practice of participation in design and planning. We thus connect to a now considerable ground of critique to formal architecture, highlighting the agency of self-organised spatial practices and exploring 'other ways of doing architecture'[7]. The organisation's understanding of design is largely that of a force that can unleash collective enquiry and creativity across multiple scales – articulating new spatial imaginaries as a ground for supporting inclusive processes of city-building[8].

As such theoretical issues remain central to our work as practitioners, one of our key preoccupations as an organisation lies in the construction of learning experiences that can allow participants to mature new approaches to urban practice – simultaneously addressing potential changes in the roles of architects, urban designers and planners vis-à-vis urban complexity and inequality. Developed over the years through a range of international workshops set in challenging conditions such as informal urban areas and post-disaster contexts, the pedagogy of ASF-UK is grounded in the principles of action-learning. Rather than suggesting ways of intervening, these workshops aim to facilitate processes of critical reflection rooted in hands-on experience, whereby participants are challenged to work amidst the complexity of urban practices of governance and self-organised transformation and are encouraged to reflect on their own responsibility to others and their own positionality within this context. With others, ASF-UK defines action-learning as a form of learning which is applicable to situations where participants "face messy problems" and learn by "exploring new opportunities, rather than applying the routine of pre-established systems"[9]. Most importantly, the organisation highlights the ethical dimension of learning in action, striving to embed participants' experiences into wider sets of activities that can positively contribute to the on-going struggles of the local constituencies involved – initiating processes and generating products that have a relevance to the needs and aspirations of our partners in a country. Within this framework, we are interested in the knowledges that can be produced in collaboration with local groups and in service of and in the midst of action – as much as in the process of self-reflection and self-examination that might derive for participants from a mediated immersion in contested urban environments.

Learning Beyond the Field

Across the world, there is today a range of socially and politically engaged studios, summer schools and workshop-like initiatives directed at expanding the horizons of both what should be considered as education in architecture, urban design and planning, and how this should be conducted. Many of these experiences involve critical ways of dealing with communities living in conditions of poverty and marginality, immersing participants in live project situations, amidst the intensity of layered social practices[10].

The educational experience of immersion in these settings is often profound, involving a deep challenge to the mind-sets of learners/participants. At the same time these projects face a set of relevant limitations. One of the key issues highlighted by many is the difficulty in reconciling pedagogical, 'developmental' and community objectives[11]. At the same time, from a purely teaching/learning perspective, these initiatives often assume that participants will engage in an autonomous process of learning and that the location of guided reflection can be limited to the restricted space- and time-frame of the 'hands-on' experience itself.

Based on the organisation's own familiarity with action-based initiatives, a reflection on these limitations has provoked ASF-UK to think of other ways of embedding the process of learning-in-action within a wider space of reflection, whereby the development of critical thinking is supported by a range of different activities. Direct action entails an engagement with contested urban realities that is inevitably more complex than we make it out to be and the exposure to such urban realities is not enough to create new understandings and positioning, nor to produce new modes of urban practice.

'Challenging Practice: Essentials for the Social Production of Habitat'[12] is an independent learning programme initiated in 2012 by an Architecture Sans Frontières partnership involving ASF-UK alongside other like-minded organisations. The programme seeks to enable architects and other built environment practitioners to engage reflexively with the challenges of 'international development' in the urban Global South. Building on the participants' own professional background, the programme offers resources and on-going support for self-reflexive independent learning. This approach implies a key shift of responsibility for the learning process from the teachers/facilitators to the learners/participants, which involves participants developing an understanding of their own learning process and actively collaborating to structure their learning trajectory. As a means to foster self-reflection and allow participants to 'learn how to learn' in this process, the course is divided into four stages: a theoretical online introduction, a two-day seminar, a live workshop or internship and finally, a last stage of deeper theoretical reflection.

Setting the scene

The first stage of the programme is a theoretical introduction providing an initial overview of the knowledge required to engage with vulnerable groups in an urban context. The focus is set on the understanding of urban complexity and of the injustices that underlie contemporary urban development processes – a narrative that many of the programme's participants are not familiar with at the start. This implies that new theoretical frameworks and intervention tools are introduced, to interrogate the processes of uneven urban growth and respond to existing forms of social mobilisation and change. This first stage of the course is divided into ten modules, which are not intended to have any form of hierarchy in how they are approached by participants, other than the Urban Context module, which sets the context for the overall programme.

Rehearsing reality

The second stage of Challenging Practice consists of a two-day seminar structured into scenario-making and role-playing exercises set in conflictive urban contexts. This second stage of the programme is designed to enable participants to deepen their understanding of the topics covered by Stage One through a mediated exploration of real case studies, where the challenges of intervening as urban practitioners in contested sites are met with the layered realities of different social, cultural, political and economic contexts. This experience is aimed at mobilising the participants' imagination regarding both the everyday life of city dwellers and the processes of urban governance and political decision-making that underscore any design intervention. In the process, scenario-making exercises seek to provoke debate among participants as to how to reshape the practice of urban transformation.

Practicing alternatives

The third stage of the course consists of either a practical internship under the direct supervision of a professional working in the field, or the attendance at a live workshop with an ASF partner organisation. This third stage of the programme includes learning through direct action in an urban context characterised by uneven economic and social realities and offers participants a live immersion into urban practice, to test and challenge the concepts, methodologies, skills, and techniques acquired in previous phases of Challenging Practice. In ASF-UK, this stage is developed through our existing programme of action-based workshops, each of them being simultaneously conceived as a platform for exchange amongst a wider set of knowledges: local partners and state actors, communities/residents, workshop facilitators and participants coming from a multitude of disciplinary backgrounds and individual practice or research trajectories. From the learners' perspective, the final output of the stage is a reflective text where participants are asked to assume the point of view of an actor or a group of actors they met in action.

Revisiting action

The fourth and final stage of the programme consists of the development of a personal written, graphic or video essay on a topic of choice, with the support of a tutor. This stage is designed to provoke critical reflection on both the theoretical and fieldwork components of previous stages of Challenging Practice. As such, the pedagogical focus of this stage is set on the value of post-action reflection, with the aim to encourage

participants to re-contextualize their live experience against wider theoretical frameworks and most importantly, from the vantage point of their own trajectory of professional development. Here, learners are invited to produce a written, visual or video essay that explores the potential consequences of this experience on their future modes of practice. The learner-driven definition of the most appropriate form of narration is meant as a further incentive to articulating a position, which is specific to each participant's approach and interests.

Concluding Reflections on Learning Amidst Urban Practices

Learning exchanges

Along with pedagogical objectives, models of action-learning are often based on a set of preoccupations about the threats of engaging with local actors and as mentioned, much has been reflected on the risks of exposing struggling urban communities to exogenous and potentially extractive processes of learning. Departing from this preoccupation, the focus of ASF-UK rather focuses on the understanding of our training- and capacity-building activities as part of a wider process of *critical urban learning* – which in the words of Colin McFarlane involves 'questioning and antagonizing existing urban knowledges and formulations, learning alternatives in participatory collectives and proposing alternative formulations'[13].

Our focus in the interaction with local communities is thus two-fold. Firstly, ASF-UK strives to embed participants-orientated pedagogical experiences in long-term partnerships and layered sets of activities that are agree with and can positively contribute to the objectives of clearly defined constituencies. For instance, in Quito, the latest of our Change by Design workshops addressed on-going debates around the principles of the national Buen Vivir philosophy – loosely translating as 'good living' – and the need to ground such principles into consolidated solutions within the urban environment. In collaboration with the local university and a coalition of community-based groups, ASF-UK engaged workshop participants in exploring in what ways and through which processes these progressive principles of living could inform the production of housing plans and public space interventions. After the workshop, the team produced a report about the activities carried out locally, which has since then been used by both the community and the university to advocate for mainstreaming participatory design processes in urban policy. As well, a few participants continued to work in Quito as interns, based within the university and working with local community groups in a longer-term process of engagement[14].

Secondly, ASF-UK has increasingly come to approach its pedagogical initiatives as processes of collaboration that are equally centred on the recognition and strengthening of local knowledges. By focusing on the exchange with local partners and communities, ASF-UK workshops have been attempting to generate a space for international participants to learn from the communities involved in the process, in the belief that "exposure to informal knowledge and conditions calls into question existing ideas, frameworks, standards and laws"[15]. On the one hand, this positioning of the process of learning closer to local groups stresses the value that local knowledge and social participation can add to any transformation of the built environment. On the other hand, it is potentially a means to reinforce local processes of knowledge production and to support existing networks and forums of knowledge exchange. As such, more than a method of teaching, ASF-UK's workshops aspire to take the form of active laboratories of knowledge co-production – where learning happens simultaneously in multiple directions, amongst and beyond workshop participants and local networks.

Transdisciplinarity as horizon

Importantly, the two-fold exposure to diverse sets of participants and to communities and local partners has encouraged a process of reflection which has deeply influenced both ASF-UK as an organisation and the diverse network of spatial practitioners who contribute to running its international workshops. At the outset of its action-learning activities, ASF-UK did not have an utterly defined methodological standpoint but understood intuitively that if it was going contribute to more effective and just urban transformations, it needed to combine the disciplinary ground of architecture with multiple forms of practice-based knowledge and multiple spaces of critical reflection.

These forms of exchange and reciprocity (with communities, with local actors, with participants) tease the boundaries of traditional disciplinary fields. Thus gradually, the focus of the organisation's learning practices has shifted from the recalibration of architecture and the roles and responsibility of architects and urban designers, to a wider set of concerns regarding the production of space and the many forms of spatial practice that might contribute to more just and inclusive urbanisation. In this sense, one of the key future challenges for us as contributors lies in the rapprochement of the organisation's discipline-specific background, with a trans-disciplinary approach to the production of the built environment. The aim is to capitalise on design and architecture as method, while simultaneously emphasising the combination of different disciplines and forms of knowledge needed to address the complexity of contemporary urban transformations. It is in the tension between architecture and multiple other approaches that it might be possible for ASF to generate productive spaces of 'critical urban learning' where issues of urban inequality

and inclusive city building can be approached from multiple perspectives. In addition, this challenge implies the altering of discipline-specific approaches, and the integration of different knowledges to achieve a wider definition of urban practice.

Notes

[1] See: Nussbaum, Martha, 'Education and Democratic Citizenship: Capabilities and Quality Education', in *Journal of Human Development* Vol. 7, Issue 3, pp.385-395. See also: Nussbaum, Martha, 'Education for Profit, Education for Freedom' – Lecture at the Institute of Development Studies Kolkata (Kolkata: IDSK, 2008).

[2] Nussbaum, Martha, 'Education for Profit, Education for Freedom' – Lecture at the Institute of Development Studies Kolkata, p.7 (Kolkata: IDSK, 2008).

[3] Nussbaum, Martha, 'Education and Democratic Citizenship: Capabilities and Quality Education', in *Journal of Human Development* Vol. 7, Issue 3, p.390.

[4] E.g.: Feinstein, Susan, *The Just City* (Ithaca NY: Cornell University Press, 2011).

[5] See among others: Hamdi, Nabeel, The Evolution of Development and the Placemaker's Tools', in T*he placemakers' guide to building community: planning, design and placemaking in practice*: pp. 1-17 (London: Earthscan, 2011).

[6] See a set of recent international exhibition such as It is worth recalling, among others: "Small Scale, Big Change" (New York, 2010-2011), "Testify! The Consequences of Architecture" (Rotterdam, 2011), "Design with the other 90%: Cities" (New York, 2011-2012).

[7] Awan, Nishat, Schneider, Tatjana and Till, Jeremy, Spatial Agency: Other ways of Doing Architecture (London: Routledge, 2011).

[8] The organisation's understanding of design has been explored by a number of ASF-UK's reports and publications including: Apsan Frediani, Alexandre, De Carli, Beatrice, Nunez Ferrera, Isis, and Shinkins, Naomi, Change by Design: New Spatial Imaginations for Los Pinos (Oxford: Architecture sans Frontières UK, 2014).

[9] Pedler, M. & Burgoyne, J. G., 'Action Learning' in SAGE Handbook of Action Research: Participative Inquiry and Practice, p.319-332 (London: Sage, 2008).

[10] See among others: Watson, Vanessa and Agbola, babatunde, 'Who will plan African Cities?' – Report (London: Africa Research Institute, 2013).

[11] See: Owen, Ceridwen, Dovey, Kim and Raharjo, Wiryono, 'Teaching Informal Urbanism: Simulating Informal Settlement Practices in the Design Studio, Journal of Architectural Education, Vol. 67, Issue 2, pp. 214-223.

[12] Further information can be found at www.challengingpractice.wordpress.com (accessed 25 July 2014).

[13] McFarlane, Colin, *Learning the City: Knowledge and Translocal Assemblage*, p.153 (Oxford: Wiley-Balckwell, 2011).

[14] See: Apsan Frediani et al., *op. cit.*

[15] Malawi Homeless People Federation, *Malawi Planning Studios*, 2013.

SYMPOSIUM: MAKING AS LIVE PROCESS (2 papers)

The Mock-Up as a Living Tool in Design Pedagogy

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Introduction

Mock-ups make the transition from design to construction and serve both instructional and experimental purposes. They are precise and evanescent—contrived as well as improvised. In design and design/build pedagogy, the family of mock-ups—one-to-one material studies, sketch models, maquettes, full-scale drawings—recalibrate drawings' dimensions, reveal material conflicts, show disconnections of joints, and expose flaws in fastening schedules. Mock-ups help us critique previous phases of the design process, while they provide a model and template for what we will do next. As a set of explorations, mock-ups speak to each other—and to us—about materiality, connections, strength, aesthetics, and local resources. They become an important part of the editing process, often serving as three-dimensional Ockham's razors, hewing toward the simplest solutions. Mock-ups are also tools of visualization. To build a test case at full scale is to see problems, pitfalls, and possibilities. This paper explores the mock-up as a living tool that is equally didactic and experimental—teaching as well as speculating, answering some questions, while probing previously unconsidered conditions and raising other lines of inquiry. Mock-ups link tool and process in the course of learning how to build. This paper seeks to understand how this link works.

Mock-up as Dummy

Mock-ups are dummies. Early applications of this technique quite literally mocked what they were imitating. Since the 12th century, French *moquer* has meant to satirize or tease, extending at times to the point of deception. And in the design process, mock-ups—with their three-dimensional, now physical, form—do sometimes poke fun at the limitations of their drawn antecedents while also engaging craft, not as pure artifice but as an ability to make do with given materials and work skillfully with a set of tools. In publishing, mock-ups or "dummies" are test layouts of pages, working drafts toward final book production. In this sense, dummy engages activities of proofing—the mock-up as simulation, ready for close reading, analysis, and cross-checking. It resembles the thing without the commitment to a final form.

Though not always included in the mock-up family, sketch models are invaluable tools for moving the design process into the realm of the built. Like maquettes used by sculptors as scaled-down versions of their artwork, physical scale models are working drafts, rough but precise. They do not merely document results of the design process but instead prepare students to construct the project—a process of designing to build. With carefully-made basswood models, a student's desk becomes a builder's yard of materials—stick lumber, joists, beams, rafters, studs, and purlins. Pushing a finger against a half-inch scale model reveals the racking of an unbraced frame, the stiffening of moment connections, the resistance added by bracing, or the lateral strength of a shear wall's sheathing (fig. 1).

And then mock-ups bring parts of the sketch model to full scale. In a design/build project for a bicycle trailer in the Spring 2013 semester, students first constructed a scale model at one inch equals one foot. In this model, students gained an understanding of the overall systems, but the scaled-down construct allowed them to ignore or gloss over particular material choices and connections. The scale-model veered more to the side of dummy as mode of deception. Students could elide, even hide, unresolved design elements; but with the full-scale mock-up, they saw the challenges of details and joints and the implications of different materials, whether intended for sheathing or framing. This dummy was ugly—raw in the actual fastening of components—but effective in making a transition away from students' preconceptions about scale, material, and joint to a situation that tied together the tools and process of making at full-scale.

Fig. 1. Bike trailer/kiosk project for University of Florida's Office of Sustainability, Spring 2013. From top to bottom: study model, mock-up, and final construction (photographs by author)

Mock-up as Tool

With the full-scale mock-up of the bike trailer, we could walk around and through the actual construction. Instructors and reviewers could not only point to potential problem areas but also physically engage the construction itself—lifting, sitting, leaning, and sliding. But as an instructional tool, the mock-up was already speaking, and many of the challenges were by this time evident to students without our prompting. Among an array of insights, the gearing ratio of the folding canopies required additional armatures, the frame required additional bracing for stiffness and performance, and its overall physical weight showed a need to change framing materials from wood to steel.

Lessons learned, the mock-up also provided a foundation for students to experiment. In all its full-scale awkwardness—even grotesquerie, as some students compared it to a medieval torture mechanism, the mock-up became a tool for speculation, a vehicle for further joint refinements, material studies, and overall system integration. For these latter two, students tested sheathing materials for translucency, durability, and flexibility; and they discovered that a two hundred watt solar panel, with minor adjustments, fit each folding canopy and could establish the modularity of these so-called "wing" components.

When sketch models become full-scale, tectonic components themselves now take up actual space. Joints become architecture, and framing members like joists—previously understood nominally by their two-by-six dimensions—now concede to actual measurements in which the two is one-and-a-half inches and the six is five-and-a-half inches. In some cases, full-scale drawings also aid such transitions, clarifying dimensions and allowing construction details to come to life as a one-to-one kit of parts. But only construction mock-ups, with applied materials and systems, fully engage both tool and process in the design/build project.

Mock-up as Process

Mock-ups provide a pedagogically efficacious connection between tool and process. As tools, mock-ups can quantify forces, such as loads on building systems. But at the same time, in the educational context, they interact with the learning process itself. They are real-time, full-scale modes of making. During a 2010 studio in Siem Reap, Cambodia, Jim Adamson's design/build studio mocked up masonry arches to determine the most efficient roof system for the project's kitchen. After a series of explorations that did not call for formwork, students determined that bricks laid on formwork effectively provided the most direct technology for their budget and schedule (fig. 2).

Fig. 2. Mocking up and testing brick vaults for Rural Kitchen, Siem Reap, Cambodia, MIT School of Architecture and Planning, 2010 (photographs by Jim Adamson)

At other times, the connection between tool and process is more direct, and mock-ups are less speculative and tied more closely to final outcomes of construction. To build a test case at full scale is to see problems, pitfalls, possibilities, and realities of budget. This way of seeing also prepares students for professional practice, where many firms first assemble full-scale building sections, particularly in collaboration with engineers, to test proposed systems and components. Such mock-ups also facilitate communication with clients who might then better understand a project's material palette and scale. Even though mock-ups cost time, they often save money and help avoid misunderstandings as well as miscalculations (figs. 3 and 4).

Fig. 3. Testing the framing of the Everglades Eco Tent project, University of Miami Design/Build, 2012 (photograph by Jim Adamson)

Fig. 4. Mock-up Room for a Forest, Beacon Food Forest, at University of Washington's Neighborhood Design/Build Studio, Spring 2013 (photograph by Steve Badanes)

Mock-up as Janusian Condition

The interrelation between tool and process in mock-ups creates a Janusian condition, in which communication occurs retrospectively as well as prospectively. At full scale, everyone can more easily see what the issues are, and mock-ups facilitate group decision-making—a key component in design/build studios. Such visualization leads to conversation. And mock-ups allow the studio to look backward and forward simultaneously—back in order to critique previous design decisions and forward to offer a plan, a model, or a template for the next step.

In this sense, jigs are a part of the mock-up family, which bring the process full-circle. Jigs return to the drawing board, bringing the studio into the workshop and linking shop to construction site. Like mock-ups, jigs are full-scale templates for what will be made. Once set up, they allow repetitive, precise production of components, whether by cutting, fitting, or fastening. When Jim Adamson sets up a jig for braced frame bents at Yestermorrow Design/Build School, he introduces the process as a form of drawing where one inch equals one inch (fig. 5). Edges, center lines, overlapping pieces, cut lines, and fastener locations are inscribed on plywood

surfaces raised on a work bench. Blocks and drill holes further register the assembly process and make the jig a reference tool for construction. This mock-up becomes a dance floor—one reason we call it a "jig"—that choreographs students' movement as they put each frame together.

Fig. 5. Jig setup at Yestermorrow's Public Interest Design/Build Studio, August 2013 (photograph by Jim Adamson)

Mock-ups are dynamic tools that link designing and building, thinking and making. Though not mobile per se, they circulate among those building and reviewing them and allow real-time and full-scale discussions about successes and failures and refinement and revision. In a 2008 design/build project for an outdoor classroom and community garden at the Boys and Girls Club, we built mock-ups not only to test materials and systems but also to engage the project stakeholders and local community. Unexpectedly but fortuitously, these full-scale constructions became ersatz adventure playgrounds where the children at the club had fun and where we learned how our clients would likely use the project (fig.6).

Fig. 6. Mock-ups during the project for outdoor classroom and community garden at Boys and Girls Club, Gainesville, Florida, Spring 2008 (photographs by author)

Mock-ups' dynamism parallels what Michel Serres has called the "quasi-object." Tokens—or, as Serres says, "constructors"—of intersubjectivity, quasi-objects link subject and object across the temporal field of process.[37] They do not merely tell, they actually show. Our mock-ups for the layout of the Boys and Girls Club project became full-scale demonstrations for the network of material, technical, and social interactions that might

occur on the site—what we called “sketches with wood” (fig. 7). These mock-ups summarize a link between tool and process that can remain open-ended—essential for pedagogies of design/build—while also finding degrees of resolution in an actual context—also necessary for projects out of the studio in the community. And in that sense mock-ups are thresholds for a professional life of design.

Fig. 7. “Sketching with wood,” Boys and Girls Club community garden and outdoor classroom project, Spring 2008, (photographs by author)

References

[1] Michel Serres, *The Parasite*, trans. Lawrence Schehr (Baltimore: Johns Hopkins Press, 1982), 227.

The Weight of Things

Mark McGlothlin, Bradley Walters

University of Florida

Design curricula are frequently organized to preference the poetic, assuring that students are adept with an a priori approach that allows them to move incrementally towards the characteristics of materiality without being burdened by the full breadth of technical concerns of materials, and more so stripped from the direct interaction with these materials in any meaningful way. In this regard, the recollections of Kahn’s story of holding the brick might offer insight, assuming that the awareness of the brick is universal. What has become increasing apparent to us is the physical separation of students from the material world that surrounds them, making the quotations of Kahn largely detached and adrift in a theoretical sea of discarded architectural aphorisms. These observations are drawn from a direct interaction with students competing as part of the Project Re:Focus entry in the 2010 Solar Decathlon Europe competition. Through a careful examination of the design and construction process for the Re: House, this paper will explore the students’ collective aspirations for the project, the limitations and realities that they confronted, and the realization that many of their struggles were the resultant of a pedagogical model that precluded the measuring of material as a thing by favoring it as an idea.

SYMPOSIUM: BUILDING PERFORMANCE LIVE! (3 papers)

Embedding Post-Occupancy Evaluation into Architectural Education: from Specialism to Mainstream

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Introduction

This paper describes a unique student-centred teaching and learning approach adopted in a flagship postgraduate taught (PGT) module entitled 'post-occupancy evaluation (POE) of buildings' run at Oxford Brookes University for over 10 years. The paper also explores ways by which a light-touch version of the POE module can be embedded into undergraduate teaching and MArch studios, to engage students with actual performance of buildings in-use from a socio-technical perspective so as to reduce the gap between design specifications and actual outcomes.

Why building performance matters?

The beginning of the 21st century was heralded by a significant body of evidence indicating the importance, and urgency of acting upon climate change and reducing CO_2 emissions at a global scale[i]. The building sector has been identified to play a key role in the carbon reduction challenge as energy use in buildings accounts for approximately a third of global CO_2 emissions, while in developed countries such as UK, the proportion is even higher, rising to nearly 50%. This is why rapid and step change improvements in the sustainability of buildings are needed, both for new-build and existing building stock. Building designers are therefore increasingly required (by legislation) to deliver buildings which maintain comfort while reducing their dependence on fossil fuels to provide energy services. However research into building performance has revealed that even the best buildings (domestic and non-domestic) often fail to perform as anticipated[ii] [iii]. Often the causes of this performance gap between design expectations and actual performance are due to complex interactions between building fabric, mechanical services and the behaviours of occupants which occur throughout the design, construction and use of a building.

This growing need to evaluate the in-use performance of (low energy) buildings has led to the evolution of Post Occupancy Evaluation (POE), a process that historically takes place after the building completion, as a diagnostic assessment of the building's actual performance. Technically POE is defined as systematic collection and evaluation of information related to energy use, environmental conditions, fabric performance and occupant feedback, so as to fine-tune the building and inform future practices. POE is also called building performance evaluation (BPE) when undertaken at any stage of a building's life cycle.

The first round of practical research into building performance evaluation was conducted in the 1990s with the PROBE (Post Occupancy Review of Buildings and their Engineering) studies contracted by the Department of the Environment[ii]. Since then, the Carbon Trust has run a research project on Low Carbon Building Performance in the noughties, while the Technology Strategy Board (TSB) is just coming to the end of an £8 million national research programme on building performance evaluation. Although findings from all these research efforts have exposed the performance gap, these studies have also highlighted the importance of creating feedback loops for architects and engineers to understand consequences of their design decisions on actual performance and avoid repetitive errors in the design of buildings.

It is within this context that over the last 10 years, a flagship POE module has been developed and taught (by the author) as part of a specialist MSc programme in Sustainable Building to postgraduate architecture students at Oxford Brookes University[iv]. The module aims to equip future architects with the knowledge and skills to not only understand and evaluate building performance but also design buildings that perform as intended. The student-centred 'learning-by-doing' teaching and learning approach of the module is based on experiential learning principles. It allows students to undertake rigorous real-world research and also develop deeper understanding of in-use energy and environmental performance of buildings, cross-related with occupant satisfaction, perception and interaction; and how these elements affect overall building performance.

Overview of the POE module

Typically the POE module runs in semester 1 over 12 weeks (and more recently 8 weeks) and is delivered through 12 sessions of 3 hours (36 hours contact time and 20 credits), combining lectures and seminars with the POE investigation of a real case study building (domestic or non-domestic) to understand the cause and effect of both hard and soft issues on building performance. Students in groups of three or four conduct POE of a building, thereby developing skills in team-work and collaboration. The strategic questions addressed by the module include:
-*How is the building working*(from multiple perspectives)?
-*Is this what was intended* (as per design intent and client brief)?
-*How can it be improved* (for the building)?
-*What can we learn from it* (more generally)?

Like the PROBE studies, the methodology of the module (as shown in figure 1) involves a *systematic energy assessment* of the building using metered data combined with forensic energy (walk around) surveys; *continuous physical monitoring of environmental conditions* (indoor temperature, relative humidity, lighting and CO_2 levels) as well as gaining quantitative and qualitative *feedback from occupants* on their satisfaction, perception and interactions with the building. User feedback also provides deeper insight into patterns of building use and its effect on energy use, something usually overlooked by design-level assessments and simulations. Data collected can include measured information such as energy use, temperatures, lighting levels, acoustic performance and survey data from the perspective of the occupants regarding issues such as comfort, aesthetics, occupant satisfaction, management and usability of controls. Such an assessment of building performance, from both a technical and social perspective, brings real world experience and knowledge to architecture students, and allows them to learn from the experiences of real occupants in real buildings.

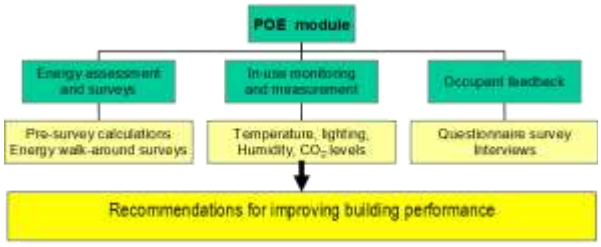

Fig. 1. Key study elements of the POE module

Recommendations are suggested by the students to improve the case study building performance in terms of its energy and environmental impact and occupant satisfaction; these are often sub-divided into no-cost, low, medium and high cost measures for ease of implementation along with an indication of their simple payback periods and life-cycle costs. Wider lessons are also drawn for future building design, specification and performance.

To engage with the various stakeholders especially those who designed and built the building as well as the client, occupants and operators; findings from the POE studies are presented through multiple disseminations routes which include: *oral presentations* by each group to which building designers, owners, operators and users are invited; and written *reports* that capture the POE methodology, findings and strategic conclusions from individual results. These outputs not only provide feedback to the stakeholders but also test the oral and written communication skills of the students, and also provide them with a *mini-dissertation* report that becomes a key component of the postgraduate portfolio.

Study Elements of the POE Module

Before any POE study is undertaken, fundamental information about the case study building (related to building type, size, drawings, and energy use by fuel as shown in Table 1) is gathered by the tutor in co-operation with the building designer or owner. This is called as *initial screening* and helps to address the question *whether the building is worth bothering?*

Assess size/ type of site Single building Multi-building Multi-site	**Building use**
Building drawings Floor areas (gross/ net) Serviced / unserviced areas Building form & orientation	**Occupied hours**
Building Location Local weather conditions: degree days Surrounding environmental features Local infrastructure	**Energy/fuel data** At least 1 year data from fuel bills(actual) or meter readings or energy monitoring system

Fig. 2. Initial screening: data required before POE is undertaken

Availability of this information is almost a pre-requisite for any POE study and it reduces student time spent in gathering background information, although the availability of good-quality information about buildings is raised with students through seminars. Initial assessment of the background building information also helps students to address questions such as: *What have we got? What does it mean? And what can we learn from it?* Addressing these questions progressively builds student understanding of building performance. *The study elements of the POE module* are based on the principle that we need the stories as well as the data to know not just the 'what', but the 'why' and the 'how' of building performance[v], *as explained below:*

Energy assessment and energy survey

A key aspect of understanding building performance is to assess and benchmark energy use of the case study buildings (*energy audit*), followed by a detailed *energy survey*. Whilst the *energy audit* establishes the quantity and cost of each form of energy input to a building, *energy survey* involves site investigation to assess the end uses of energy (such as lighting, appliances and equipment) including any on-site generation, to understand where and how this energy is used in the building[vi]. A desktop-based analysis is conducted to compare the building energy use and generation (by fuel type) with industry benchmarks (and respective peers), using area-weighted metrics of annual energy use ($kWh/m^2/year$) and CO_2 emissions ($kgCO_2/m^2/year$). This initial comparison of energy use helps students to understand the overall energy performance of the case study buildings and identifies priority areas for action and improvement. Comparison of energy use of similar types of case study buildings (e.g. schools located in the same city) prompts students to investigate the reasons for the significant variation in energy use of these buildings, designed to similar sustainability standards (Figure 3).

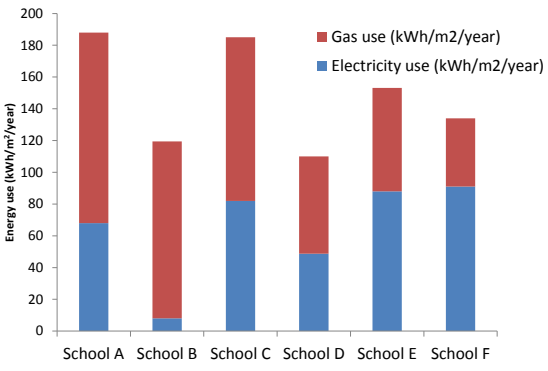

Fig. 3.Comparison of energy use of sustainable schools in London

To determine how energy use of a building is related to weather, degree-days are used as a measure of the variation of outside temperature. In the UK, heating degree-days which quantify the severity and duration of cold weather are used; the colder the weather in a given month, the higher the degree-day value. Degree-days are used to understand seasonal variations of the space heating system by plotting energy use data against degree-days to identify time periods when the building is not performing in the predicted manner. A regression analysis is done to determine how responsive the heating system is to changes in outside temperature. This helps to reveal overall trends in energy performance.

This is followed by an on-site survey of energy end uses (*Energy Survey*) drawing from the established CIBSE TM22 methodology[vii], which involves measurement, analysis or direct assessment of energy use to indicate proportions attributable to heating, lighting, cooling etc. By conducting an *energy survey*, the student is able to relate and understand where energy is being used and/or wasted in the building, and identify opportunities for energy savings. A survey does not necessarily cover all energy uses, but the principal sectors are usually included, which are: space heating-boiler plant & hot water system; air conditioning and ventilation; electrical lighting; as well as equipment and appliances. For example, during the lighting audit of school buildings, excessive usage of electrical lights was discovered during the weekdays and even weekends, despite good daylight levels due to complex controls. The design lighting load was also found to be over specified resulting in excessive electricity consumption.

Physical monitoring of environmental conditions

To gain a deeper understanding of comfort and indoor air quality in the building, students physically monitor the buildings using data loggers such as hobos, i-buttons and lux-meters, so as to measure and record internal and external temperature and relative humidity; indoor lighting and CO_2 levels at regular intervals (15 minutes or 30 minutes) over 4-8 weeks. For instance when studying typical community centre buildings in Oxford, it was found that internal temperatures in almost all buildings were inconsistent, with some spaces as cold as 17^oC whilst others heated to over 25^oC. Considerable savings were achieved by zone controls and re-adjusting the demand temperature as per external temperature, occupation density and the type of activity happening in a particular space.

Occupant feedback

This physical monitoring data is cross-related with quantitative social science data gathered through *occupant satisfaction survey* and *qualitative semi-structured interviews* of the building manager, owner and occupants, supplemented by occupant *thermal comfort diaries*, to understand the *why* and the *how* of building performance. Over the last five years, the module has been able to use the domestic and non-

domestic version of the industry standard Building Use Survey (BUS) questionnaire which assesses occupants' reported levels of comfort and satisfaction with the dwellings design and internal conditions (summer and winter), and also evaluates the degree to which occupants perceive their needs are being met by the building. The results are compared against a rolling BUS benchmark of 50 buildings. Since 2009, about 470 respondents have completed BUS survey across 33 buildings evaluated in the POE module. This level of objective feedback on occupants' perception contextualises the performance of the building from occupants' perspective.

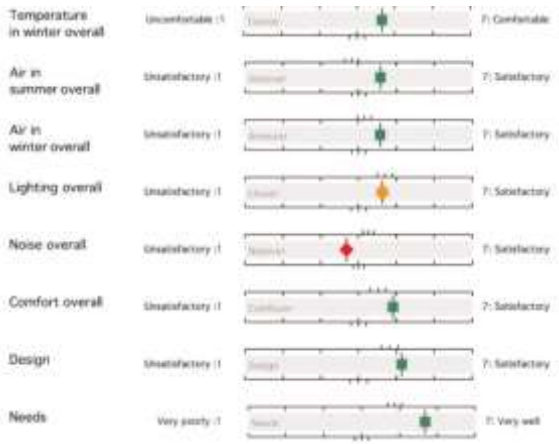

Fig. 4. BUS summary results from 35 respondents of a relatively new University building (BUS survey undertaken in 2011)

Case Studies

The POE module also provides a platform for collaboration between academia, practice and policy-making to foster evidence-based sustainable building design and performance. Over the last 10 years 80 domestic and non-domestic buildings across the UK have been evaluated, covering a whole range of building types as shown in figure 5. Dwellings and civic buildings form half the total number of buildings, followed by University and School buildings.

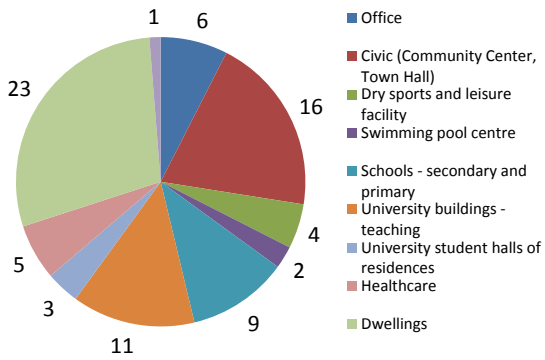

Fig. 5. Breakdown of building types evaluated in the POE module

While half the buildings were designed using sustainability standards by reputed architectural practices (Penoyre and Prasad LLP, PRP Architects, Ridge), the other half represent conventional buildings owned by the University and local authority (Oxford City Council). So far 15 sustainable school and healthcare buildings designed by Penoyre and Prasad, and five housing projects designed by PRP architects have been evaluated. Strategic findings from the studies have been fed back to the design teams, through student-led workshops and seminars run at the architectural practices.

Findings from 19 POE studies of local authority-owned community, leisure and sports facilities showed that potentially about 30% of CO_2 emissions could be reduced cost-effectively using a combination of 'no-cost' (good house-keeping) and 'low-cost' measures (better controls, energy management), whilst above 50% emissions were technically-possible by upgrading the building fabric. Some of the measures proposed by the POE studies were adopted in the refurbishment of these buildings.

In recent years students have studied the performance of 14 University buildings on their own University campus, which has led to: introduction of building level metering and sub-metering; adjustments to demand temperatures depending up the type of activity taking place; as well as informed future briefing, design and specification of new University buildings. This has meant that the University campus is being used as a teaching and learning tool as part of a wider aim of developing a University Living Lab.

Linking POE with Design Studio Teaching

Knowledge gained from the POE module can help to inform the design briefs of the design studio projects through learning gained from the direct experience of studying buildings in-use. This is why the POE module runs in semester 1 before the design studio (semester 2), so that students can systemically study similar buildings (to what they are going to design in the following semester) and transfer the learning from POE into their design projects. Seeing for themselves the consequences of design interventions through a forensic lens (and from occupants' perspective) tends to open students' minds to the relationship between design and performance.

This is also in line with the feedback loop promoted by Bordass[viii] (Fig 6), wherein POE feedback can be collected at any stage in the life cycle of a building.

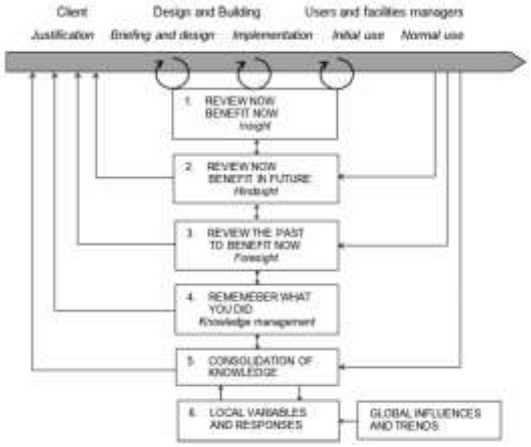

Fig. 6. Layers of feedback in relation to building life-cycle

The POE module falls into the *foresight* category wherein feedback is collected by studying the existing situation and analogues (POE module) before a new building design is done (Design studio). As a result of exposure to POE, some students even develop *insight* during their design project by reality checking and managing expectations of the building users and stakeholders. The POE module itself provides *hindsight* to the case study buildings through learning and fine tuning.

This linkage of POE with design teaching helps students to link consequences of design decisions and specifications with actual outcomes. Students also realise the significance of setting operational performance as design targets to encourage effective collaboration between architects and other consultants. In the long term, POE studies help to inculcate a culture of continuous learning amongst students to inform future projects.

Developing a Light Version of POE Module

Given the growing concern about the gap between designed and actual performance of buildings, it is vital that every architecture student and design tutor recognises the need for creating feedback loops to evaluate sustainability-related design aims of their buildings. To achieve this paradigm shift in architectural education, POE (BPE) teaching itself has to move from a niche specialist Masters programme to mainstream undergraduate and postgraduate (MArch) architectural education. For this a light-touch version of the POE module can be developed comprising of a simple *energy assessment*, *walk-around survey* and *occupant feedback survey* (using a BUS type approach), so as to engage students with actual performance of buildings in-use from a socio-technical perspective. This light-touch version of POE can either be integrated within technology teaching or run as a stand-alone *POE-lite module*.

Such an approach will also align with practice-based and live design projects that are being increasingly undertaken in both undergraduate and postgraduate studios. Students can be trained in defining design concepts which are based on operational outcomes rather than design specifications only. For instance, simple to use tools such as the RIBA-CIBSE *CarbonBuzz* platform can help students in setting up appropriate performance targets, as it compares design energy data of a range of buildings (and building types) with actual performance data disaggregated by end use.

Concluding Discussion

It is becoming clear that POE studies are a useful tool in generating the evidence and feedback needed for learning lessons from buildings in order to develop evidence-based sustainable building design solutions. Particularly for students of architecture, it also provides a valuable specialist skill in understanding and evaluating building performance, in relation to their own design and that of others. By strategically aligning the POE teaching with design studio teaching, it provides an opportunity to address the performance gap that occurs between design intent and actual reality.

POE studies of University buildings have also triggered the development of a University Living Lab initiative, which would transform the University campus as a living lab site for applied teaching and research around sustainability and low carbon development. It would also enable collaboration between students, academics, practice, and the Directorate of Estates and Facilities Management to deploy and monitor new technologies and services in real world settings.

Looking into the future, it is vital to link POE (BPE) teaching with Building Information Modelling (BIM), so that performance outcomes are embedded with design specifications through a digital environment. This also fits in within an overall *Soft Landings* framework that advocates a focus on outcomes from inception and into operation. Such experiential learning approaches will enable students to avoid inadvertent pitfalls when designing buildings.

Bordass and Leaman (2013) have called for a *new professionalism* amongst built environment professionals, which is based on a shared vision of concentrating on outcomes and developing greater knowledge about building performance in use[ix]. Direct experience and learning about building performance through POE at the undergraduate and postgraduate levels can help architecture students in embracing this ethos earlier on in their professional lives.

Acknowledgements

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study data for this paper. Thanks are due to Chiara Fratter of the Low Carbon Building Research Group for compiling the data for figs 3 and 5. The author is also grateful to the organisations who offered their buildings for POE studies.

References

[i] IPCC "Climate Change 2007: Synthesis Report", Geneva, 2007.
[ii]Building Research & Information. "Post-occupancy Evaluation". Building Research & Information, (2001). 29(2).
[iii]Building Research & Information. "Evaluating housing performance in relation to human behaviour" Building Research & Information, (2012). 38 (5).
[iv]Gupta, R. & Chandiwala, S. (2009) "Using a learning-by-doing post-occupancy evaluation approach to provide evidence-based feedback on the sustainability performance of buildings" in *Proceedings of the 26th PLEA conference*, *22-24 June 2009*, Les Presses de l'Universite Laval: Canada, 2009 pp. 222-227.
[v]Bill Bordass, "UBT Feedback summary", 2009.
[vi]CIBSE, "Energy audits and surveys". The Chartered Institution of Building Services Engineers Press: London, 1991.
[vii]CIBSE, "Energy assessment and reporting method". The Chartered Institution of Building Services Engineers, 2006.
[viii]Bordass, B. "A Guide to Feedback", *Usable Buildings Trust*: London, 2009.
[ix]Building Research & Information. "A new professionalism". Building Research & Information, (2013). 41 (1).

Making it Real - Engaging Students in Building Performance Research at the Mac

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Introduction

In the context of the Glasgow School of Art, the subject of architecture is unusual in one particular respect. Most other disciplines work with their artifacts. This is not the case for architectural students, who only work with representations of their designs. For most, the construction of a building is an abstract process that will take place some years away, and occupancy is an even more distant concept. In the vast majority of cases, the justification and explanation of a design – and subsequent judgment of its merits – is made for and by other architects rather than building users.

It can be argued that the inability to learn from the real building and its users is a weakness in educational processes. It is however representative of architectural practice, which rarely undertakes building performance analysis. Over the past 20 years changes in construction processes leading to roles such as project managers, and contractual relationships such as design and build, have distanced architects from completed buildings. As a result, opportunities to learn from the artifact and to close loops between the design and performance (of whatever element) of a building are rare both in practice and education.

This problem is thrown into sharp relief by the current context of climate change and energy supply [1] [2]. This has led to increasing demands on performance [3], which in turn is leading the use of new materials, technologies and systems. In effect every new building is an experiment, but we rarely look at the results and more importantly, the reasons for these results. In almost every other design or engineering discipline it would be unthinkable to design and make something but then not test it or learn from it.

Learning from performance has become a critical issue. There is clear evidence of performance gaps between design expectations and building operation [4] [5] [6], not just in terms of energy performance, but also issues such as comfort, indoor air quality and satisfaction [7] [8]. At the same time there are also examples of excellent practice [9]. The need for architects, and therefore students, to understand and learn what the effects of design decisions are, and use this knowledge to improve design intelligence is crucial. Failure to do so undermines the value of design.

An opportunity to address this problem in a unique way presented itself at the Mac in 2012. The Mackintosh Environmental Architecture Research Unit (MEARU) is formed of staff at the school who teach Architectural Technology and is engaged in a range of research projects. The unit had been engaged by the Glasgow Housing Association (GHA) to provide design advice on 'The Glasgow House'. This was a prototype for low energy, flexible, affordable housing that would be a solution for both social and private rented sectors, and housing for sale. It included a range of low energy strategies including: sun-spaces, mechanical ventilation with heat recovery (MVHR), a clay block construction system to provide a highly insulated envelope with thermal mass, solar thermal systems and a highly insulated roof cassettes.

Fig. 1. The Glasgow House

As some of these technologies represented a departure from conventional forms of construction, GHA took the unusual but very progressive step of constructing a prototype house using their industry partner City Building, the construction arm of the organisation. Two versions were built on the site of the City Building Skills Academy in Glasgow by apprentices, one using the clay block system, and the other using an offsite timber frame. They are 3-storey semi-detached houses with 4 bedrooms. Although the original intention was to trial the construction systems and provide training for apprentices in new technologies and materials, the houses also presented a unique opportunity to evaluate and monitor their performance.

Fig. 2. Pilot study participants

MEARU were commissioned by GHA to undertake a study to examine the performance of the dwellings. The houses were not occupied and whilst physical testing could be undertaken, this would ignore a crucial aspect, that of the user experience and effects due to occupancy.

MEARU proposed an evaluation that used test occupants recruited from students at the MSA, who would occupy both houses identically using occupancy 'scripts'. This would provide a high degree of control of behavior, allowing the evaluation to focus on the relative performance of the buildings, which would be closely monitored during these periods. A pilot study was undertaken in 2011, and the main project undertaken in 2012-13, funded through the Technology Strategy Board Building Performance Evaluation programme for a Phase 1 study. Quantitative Phase 1 tasks included: Airtightness Testing; Co-heating test; U-value testing; Thermography; and MVHR testing. Qualitative testing was undertaken during each of the occupancy scenarios, including surveys, interviews and comfort polling.

Project Development

With many live projects, matching up the timescale and expectations of the curriculum and the project can be challenging, but in this instance students were simply changing their accommodation. The project was subject to the GSA ethical policy as it used human subjects. An important element of this was to be clear that the study was testing the buildings and not the occupants, nevertheless, issues of informed consent and safety had to be satisfied. Volunteers were sought across the MSA. There was a high degree of interest and groups were formed for the scenarios through a mixture of self-selection and availability across all years. There needed to be matching occupancy in both houses, so students were divided between the houses to match year groups, sex and room occupancy.

At the start of each project students were given a briefing at the Skills Academy, where they were asked to complete consent forms and also given copies of the occupant guides, which included the diaries and other relevant information such as contact numbers. External visits to the houses were minimized during the scenarios, exceptions being the need to maintain monitoring equipment, which included sensors for temperature, CO_2 and relative humidity.

Fig. 2. Real life

Scenario Testing

The occupants were given an occupancy script, which determined their general activity and use of the house. Under these conditions we were also able to collect more detailed information about their everyday activities, such as cooking, window opening, frequency of shower use, etc.

The original intention was to undertake 6 occupancy scenarios. Some scenarios planned for the summer period to examine overheating were not possible due to poor weather conditions; however, alternative issues were examined including a scenario to measure the effects of thermal mass. A summary of the scenarios applied during the study were: -

SC1: A standard occupancy based on SAP assumptions – intended to provide a base case and comparison with SAP assumptions about occupancy.

SC2: Standard occupancy, with variation in the use of the MVHR system - testing the effects of disabling the MVHR system in a reasonably airtight house.

SC3: Continuous daytime occupancy – simulating the effects of an extended occupancy period, for example older people or unemployed.

SC4: Originally summer, revised to unoccupied testing looking at sunspace and thermal mass – scenario identifying the benefits in terms of heating and temperature stability.

SC5: Examination of continuous vs intermittent heating regime – comparing the relative performance of a continual low level heating regime verses a standard intermittent 2 period regime.

SC6: Comparison of natural vs mechanical ventilation regimes – comparing one week with MVHR only with a second week using natural ventilation only.

The results of the study in terms of building performance have been reported elsewhere [10]. Having occupants living in the houses provided a crucial level of information. For example, in SC5 comfort polling was used to determine relative levels of comfort between the houses. Important findings emerged from this, including qualitative aspects for example improved comfort in the thermally heavy house. In SC6 assessments of indoor air quality and ventilation, comparing window opening with the MVHR system found that with window opening, perceptions were better but actual conditions were far worse, especially in bedrooms. It also revealed interesting dimensions to assessments of comfort, which have affected on-going methodology. For example, it was clear that in assessing thermal comfort students were referencing their normal living conditions – those coming from draughty tenements rating the dwellings more highly.

Outcomes

The project had three major benefits. Firstly, BPE in domestic properties can be very challenging, both in terms of gaining access to peoples personal environments, but also because of variations in households and patterns of occupancy. In this project, controlling occupancy allowed a side-by-side comparison of the performance of the different dwellings, whilst gathering information about effects by - and on - occupancy.

Fig. 3. Construction systems

Secondly, the project exposed students to on-going research. This included the work of MEARU in general, and the context of research into the design and performance of low energy buildings, and related issues such as health and well-being. It also demonstrated the research methodologies being used, including both physical testing, environmental and energy monitoring, but also qualitative approaches such as comfort polling and interviews. It also gave the students an insight into the perspective of subjects of this type of research and these type of buildings. This was an important perception shift, to see themselves as the user and the subject, and helped to identify the ethical responsibility that architects have toward occupants.

Thirdly, and from the perspective of this paper perhaps most importantly, it gave a range of students an opportunity to experience living in a low energy building and to reflect on their experience through the BPE processes. Students had access to the drawings and specification and the adjacent houses are partially completed so students were able to see first hand the materials and construction, and the tests gave students an understanding into the issues of performance in buildings, in terms of technical requirements, comfort, air quality and usability.

Fig. 3. Real details – typical roof/wall junction.

The types of construction and low energy systems were no longer abstract issues, but tangible problems that students were able to apply in later studio projects, with a degree of knowledge and actual experience.

The feedback from students was entirely positive, and led to further student engagements with the research, including acting as temporary RAs and several students used the project as the basis for their own research projects in Stage 4 and for one student the engagement in research has led to PhD study.

Conclusions

The scope of contemporary construction is such that the conceptual distance between early designs stages and eventual occupancy appears to have increased. In addition, the greater complexity of construction processes means that there are larger numbers of specialisms and participants, through briefing, design, procurement, construction and sub-construction, commissioning and handover. One of the common findings from Building Performance Evaluation is that no-one has taken an overview of the project from beginning to end. If this is not the remit of the architect, then whose is it?

Participation in live projects is an important way of getting students to take their work seriously – to consider that what they design has real effects on the users of their buildings, to whom they bear a responsibility, and helps to close conceptual gaps between design and real life.

References

[1] Department of Energy and Climate Change. "Energy Security Strategy", November 2012
[2] Grubb, Michael, Lucy Butler, and Paul Twomey. 2006. Diversity and security in UK electricity generation: The influence of low-carbon objectives. *Energy Policy* 34, no. 18: 4050-4062
[3] HM Government. *Climate Change Act 2008*, 2008 (c.27)., London, HMSO.
[4] Green Construction Board Buildings Working Group. "The Performance Gap: Causes & Solutions". 2012 Available: http://www.greenconstructionboard.org/index.php/resources/performance-gap [accessed May 2014]
[5] Gill, Z. M.; Tierney,M.I; Pegg, I. M.; and Allan, N. "Measured Energy and Water Performance of an Aspiring Low Energy/Carbon Affordable Housing Site in the UK." *Energy and Buildings* 2011, 43 (1): 117–125
[6] Zero Carbon Hub. "Closing the Gap between Design and As-Built Performance – End of Term Report" accessed at : www.zerocarbonhub.org Aug 2014.
[7] Crump D.; Dengel A.; Swainson M. "Indoor Air Quality in Highly Energy Efficient Homes – a Review". *NHBC Foundation NF18*, IHS BRE Press, London. 2009.
[8] Monahan, S.; Gemmell, A. How Occupants Behave and Interact with Their Homes. *NHBC Foundation* 2011 NF35, available online: http://www.nhbcfoundation.org/Researchpublications/tabid/339/Default.aspx (accessed 26 Mar 2013).
[9] Ridley, I., Clarke, A., Bere, J., Altamirano, H., Lewis, S., Durdev, M., and Farr, A. "The monitored performance of the first new London dwelling certified to the Passive House standard" 2013. *Energy and Buildings 63*, 67-78.
[10] Sharpe, Tim and Shearer, Donald. "Scenario Testing Of The Energy And Environmental Performance Of The 'Glasgow House'".*PLEA2013 - 29th Conference, Sustainable Architecture for a Renewable Future*, 10th September 2013, Munich, Germany. (In Press)

Architectures of Consequence: A Methodology for 'Live' Building Performance Evaluation in the Studio

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Introduction

Architectural education typically prepares students to be able to design new buildings or alter existing ones, and possibly to be able to predict their performance through modelling. What it does not do yet, is teach them how to evaluate the actual physical and experiential performance of buildings in reality. There is no requirement to do so for RIBA validation, despite the huge gap between predicted and real performance in buildings around the world. It is vital that students are equipped to understand how to carry out these types of evaluations, both in relation to their own design work and that of others, and how they can feed these back into their own design work and produce architectures of consequence.

This paper sets out an initial theoretical and ethical framework for 'Live' Building Performance Evaluation. It then assesses the different methods that are currently available for fitness of purpose in an educational setting and introduces new individual and collective evaluation methods. Finally it explores the barriers and opportunities for staff and students wishing to evaluate building performance at all stages in the current architectural studio in the UK and beyond. It aims to help answer the question: '*How can we best introduce building performance evaluation into the architectural curriculum*?'

Theorising 'Live' Builiding Performance Evaluation

Building Performance Evaluation (BPE) is a heavily contested and rapidly evolving field of research enquiry. It differs significantly from traditional Post-Occupancy Evaluation, first developed in the 1960's and 70's in the USA and UK, by concentrating on the *complete* building process to ensure that '..research, measurement, comparison, evaluation and feedback… take place through every phase of a building's lifecycle..'[1]

'Live' is equally contested territory in relation to architectural pedagogy, particularly in relation to the definition. Most would accept that the term embodies a connotation of social inquiry and service in relation to a real 'client'[2], but beyond this there is no agreement as to whether a 'Live' project is simply propositional (feasibility studies), or the degree to which end users are involved and whether or not a public artifact (report, exhibition, building etc.) should be produced. For the purposes of this paper, a 'live' BPE study is taken to mean the provision of a social intervention through architectural pedagogy that will benefit end users in relation to a project developed with a particular client or client group who could not otherwise undertake the work themselves.

What makes BPE 'live' then? The interrelationship of four socio-technical theories provides a helpful framework: Phenomenology, Critical Realism, Social Learning and Social Practices. Each theory adds a different dimension to ensure that, as far as possible, a more complete and dynamic 'live' account of BPE can be made.

BPE is fundamentally a phenomenological undertaking, evolving out of work by Zeisel[3] which developed tools for researchers and students to study how people behave in a particular environment, what physical traces they leave and what their unique perceptions are. On its own, Phenomenology is as agnostic as Constructivism is in terms of power and social relations in the built environment (how much control do you have over your environment and why is that?). Equally, it is very difficult to develop a useful predictive model for BPE from these theories alone. Scientific Realism, typically found in many methods associated with physical measurements of building environments, has its place in BPE, but its 'objectivity' can be questionable in relation to the measurement parameters adopted by those in power and the subsequent effect on end users. This is where Bhaskar's critical approach to realism[4] can help to ensure that all BPE parameters are examined and developed with a healthy skepticism and awareness of the social context in which BPE is conducted.

Recent research has acknowledged the pivotal role that Schatzki's Social Practices theory plays in BPE in terms of the need to incorporate end user know-how, habits and practices into BPE[5]. Many previous BPE studies failed to acknowledge this aspect, relying on qualitative surveys and interviews merely to establish perceptions without significantly interrogating the connections between bundled know-how, habits, practices and how these frame building performance. A further development from the individualized approach of Social Practice evaluation is the use of Social Learning theory to demonstrate how BPE can help develop collective learning in housing developments[6]. By combining Social Practice and Social Learning theory in BPE, the element

of 'liveness' can be increased as student BPE projects can become more action-research orientated and provide more meaningful and effective interventions which 'stick'.

Why Should Architectural Students do BPE?

The two other papers in this conference symposium covering student BPE projects by Sharpe and Gupta respectively describe a domestic case study and a methodological approach for students to be able to carry out post-occupancy evaluation studies more generally. Both papers describe a variety of good practical and experiential reasons why BPE should under taken by students. These can be summed up as a means of grounding student design approaches in reality and giving them the experience and tools to be able to do so. At the same time both papers highlight how BPE can help to reduce the performance gap between predicted and real comfort and energy use in buildings, as well as help to improve the use of new technologies.

There are, however, deeper philosophical and ethical reasons for why students should be required to undertake BPE studies in Schools of Architecture. Architects have a professional 'duty of care', very much like the doctor's Hippocratic Oath, to do least harm to the planet during the course of their activities. The most recent Royal Institute of British Architects (RIBA) Plan of Work published in 2013, recognizes this and highlights the need for post-occupancy evaluation (POE) and a 'Soft Landings' process which incorporates (POE) findings directly into both current and future design activities. A 'Soft Landings' approach will be a UK government requirement for all government procured buildings from 2016 onwards. It is also anticipated that some form of POE will be built into the next set of UK building regulations.

One criteria that sets the professional architect apart from a builder, is the requirement to balance immediate business needs with the wider good. And yet, as Bordass and Leaman rightly highlight: ' Accountability is replacing trust, reflecting what is happening in wider society – the unintended consequences of replacing ethics by rules and regulations, and leaving everything else to the invisible hand of the free market.'[7] An ethical approach to architecture, which can gain social consent, demands a secure connection between research, practice and education. This in turn means that BPE studies cannot be carried out in isolation in Schools of Architecture – they have to be directly linked in some way to the design studio, if they are to gain an ethical purchase within the student's (and architects) design process.

At What Studio Stage can we Introduce 'Live' BPE?

Existing methods for student POE and BPE studies have been described by Sharpe and Gupta elsewhere in these conference proceedings, including the notion of a 'light touch version' of POE technology teaching in order to make it more mainstream. This would focus on an energy assessment, walk-around survey and occupant feedback survey of existing buildings. The question remains – how can we incorporate BPE methods directly into studio teaching most effectively?

Clearly some BPE techniques and methods are easier to teach at Undergraduate level – these include observational studies, simple spot measurements of environmental conditions, interviews, and questionnaires (Fig.1). These can be carried out alongside a literature review of existing BPE studies related to the design typology being developed in the studio project.

Fig.1 Students can carry out simple observation work (photo: Gloria Vargas)

Where students are working with existing buildings, these methods can be used directly to help inform their individual design responses, and by Year 3 can help students to refine their own design briefs. Where they are designing new buildings from scratch, these BPE methods can be usefully transferred to context analysis alongside reading relevant BPE case studies to raise awareness of critical performance issues for the typology. This takes the notion of 'precedent study' to a deeper, more informative level, and teaching needs to be formalised here as part of the 'precedent analysis' if the BPE studies are to be effective.

Other BPE methods, such as detailed working drawing and specification analysis, thermal imaging, energy audits and assessments, monitoring, benchmarking, combined with modelling, may be more suited to M.Arch or Postgraduate level design studio which directly combines initial BPE studies with a studio design project involving existing buildings. Where the studio is concerned with a new building, then a seperate POE case study on a similar type of existing building should

be undertaken ahead of the studio, as described by Gupta. The studio timetable is critical – it is vital that the BPE studies are always carried out ahead of the concept design stage to ensure that strategic decisions are informed by the findings. This process is most suitable either for year long thesis projects in M.Arch, or where a design project is only one semester long.

New Methods of 'Live' BPE

Several new BPE research methods have been developed by the author, in collaboration with others, which may help to further address the need for studio-related BPE studies particularly in relation to 'live' design projects which include adaptation and/or extension of existing buildings.

Usability studies

Formal ergonomic studies traditionally take place in the first year of architectural education to help familarise students with basic functional requirements for designing spaces and products in a user centric manner. BPE provides an additional opportunity to evaluate existing relationships between various environmental 'touch points' that users typically come into contact with via their senses in relation to each and every design project a student undertakes to help reinforce the initial ergonomic learning. Without this reinforcement, students (and subsequently architects) quickly forget these requirements, because they are not embedded.

A simple analysis of six key factors (Fig. 2) in relation to key user functions such as opening doors, windows, using kitchens, bathrooms, maintenance of the exterior etc., carried out as a formal exercise on a detail design proposal can help a student to understand whether or not their building is really usable.

Usability criteria	Poor				Excellent
Clarity of purpose					
Intuitive switching					
Labelling and annotation					
Ease of use					
Indication of system response					
Degree of fine control					

Fig. 2 Usability criteria and ranking scale

Ideally, the analysis should be carried out by an end user and discussed together. The bath below illustrates the typical problem which can arise (Fig.3) if space is too small.

Videoing building performance

A key aspect of good design relates to the temporal relationship between user practices and the building.

Fig.3 The usability of this small bath is questionable.

Frequently students undertake BPE or other precedent case studies with reference to drawings, photographs and specifications only. The use of simple short videos to analyse how people interact with buildings as a process can be very revealing to students in terms of understanding why buildings work the way they do, particularly when combined with short interviews with those being videoed. This technique was pioneered in domestic BPE research by the author[8] and was subsequently been adopted by the UK Technology Strategy Board as part of its Building Performance Evaluation programme (2010-14). A classic finding in one new low carbon home revealed that users could not use an entrance lobby effectively because of the door sequence in relation to the storage area. As with all user information, any videoing requires ethical approval in advance from the users. Most Universities have a formal ethics procedure for student projects which accommodates these type of requirements. Time should be allowed for accommodating this process in advance of starting any BPE study.

Social Learning in the studio

Social Learning theory examines how people can learn together how to do things through the social organisation of individual interactions. In BPE, this is now being used to understand how people living together help eachother (or not!) to use their new low carbon homes or retroffited homes. It is also being used to understand how people learn together how to use their work environments. In the architecture studio, peer learning is highly effective when the studio is organised both physically and socially to facilitate this. Carrying out BPE studies in small groups of 3-5 students is generally much more effective than individual assignments. The number is small enough to ensure that individual activities can be cross-referred to easily through group discussion with significant peer learning opportunities.

Two classic examples of extended Social Learning through studio design and BPE studies are the 'Ecomod'

project developed by John Quale with his architecture students in the University of Virginia, USA and the 'The Saint Gobain Nottingham H.O.U.S.E ' developed by a variety of staff with students at the Department of Architecture in the University of Nottingham. In the ongoing 'Ecomod' project, students work with clients and academics to design low cost houses and subsequently go on to build them on site under the supervision of a contract manager. What is particularly impressive about this 'live' project is that BPE is built in from the beginning and each new home designed and built benefits from the BPE findings and lessons from the previous home (Fig 4) .

Fig.4 A typical Ecomod house built and monitored by students

In the 'The Saint Gobain Nottingham H.O.U.S.E ' built for the European Solar Decathalon competition in 2010, students were required to model the predicted performance. Subsequently, PhD students inhabited the home and carried out extensive BPE studies on it. Both of these projects required exceptional commitment from both staff and students over a two year period, as well as substantial sponsorship, and it is not anticipated that every School of Architecture can undertake this type of project each year. However, they act as beacons for what can be done in terms of linking 'live' studio projects with BPE and can hopefully inspire other studios to consider BPE studies as an inherent part of their smalle 'live' projects.

Blogging and 'Pinterest'

Digital technology means that it is now easier than ever for students to keep BPE diaries in the form of online blogs linked to School websites that describe what they are doing and what they are finding out. This is a particularly powerful way of disseminating early studio BPE work when working on a 'live' project, but care is needed in relation to ethics and agreements with the end users about who can see the information. Creating 'Boards' on the digital site 'Pinterest' is visual way of recording images and data that is particularly useful for architecture students who want to share and build their BPE information with others – it can be restricted just to the working group, studio, year or opened up to the public. Inspirations and ideas can be shared using 'Pins' that make links from one site to another.

Barriers and Opportunities for BPE in the Studio

There are numerous barriers currently preventing a wider uptake of BPE studies in Schools of Architecture. At present neither the EU, ARB or RIBA Validation procedures for architectural education require any form of building performance pedagogy, beyond the predictive stage. Why is this? Typically, in the past, BPE has been viewed with suspicion by designers and clients concerned with potential outcomes leading to litigation. As BPE has become more accepted, the issue of cost is still a thorny one – who will pay for BPE? Often, the client expects the architect to pay, while the architect expects the client to pay. There is no clear way forward at the moment, although it is clearly in the client's interest to discover whether or not the building they have bought actually works. There is also a catch up game going on, given that it is only very recently that the RIBA has endorsed BPE in its Plan of Work for architects and the RIBA Validation Criteria themselves are not due for revision for a couple of years at least.

Another uncertainty arises when future end users may have different values to those end users or client working with the architecture students on their BPE studies (this can be particularly acute in relation to housing) or when end users have different value systems to the architecture students themselves. Both of these issues need careful consideration when defining the parameters of any BPE study.

Some would also argue that BPE is too difficult to accommodate within the architectural curriculum, but the various examples and methods above demonstrate that it is possible to do BPE studies in a variety of ways that suit the different stages of architectural education. Further barriers occur because BPE requires an interdisciplinary approach, combining quantitative and qualitative methods with a sound understanding of building physics – something which is taught less and less in Schools of Architecture, and which in practice has been handed over to the discipline of engineering. There is also the mistaken perception among some studio staff that BPE studies are an 'addition' to design work and form part of the curriculum creep that threatens to overwhelm studio design time.

Well conducted BPE is actually a component of design analysis and should be viewed as inherent part of the design process. A number of Schools are now successfully combining technology teaching with studio design work, using case study evaluation and individual BPE methods – it is only a small jump from these approaches to using a more integrated and holistic approach to BPE as part of the design studio which involves a number of methods.

There are also major opportunities for introducing BPE studies in relation to 'live' projects which offer a means to work with real end users. Imagination is needed to stretch the evaluation of these projects over a longer period of time for a more effective outcome and this may involve different groups of students undertaking the BPE studies, or the same group of students undertaking the BPE studies the following year. Equally the increasing emphasis on retrofit and the re-use of existing buildings in architecture as part of the drive towards greater sustainability, resilience and climate mitigation/adaptation, provides improved opportunities for students to experience BPE studies first hand using real buildings and end users. Finally, the increasing emphasis on interdisciplinarity in higher education and the notions of co-production and university engagement all bode well for BPE studies which fundamentally require participation with end users and preferably other disciplines to help ensure that architectural education delivers a holistic user-centric approach to design.

Conclusions

This paper has attempted to briefly sketch out a theoretical basis for 'live' BPE studies in architectural education, examining existing and new BPE methods and examples as well as highlighting key barriers and opportunities for the development of BPE pedagogy.

More research is required to identify exactly what impact incorporating BPE into design studio pedagogy actually has on students developing a suitable understanding, ethics, values and skills base in relation to designing 'good' buildings which are user-centric, resilient and sustainable. Testimony from student feedback on Gupta's POE module suggests that they find it incredibly useful in relation to their design work, but it would be helpful to be able to tease out which aspects are seen as most helpful.

What is clear, though, is that architecture needs good feedback on design if it is to be consequential, and BPE is potentially able to fulfill that role. If Schools of Architecture do not take up the opportunity to teach this to their students, the role will simply fall to other disciplines, and architects will be on the margins, with a lost opportunity. A rigorous debate on values and methods is needed now to ensure that 'live' BPE student projects address *all* relevant criteria in architecture and not just the socio-technical ones. This in turn will help to ensure that sound feedback becomes routine in architectural practice rather than a rare event.

References

[1] Mallory Hill, Shauna, Preiser, Wolfgang F.E, and Watson, Chris. eds. *Enhancing Building Performance*, Blackwell Publishing Ltd: West Sussex, UK .2012. p3.

[2] Butterworth, Carolyn. *A Handbook for Live Projects: Sheffield School of Architecture*. The University of Sheffield. 2013 p5.

[3] Zeisel, John. *Inquiry by Design: tools for environment-behaviour research*. Brookes-Cole, Wadsworth, Inc.: Monterey, CA. 1981.

[4] Archer, Margaret et al. eds. *Critical Realism: Essential Readings*. Routledge: New York. 1998.

[5] Vlasova, Liodmila and Gram-Hanssen, Kirsten. "Incorporating inhabitants everyday practices into domestic retrofits". *Building Research and Information* . 2014.42 (4) p 512-524.

[6] Baborska-Narozny, Magadelena. and Stevenson, Fionn. "A Social Learning Tool – barriers and opportunities for collective occupant learning in low carbon housing" in *Proceedings of Sustainability in Energy and Buildings 2014*, SEB-14, Cardiff, UK 25-27 July 2014

[7] Bordass, Bill and Leaman, Adrian. "A new professionalism: remedy or fantasy?" *Building Research and Information. 2013.* 41 (1) p 4.

[8] Stevenson, Fionn.,and Rijal, Hom.B." Developing occupancy feedback from a prototype to improve housing production". *Building Research and Information*.2010. 38 (5) p 549-563.

SYMPOSIUM: GOING LIVE: RECONCILING EXPERIENTIAL LEARNING PRACTICES WITH COMMUNITY EXPECTATION (3 papers)

The Eureka Project: Analyzing a Tripartite Model for Collaboration

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Introduction

Small rural towns are in general relatively underserved contexts for design services; architects, designers, and planners, however, are often integral to fostering community vitalization. It is in this gap between need and available service that the Small Town Studio operates. The Studio immerses students in a small town context, exposes them to the realities of project definition and management, addresses issues facing small towns, and ultimately realizes both tangible and intangible outcomes for these towns.

The Studio has partnered prominently with the city of Eureka, Kansas, where more than a dozen projects have been pursued. A tripartite partnership was conceived to achieve the Studio's goals. Students under faculty guidance provide research, visualization, consensus-building, and early-stage project management; community stakeholders inform student progress and invest in noteworthy projects; and practicing professionals are well-placed to take on community-identified projects and see them to completion. This model utilizes each type of organization to the best of its abilities and simultaneously maximizes benefits. The end result is a managed system of engagement, development, and execution of projects that forward the interests of the citizens of small town Kansas. This paper will examine the effectiveness of this model through the common, developed framework of analysis.

Context of this Study: Issues and Basis of Work

The plight of rural communities in Kansas is contextually representative of many Midwestern American states. A close, relatively recent survey of extant small Kansas towns can be found in Richard Wood's book "Survival of Rural America."[1] Wood describes the number of issues small Kansas towns face include depopulation, declining economic and health indicators, and aging.[1] Wood's narrative is not entirely bleak. He notes a number of small towns that have been able to improve their built infrastructure, services, and resources, enhancing the lives of townspeople and even encouraging the settlement of new residents.[1] Wood's narrative, coupled with an examination of rural-based community design centers across the US, provided the impetus for the formation of the Small Town Studio.

The Studio, under the aegis of Kansas State University's Department of Architecture, has delivered student-generated design services to rural communities across Kansas since the fall of 2012. In that time, the Studio has engaged with seven distinct municipalities; an ongoing relationship with the town of Eureka has been the Studio's most prominent effort. In Eureka, the Small Town Studio found a municipality eager to parlay with the academic realm, in the hope of generating interest and activity in the relatively isolated town. Architecture students were able to work closely with community stakeholders on a variety of projects. The student work has been self-published in two volumes: *Small Town Stewardship: Community Design for Vitality and Growth* and *Small Town Stewardship: Design for the Campestral*.

Fig. 1. Example of Small Town Studio project in Eureka: the redesign of the county courthouse plaza. The student project was enthusiastically adopted by the community, though has not yet been built.

The Small Town Studio's tripartite model

There are a number of community design centers around the US; a quick survey of the Association for Community Design's membership indicates that roughly half of these are based in universities. The Small Town Studio has adopted the methods normally utilized by other design centers, but with university faculty and students, and community stakeholders, has included a third party in its efforts: practicing professionals. Each constituency adds value and retains benefits from the partnership. Communities gain the expertise and energy of faculty, students, and professionals, allowing design

efforts to be more likely to be implemented. Community members are the main source of information for student efforts, and provide valuable feedback for designs. University faculty and students contribute energy, time, objectivity, research, design and sometimes construction activity to projects established in consultation with community and professional partners. Students gain learning and experience in client and community relations, pre-project organization, fundraising, consensus-building, and a number of other skills that will enhance their understanding of the profession of architecture. Practicing professionals contribute advice and oversight to projects, and in turn gain fees from projects to be constructed, develop inroads with new client bases, and receive support from university students and faculty in terms of the prosecution of pre-project activities, which are often not billable hours.

Engaged Design Projects: a 'Dearth' of Evaluation

Though university-community engagement is widely encouraged by universities, governmental agencies, and other institutions[2], assessment of the wide range of efforts (architectural design projects in particular) has as yet not been well documented. McRae further states that while "discourse on engagement is well-established… specific implementation strategies are not." [2] The National League of Cities, a US agency that promotes civic engagement practices, developed a checklist for the development of engagement efforts; the checklist includes five strategies (more or less chronological) that activists should develop and employ:

- Circulating Information
- Discussing and Connecting
- Gathering Initial Input
- Deliberating and Recommending
- Deciding and Acting[3]

Notably missing is a sector of effort devoted to analyzing efforts, gathering responses to activities, or any other evaluative aspect to engaged projects. Rowe (et al) questioned empirically whether or not university-community engaged projects are in fact valuable, remarking on the lack of assessment of engaged activity, citing in particular "very few cases of empirical evaluation."[4] Rowe ascribes two rationales for this evidentiary "dearth:" one, that the act of engagement is itself considered the end result, regardless of whether the process is valued after the fact; and two, that evaluation of engaged projects is inherently "difficult."[4] Rowe states that neither reason for the absence of post-project evaluation is particularly satisfactory. Rowe's central contention is that there is no accepted framework for the analysis of any qualitative metric of engaged projects to be evaluated, and in his paper he attempts to address this by first establishing a definition of success and implementing a system of quantitative evaluation for a case study project.

The primary issue examined here is the formulation of a metric to evaluate the "success," "effectiveness," and to some degree "efficiency" of services rendered. Of particular interest is the perceived value of the engaged, live format of the Eureka Project to community stakeholders.

Evaluation and an Architecture of Engagement

As an ongoing architectural design effort, the Eureka Project has another layer of complication to that of less tangible engagement efforts, particularly in terms of evaluation. Historically, architects have not been particularly involved in the evaluation of the impact of their projects after they have been completed. Like the National League of City's approach to engagement, architectural design projects concentrate most of their efforts on pre-design, design, and construction phases of a project. Post-project evaluation, when it occurs, is elective and somewhat narrowly focused, normally concerned with building performance metrics. This type of evaluation was developed to further the goals of energy efficiency and other building-focused sustainability aims, and is not a good fit for the evaluation of community engagement efforts. The impact of the building or (as discussed here) the design process on the project's owners, occupants, visitors, or the community at large is rarely addressed in post-occupancy evaluations.

One evaluation system for engaged design projects has recently been implemented. The SEED Evaluator, developed under the guidance of public-interest design advocates Bryan Bell, Maurice Cox, Kathy Dorgan and Stephen Goldsmith and administered by Design Corps, is a system to qualitatively evaluate the social, economic, and environmental "success" of community-oriented projects.[5] The system promotes social justice as one of three main qualitative goals, as can be seen in its first three principles:

- advocate with those who have a limited voice in public life
- build structures for inclusion that engage stakeholders and allow communities to make decisions
- promote social equality through discourse that reflects a range of values and social identities. [5]

Further, the SEED Network cites accountability to stakeholders (which could include community members) is one of the four benefits of applying the system of analysis to projects.[3] Certification under SEED is not routinized, however. The system allows each project to determine the metrics by which the project's success is measured. As such, the system does not answer Rowe's call for a universal framework of analysis.

Applying a Systematic Metric to the Eureka Project

For the purposes of this paper and two others to be presented in symposium (authored by Bruce Wrightsman and Katie Kingery-Page), a common method of assessment was established. A series of six open-ended questions (five qualitative and one informational) would be asked of specific stakeholders. Responses to the five common qualitative questions would be screened through a series of four thematic concerns: overall project organization, regulatory issues, responsibility/liability for project outcome, and financial issues. In order to assess the common evaluative method, two Eureka Project stakeholders were interviewed for this paper. It was anticipated that results from this first round of evaluation would help to refine the evaluative approach and increase its effectiveness and potential for broadened use.

Stakeholder responses to questions

The first question asked what the rationale was for the stakeholder to engage in the live project. Cited by the stakeholders were the notion of bringing in "energy," "youth," and contemporary design. "Seeing students in town signifies hope," said one respondent. The objective nature of outside intervention in the problems Eureka faces was seen as an advantage, as students, faculty, and professionals were not emotionally tied to issues under consideration.

The second question considered the process of the project in particular. How was the project seen to be prosecuted? The respondents seemed to be more positive about projects that had tangible results. They cited three built examples – the Eureka Studio storefront, Gallery M, the only art gallery in the county, designed and partially constructed by Small Town Studio Students, and the design, construction, and installation of public benches. Of value to the respondents were not just the notion of new construction and subsequent activity in the downtown area of Eureka, but the infusion of a new style of design.

Another aspect of project prosecution that was valued was the utilization of media, including online, newspaper, and radio broadcasts, to reach out to the community at large. The Small Town studio "put their voice out," said respondents, and made people reconsider the future.

One aspect of project prosecution that was not perceives as working well was organization issues. In the fall of 2013, two different community organizations, four professional firms, and a host of other stakeholders were involved in ongoing projects to various degrees. "Leadership conflicts" arose, particularly between the Small Town Studio (headquartered at K-State's Manhattan campus) and the newly formed agency Eureka Studio, a non-profit located in Eureka (2.5 hours from Manhattan). Once the Eureka Studio's role was defined, by the winter of 2013, relations between the Small Town Studio and Eureka Studio stabilized. The relative absence of the faculty project director in resolving these issues was noted. Students, it was said, would have benefitted from more direction from their faculty.

The third question asked how different the engaged project was from other projects the respondent was involved in. One important aspect noted was that engaged university projects had different priorities. Normative construction projects are focused on being completed and keeping the project client happy. A project with an academic component is more concerned with what can be learned from the project. The prosecution of the project is emphasized rather than simply the outcome.

The benefit of the collaboration was the focus of question four. Continuing the discussion on learning, the respondents mentioned that these engaged projects were a learning experience for the community. Another advantaged mentioned was that having the Small Town Studio as an ally "relieved some of the pressure" of executing projects. Clients seemed to be more forgiving in terms of schedule and outcome. That the university was present in Eureka was seen as symbolic in terms of addressing the town's decline. A "psychological change" was mentioned, with townspeople seeming more optimistic. Projects executed seemed to be met with more positivity than the respondents expected.

The last qualitative question asked about challenges of the project. "Too many cooks in the kitchen" was seen as a negative aspect, echoing earlier discussion of leadership issues. Still lacking in the ongoing project is a clear roadmap for moving projects from concept to completion, with actual built projects seen as being the most difficult type to finish. In a way, said respondents, there are too many ideas. The public in Eureka seemed to be somewhat overwhelmed by the many new student ideations.

Considering responses in light of four common themes

The four themes agreed upon by the symposium organizers are used as a way to assess responses at a larger level than simply addressing responses individually. Ideally this will allow for more objective consideration of respondents' commentary. The first theme, organization, seemed to be a major concern, though not necessarily in the prosecution of projects. Of greater concern was the overall relationship between the different constituencies: community stakeholders and organizations, the academy, and to a smaller degree the relationship with professional firms. Though it is unlikely that the three constituencies will ever fully align in terms of priorities, operational models, and desired outcomes, the criticism was seen as valid and will be focused on in the future. The advantages of the

collaboration were noted many times in the stakeholders' responses, seeming to outweigh the previously mentioned negative perception.

The second theme, federal, state, and local regulation, did not seem to be of concern to the stakeholders. Responsibility for specific projects, interestingly, was also not of major concern. There was some discussion about how projects in Eureka were ratified, particularly that the city council is the body that approves projects. In the past year, a number of student projects were brought forward to the council and approved; many of these projects have been slow to be physically realized. Using prudence in future dealings with the city council was recommended, essentially advising not to approach the council until the project was designed, funded, and ready to go.

The last metric, the budget and other fiscal aspects of the Eureka Project, was also not of major concern. The Small Town Studio has been somewhat proactive in securing grant money and in-kind donations for general operations as well as project-specific use. That financial issues were not seen as particularly problematic can be read as a positive response.

Assessing the Assessment Method

The survey of five qualitative, subjective questions seemed to have some value. A great deal of discussion was generated, and stakeholders did not seem to shy away from discussing negative as well as positive aspects. This type of feedback is of some importance considering the Small Town Studio will work in Eureka after the survey, and will also extend its efforts to other towns in Kansas. Strengthening the Studio's approach to engagement is the ultimate goal of assessment; expanding the scope of the survey to include a wide number of respondents will help to ratify findings.

As the Small Town Studio continues to operate, in Eureka and elsewhere, using a survey instrument longitudinally will also be of benefit. Feedback over time can be very useful in refining expectations, goals, operations, and outcomes.

Questions about the assessment arise, however. The particular questions utilized may not be narrowly enough defined to allow for quantitative analysis, the method preferred by Rowe and his colleagues over pure subjectivity. The questions were intentionally kept broad, as they were to be applied to three different initiatives of varying scope. A meta-analysis of the responses to the three initiatives should be undertaken, to see if the five questions were indeed of value; so too should be examined the four themes by which responses were assessed. In terms of the Eureka Project, only one of the four themes was particularly emphasized by initial respondents.

A survey instrument, however, is only one means to measure success; additional types of evidence are warranted.

Adopting Additional Evaluative Measures

As Rowe intimated, and others have mentioned[6], success for an engaged, live architectural project is bound up in the prosecution of the project itself. The fact that the engagement took place at all is perceived to be success. The Eureka Project, however, can be evaluated through other means. Taking the fact that three constituencies have been involved in the project (community, academy, profession), one could examine the involvement of each group, and the payoffs they've obtained by this involvement.

Academy: participation and payoff

Bulot and Johnson examined the nature of service-learning in the pursuit of educating students to be involved in social work related to aging. One aspect mentioned in their article is that lessons derived in a service-learning format tend to stick better than purely academic lessons. [7] Faculty involved in the Small Town Studio have noted students to be intensely focused on their projects, maximizing the return to the community as well as the educational value of their efforts. Students seem to recognize this, too. Each year's Small Town Studio class was required to record their impressions of the work they had undertaken. Student impressions were uniformly positive in terms of the amount they learned over the academic year, the importance of their engagement with community stakeholders, and the broadening of their understanding of how architectural-scale projects are executed.

Bulot & Johnson's article focused on the impact of engaged projects on faculty. Of note in their research was the interaction between faculty and community members, or lack thereof. There is no standardized method of project prosecution between faculty and community, and the historic lack of communication is described by the two as a liability, or "cost." [7] Other faculty liabilities include time available; in their survey of service-learning program directors, 64% of them indicated that they didn't have sufficient time to administer their programs; the time commitment associated with service learning is "costly but worth it." [7] Faculty involved in the Small Town Studio (primarily this author) agrees with Bulot & Johnson's description of the value of engaged academic projects: that teaching in this format is anecdotally rewarding. At K-State, some effort has been made to promote faculty outreach to communities, and the Small Town Studio work has received some recognition at the university level, including an award for engagement and a small grant.

Community: concrete metrics

The survey utilized here was directed at community stakeholders; as such, their impressions have been recorded above. What the community as a whole is interested in, in general, are the tangible outcomes of student involvement. How do student projects positively contribute to the town? One way to answer this is to examine the built works of the Eureka Project, which to date include two interior renovations, three temporary art installations and public amenities (benches). A pavilion is under construction at the local school, and another is slated to be constructed this fall.

Fig. 2. Eureka Studio Headquarters, built student project.

Profession: engagement and realization

Including practicing professionals has been an important aspect of the Eureka Project. Two professional architects and two construction firms have worked closely with the studio, helping students get projects started, coaching their efforts at communication, and evaluating their progress. Of the three groups, one construction firm has directly received funding by implementing student-generated projects; one of the architects has been engaged by community members on related projects, and the last architect has bought real estate in Eureka to encourage economic growth.

At present, these additional metrics of evaluation are more or less anecdotal. The future development of evaluative measures for the Small town Studio's Eureka Project will involve instruments of assessment for all three constituencies.

Looking Forward

Investing more effort in evaluating engaged, service-learning, live university-community projects is certainly warranted, particularly considering the effort such projects demand. This paper has begun to consider the ramifications of such projects on the community they purport to serve – namely, the community stakeholders of Eureka, Kansas. A survey instrument has been tested, but requires some fine-tuning, and additional methods of measuring success are needed for results to be correlated. This focus, and the results rendered, will be utilized to calibrate future efforts in engaging with the town of Eureka and other small towns in Kansas.

References

[1] Wood, Richard E. *Survival of Rural America: Small Victories and Bitter Harvests.* University Press of Kansas: Lawrence, KS, 2010.
[2] McRae, Heather. "Creating a Common Space for Community Engagement" in *Canadian Journal of University Continuing Education*. Vol 38, No. 1 spring 2012. p 1-17.
[3] "There are many types and levels of public engagement. Do you have a process for deciding which approach to use when?" National League of Cities, Washington DC. Accessed from web 1 August 2014.
[4] Rowe, Gene, Tom Horlick-Jones, John Walls, Wouter Poortinga and Nick F. Pidgeon. "Analysis of a normative framework for evaluating public engagement exercises: reliability, validity and limitations" in Public Understanding of Science. Sage Publications: 2008. p 419-441.
[5] SEED Evaluator and Certification Instructions. www.seed-network.org: July 2011. Accessed from web 2 August 2014.
[6] See for example Lambright & Alden ("Voices from the Trenches "Journal of Higher Education Outreach and Engagement, Volume 16, Number 2, p. 9, 2012), Canizaro ("Design-Build in Architectural Education" in the International Journal of Architectural Research Volume 6 - Issue 3 - November 2012) and Gail Treschel's book *Samuel Mockbee and the Rural Studio: Community Architecture* (Birmingham Museum of Art, 2003).
[7] Bulot, James J. and Christopher J. Johnson. "Rewards and Costs of Faculty Involvement in Intergenerational Service Learning" in *Educational Gerontology,* v32. Taylor & Francis: 2006. p 633-645. www.seed-network.org: July 2011

Hyalite Pavilion – Calibrating Teaching to Achieve Community Effectiveness

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Introduction

Hyalite pavilion is an award winning collaborative 'live' project that connected a team of faculty and architecture students with the U.S. Forest Service and multiple community business partners. The project consisted of the design and construction of a public multi-use pavilion located in a popular recreation area within a designated National Forest context. A research / teaching strategy was calibrated to address the physical challenges of extreme climate, and remoteness of the mountainous site as well as the complex public/private collaboration formed to complete the project.

This paper will share many of the challenges learned from the Hyalite Pavilion project. The success and learning opportunities presented will come from the academic assessment of the completed work and on-going research with the community partners. It hopes to elucidate the value and challenges of a highly successful 'live' project from both academic pedagogical and community viewpoints.

Research Methodology

One way design faculty sometimes frame 'live' projects is as participatory action research, which has been well defined in the engagement literature of education.[1] Following the assertion that participatory action research should involve a reciprocal sharing of knowledge and should include an evaluative process of "reflective dialogue" with stakeholder[2] the author interviewed a key community partner. The author coded the interviews for four initial themes: project organization or timeline; liability and responsibility of outcome; federal, state and local regulations; and fees, budget, and financing. Of these, the responses from the Gallatin National Forest client emphasized liability and responsibility of outcome; as well as federal, state regulations. In addition, emergent or unexpected themes in the stakeholder interview included the social engagement challenges and accepting skill limitations of working with college students.

Hyalite Pavilion

Hyalite pavilion is located along the Hyalite Reservoir in the Gallatin National Forest 16 miles south of Bozeman, Montana. The new pavilion serves a vital public need for covered recreational and social activities at a key leisure spot within a popular day-use area.

The pedagogical objective of the Hyalite Pavilion project is to be a laboratory for teaching and learning, providing students a unique educational opportunity to conceive and test design ideas in real time and at a one-to-one scale. Students develop an ethos of making through a physical engagement of materials and methods. As a design / build project, the key challenge for students is working with limitations that rarely if ever are addressed in a typical design studio.

Partnership

The initial desire for the pavilion and the partnership with Montana State University (MSU) came from the Gallatin National Forest office in Bozeman, MT who believed a partnership with the School of Architecture at Montana State to design and build a pavilion structure would be mutually beneficial. They contacted the MSU-School of Architecture directly where the administration enthusiastically embraced the academic opportunity.
The design goal would be to reinforce the positive image of the Forest Service as good stewards and conservationists. Visiting Hyalite Pavilion would help people understand the forces of ecology and the nature of the forest landscape through the architecture.

Working within Federal Design Standards

The intent of architecture to fit harmoniously within a national forest context has its roots in the founding of the United States Forest Service. The agency's successful history includes many of the beautifully handcrafted and sensitively designed rustic structures of the Civilian Conservation Corps era that are still admired today. The agency's aspiration is to ensure thoughtful design and management of the built environment and to promote the principles of sustainability. These goals are consistent with the agency role as a

leader in land stewardship. Current U.S. Forest Service design should aspire to synthesize rustic style precedents with contemporary realities and needs. The ongoing design goals of the U.S. Forest Service are documented in the Building Environmental Image Guide (BEIG), which all districts of the Forest Service use for facility design. The challenge for the architecture students was to create a structure sensitive to the natural mountain forest and lake context, while assessing the (BEIG).
B.E.I.G. (Building Environmental Image Guide)

The Building Environmental Image Guide addresses three contexts—ecological, cultural, and economic, which can take many forms. The United States Forest Service region in which the building is located informs the designer how that context should be viewed. Hyalite Reservoir is located in Rocky Mountain Region covering the glaciated terrain of northern Idaho, of western Montana and eastern Washington. Rugged mountains, prairieland, coniferous forests, and alpine meadows define the region. Winters are typically harsh.

Most definitions of the word "image" include "appearances" or "physical representations" of objects, places, or people. The public image of the U.S. Forest Service is based upon people's perception, so the creation of a positive image for the built environment is essential.

"To many people, the rustic imagery of the CCC era remains the most positive image for the built environment of the Forest Service. Perhaps this image remains popular because of its strong relation to the natural, cultural, and economic contexts; its reflections of a frontier past; and the humanizing aspects of handcrafted buildings.[3] "

The BEIG, coins the term "rustic architecture" to describe a desired style or characteristic of many Forest Service regions. It is based upon a canny combination of pioneer building skills and techniques, principles of the Arts and Crafts movement, and the premise of harmony with the landscape. The BEIG captures and codify the prevailing design attitude that had been practiced for many decades in natural settings. The guide attempts to define "rustic architecture" as unified vision for the appropriate built environment image for each Forest Service region.

The BEIG, however, is more than a guide on style and appearance. The notion of 'rustic architecture' formulates the premise of creating harmony with the landscape. The value of the BEIG is that it challenges designers to understand skillfully the physical and intrinsic characteristics of a regional site. In the sensitive contexts of the U.S. Forest Service the challenge of using such guides becomes assessing the differing perceptions of the region and place.

Calibrating an Academic Schedule with Community Expectations

The site's region receives significant winter precipitation limiting the construction time available to build. Coupled with the remoteness of the site and the material and equipment procurement challenges from working with a federal agency, a hybrid solution of off-site prefabrication and site-built strategies was developed. This required a unique research and teaching strategy calibrated to address the challenges of completing the work. The planning, design and construction of the pavilion spanned six semesters. The project was organized into a series of iterative experiments beginning in a research phase to develop a design strategy, (Figure 1). Subsequent steps included creating a concept, fabricating prototypes of the prefabricated components, and then re-testing again on site before the project was redesigned for final construction. The prototyping was a mutable activity serving as a feedback loop, which allowed for thoughtful deliberation and imaginative engagement vital to the learning objectives of the class.

The research phase critically investigated the physical and environmental aspects of the day-use site. The goal of the research was to provide foundational information of the site, its context, and its value assessment for future design work.

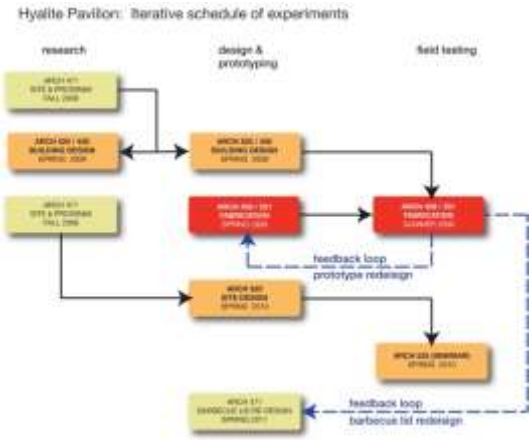

Figure 1. Hyalite Pavilion project schedule

The analysis included an assessment of the physical, environmental and experiential aspects of the site and immediate reservoir area. Included were observations of current activities and uses at the reservoir area, a projection of how these activities would be impacted, and potential new activities to introduce. The design phase began in the spring 2009 semester. The collaborative partnership between Montana State University, School of Architecture and the Gallatin National Forest expanded to include business partnerships

with a local structural engineer and a stone masonry company in Big Fork, Montana, which sponsored the design phase of the project. Through a series of design charrettes, two primary strategies emerged and were presented to the Gallatin National Forest. The final hybrid design solution incorporated the strongest solutions that best addressed the issues of site, material appropriateness, flexibility of use and wheelchair accessibility. Through both the design and construction processes students were actively engaged with structural and geotechnical engineers, material consultants, as well as U.S. Forest Service engineers and rangers.

The Gallatin National Forest funded the $42,000 project through a Capital Investment Program grant awarded through the federal government. The complete project included five community partners and 27 graduate and undergraduate students.

Client Perception

The academic value of 'live' projects like Hyalite Pavilion has been vetted through academic papers, symposia and design awards. The Hyalite Pavilion project won numerous design and teaching awards. The real value of experiential learning practices from the perspective of the community and client, however, should also be clearly considered. *Do the Gallatin National Forest and community define the Hyalite Pavilion project as successful? What can we learn about 'live' projects from the other stakeholders?*

One the greatest challenges from the Gallatin National Forest Service's perspective was overcoming some internal negativism towards the partnership with MSU. The partnership required a very different design approach from typical building projects completed by U.S. Forest Service architects and engineers.

Aesthetic responsibility vs. client expectation

The potent fear, "How do I make this?" is often tested in the learning experience of live projects. Yet, the more difficult challenge for students often is addressing the ethical and aesthetic responsibility of the designer. The challenge for the students designing Hyalite Pavilion was how to interpret the images and intent of the BEIG in ways the Forest Service client could approve the design for BEIG agreement. Initially the design was not well received by the Gallatin National Forest engineers and rangers because it did not fit the familiar imagery of previous U.S. Forest Service projects. The two perceptions of the BEIG appeared divergent. While frustrating for the students, reflecting on the dichotomy of perceptions provided a valuable learning opportunity for them. Facilitated reflection challenged beliefs, asked deeper questions, and discovered new ways to communicate effectively how the design complied with BEIG.

Liability and Responsibility of Outcome

Knowing how to build is a matter of science and technology, but knowing what to build is a question of morality, ethics, and aesthetic responsibility. Hands-on learning approaches in academic settings place a responsibility on students to participate actively as contributors to the learning environment. Projects such as Hyalite Pavilion allow students to engage architecture at real scale using real materials and learn the realities of gravity and the abilities of the craftsman as very different from their own.

Working with a federal agency such as the U.S. Forest Service required careful agreement on the management of responsibility and liability. A Challenge Cost-Share agreement was developed between Montana State University and the Gallatin National Forest district that clearly denoted the mutual benefits, interests and responsibilities of both parties. To get the Cost-Share agreement through the legal and bureaucratic process at both Federal and State levels proved an enormous challenge that delayed the start of construction. The agreement also required different expectations from a traditional building project approach. The Gallatin National Forest accepted the reality of architecture student work limitations and the fact that they are not professional builders. To meet their responsibility for the management of the public structure with satisfactory construction quality, parts of the project needed to be completed by sub-contractors at additional expense. This necessitated allowing time in the schedule for assessment and modification to occur which resulted in an undefined completion date.

The Hyalite Pavilion is project is unique from traditional design approaches where design changes and adaptations are easier to address. From the client perspective it was "a discovery of design". The slow deliberative process extended the architectural potential in a highly sensitive national forest context that remains consistent with the U.S. Forest Service's aspirations as land stewards**.**

Assessment

An unexpected challenge in this complex multi-semester 'live' project was the relationship dynamics of the architecture students. While common in traditional practice, the development of a unified group design can be problematic for students accustomed to individual design in architectural curricula. The U.S. Forest Service client commented how they were surprised to see elements of student factions occur during the

design process. The openness to discussion and strong communication by the faculty-in-charge and leaders from the Gallatin National Forest district helped navigate the student – client relationship through design roadblocks to support of the final design solution.

The Hyalite Pavilion project provided an exceptional opportunity for architectural education and life lessons for the students that demonstrate three learning benefits of going live. First, work with a real world client gives students the opportunity to be immersed in the community. Second, they experience the reciprocity of people and place. Third, the students construct their learning environment in the real world where decisions have consequences.

References

[1] Kemmis, S. & Wilkinson, M. 1998, "Participatory action research and the study of practice", in B Atweh, S Kemmis & P Weeks (eds), *Action research in practice: partnerships for social justice in education*, Routledge, London, pp. 21-36

[2] Scott, D. & Weeks, P. "Action research as reflective collaboration", in B Atweh, S Kemmis & P Weeks (eds), *Action research in practice: partnerships for social justice in education*, Routledge, London, pp. 241-259

[3] Chapter 2, Building Environmental Image Guide

The Learning Garden: Arguing for Schoolyard Change in a Zero-funding Environment

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Introduction

The Learning Garden is a half-acre play and learning space in an American public schoolyard. Northview Elementary School (Northview) is the largest public school of its kind in the community of Manhattan, Kansas—a small university town with a population of approximately 56,000 people. The school serves more than 500 students of ages five through twelve from diverse socio-economic and ethnic backgrounds. More than half of Northview students live in poverty (as gauged by eligibility for government-sponsored free breakfast and lunch programs); students speak nine different primary languages in their family homes.

The garden's intent is to provide a place for children to learn out-of doors, engage in free play in a natural setting, and experience native plants and local materials. Designed and funded by the community and university with grant-writing assistance from the university faculty partners, the outdoor space is composed of crushed limestone paths, raised planter beds, a small grassy area with natural shade, a variety of plantings and designed, stone features. More than one hundred community volunteers and students helped build the garden (fig.1).

Over the course of the project, the university-community team faced political and practical obstacles to change in a public schoolyard. The local public schools have undergone budget cuts, lost teachers, and thus exist in a zero-funding environment for all school projects deemed non-essential. Examining these obstacles illuminates the need for structural change in American schoolyards.

The Learning Garden project differs in a notable way from the two projects' presented by our colleagues (Wrightsman and Gabbard) as part of the "Going Live: Reconciling experiential learning practices with community expectations" symposium at AAE 2014. Unlike the other two projects, the Learning Garden is not a service-learning project in the strictest sense of the word. It is more accurately described as participatory action research.

Participatory action research, an approach suited to live (or engaged) architectural design projects, is well defined in the engagement literature of education. Kemmis and Wilkinson note that at its most basic, a participatory action research process includes the following steps in an iterative cycle: "planning a change; acting and observing the process and consequences of the change; reflecting on these practices and consequences, and then; re-planning and so forth".[1] Kemmis and Wilkinson also assert that participatory action research should involve a reciprocal sharing of knowledge.[2] Others describe shared knowledge occurring through a critical, evaluative process of "reflective dialogue" with stakeholders.[3,4]

Fig. 1. The Learning Garden during installation by volunteers in a university-community partnership

Students have taken part in the Learning Garden, but in a limited way. For example, a variety of students from design and non-design disciplines participated in the community's installation of the Learning Garden. A landscape architecture graduate student worked as an intern to assist in final installation and planting. And following the Learning Garden's construction, seven graduate students have completed year-long design studies to address Northview and other public schoolyards' needs. But the primary exchange of knowledge during the Learning Garden project has been between faculty and community.

Over the course of the Learning Garden project, we (university and community partners) have observed and

reflected upon the process and consequences of change.[5] Until now, however, we had not undertaken a systematic effort to gather reflections on the project from the community point of view. This process is now underway, with a series of community partner interviews planned, and one interview complete. We interviewed a member of the Northview community who voluntarily accepted a pivotal role in the Learning Garden project. This individual is a parent to children in the school and served as landscape chairperson within the school's Parent-Teacher Organization (PTO) during the garden's planning and construction.

This paper describes the change envisioned for the Northview Elementary schoolyard as background; presents a reflective dialogue including the school landscape chairperson's interview responses and our interpretation of this on-going university-public schools partnership in light of his feedback; and concludes with critical issues needing more attention in future design-build projects undertaken in university-public school partnerships.

Background

At the request of a Northview parent and the school principal, one of the authors (Kingery-Page) joined the Learning Garden design committee in spring of 2008. Kingery-Page developed a series of conceptual garden plans based upon the committee's design program. With committee input from teachers, staff, parents, and administrators, the design slowly evolved into a plan allowing for many educational uses.

Plan for change

At the outset of the project, community and university partners planned for what they understood to be contextual change in the schoolyard (change that can occur within the existing institutional context).[6] Over the course of the project, partners gradually understood and acknowledged that only through structural change (that which requires change to institutional or societal contexts) could we accomplish our goals.[7]

We planned to change the way teachers and students use the schoolyard, aiming for an increase in experiential learning, defined as the process of constructing knowledge through iterative exposure to abstract and applied activities.[8] We envisioned a garden where students could have meaningful experiences with nature, learn about food plants and native plants of the eco-region, and reap the rewards of engaging in hands-on learning activities to meet existing elementary curriculum standards.[9,10] We also envisioned an increase in unplanned, non-curricular experiences in the schoolyard such as free play in the nature-based Learning Garden.

Literature on children's access to nature finds a correlation between time in highly green, natural settings and: a reduction in outbreaks of anger and violence; an increase in mental restoration and self-regulation; and an improvement in attention in children with attention deficit disorder. [13,14] Free play has been shown to be as physically beneficial as structured, physical education[15] and is significant to development of focused attention needed for complex learning. [16]

To be a success, the garden must survive challenges to maintenance and succeed in adoption into the school's formal learning curriculum. Throughout the process, the partners have grappled with an unresolved need for structural change: a need for funding of increased schoolyard landscape maintenance, funding for garden educators or play leaders, and for re-organization of teachers' responsibilities to foster lesson planning for schoolyard use.

The process and consequences of change

In late 2008, another university faculty, Jon Hunt, joined the team. Hunt initiated contact with Northview School's art teacher to organize three art workshops with ten and eleven year-old students, to engage them in design of a second phase of the garden and to build excitement for the garden construction already underway.

Following schematic design of the garden, Kingery-Page developed a series of working drawings to guide volunteers in building the garden, obtained material estimates, procured material donations, placed orders and coordinated delivery of materials to the garden site. Together with community partners, we scheduled and led workdays to build the garden in 2009. The installation process was intense, involving more than fifteen workdays with volunteers from various university and community groups, and a strong turnout of teachers, parents, grandparents, and kids from the Northview neighborhood. In particular, the school's PTO landscape chairperson volunteered a great deal of time to installing the garden.

Just three months after garden construction, the school principal informed a small group of university and community stakeholders that the school district administration and their consulting architect were meeting to discuss the Northview building expansion. At that time, we all believed that the garden was to remain intact through the construction process. However, the school principal soon informed us that the garden would be removed to avoid increasing the cost of staging construction in the areas around the garden. We supported the principal in a series of negotiation meetings with the district architects, construction manager, and administrators to expressly define the garden as outdoor classroom space, and request that the cost of removal, storage of elements, and reconstruction of the garden be included in the building expansion

project. The outcome was that by fall 2012, a contractor rebuilt most of the garden's essential components elsewhere on the school grounds.

Welcome consequences: benefits of the project

To date, benefits of the on-going Learning Garden project can be described in terms of community cohesiveness (of prime benefit to community) and use of the garden as an effective setting for studying the impact of time in nature upon children (of prime benefit to university).

Within the construction partnership phase, community cohesion was demonstrated and strengthened over many workdays. Often, when stopping by to weed or work in the garden on our own, we would encounter school children's parents and grandparents who would comment on their pride in the garden. Asked why he joined the project, the school's PTO landscape chairperson replied that he felt it was critical to show his children, "…what it takes to be part of a community, part of being something greater than yourself… something that's going to be used for the future." He also simply felt it was important to help build an outdoor learning garden for his children and their peers to use during their time at the school. In the first season of the garden, children of ages five through eleven used the garden for curriculum-based projects.

Community cohesion benefits can also be described in terms of the Learning Garden's physical impact upon the neighborhood. While the Northview neighborhood has locally interconnected streets, it is disconnected from the larger city due to an arterial highway. This formidable pedestrian barrier separates people from most parks, a zoo, and other amenities for children when traveling from the neighborhood on foot or by bicycle. Therefore, the Northview schoolyard and its nature-based Learning Garden are key destinations for children of the neighborhood, both during the school day and later for informal recreation; it is currently used from sunup to sundown.

As an indirect result of our partnership on the Learning Garden, a KSU landscape architecture student designed a natural playground and trail system for a then derelict field just east of Northview School.[11,12] In the course of studying the school's east field, Rebecca Melvin examined pedestrian circulation and documented gaps in the existing neighborhood. Melvin's proposal included recommendations to extend sidewalks and to add a multi-use recreational trail around the school's east field. A grant co-written by the university-public school team successfully funded trail construction; the trail now links existing sidewalks to other parts of the schoolyard and provides a safe place to walk, jog, or ride bicycles.

A prime benefit of the partnership for university faculty is use of the re-built Learning Garden as a setting for research of the potential benefits of children's time in nature. Though other researchers have established benefits of time in nature for typically developing children, very little is know about the potential impacts of time in nature for children with autism spectrum disorders autism. To answer the need for more empirical study of whether playtime in natural playgrounds correlates to improved executive functioning in children with autism, one of the authors (working with multiple colleagues) undertook an exploratory, pilot study during summer 2013. Statistical analysis of the study data is underway, as is an initial manuscript detailing the adaptation of the Learning Garden to serve as a setting for the research.

Reflective Dialogue

During an open-ended interview, the PTO landscape chairperson described his role in the project as organizing community volunteers and helping to build the garden (fig.2).

Fig. 2. Two views of the Learning Garden, following completion of construction by volunteers

This individual brought an educational background in horticulture and many years of professional experience in landscape installation and maintenance to his role.

Methods

The interview involved open-ended questions related to the interviewee's expectations and perceptions of challenges associated with the project. Following the interview, we coded interview responses for four initial (or expected) themes: project organization or timeline; liability and responsibility of outcome; federal, state and local regulations; and fees, budget, and financing. After coding for initial themes, we also sought to identify emerging (or unexpected) themes.

Findings

Responses from the school's landscape chairperson emphasize that gathering volunteer involvement was a challenge to the project due to *project timeline*, and almost as a corollary, challenges of *budget*, since the

lengthy project depended upon almost all community labor for completion. In addition, an emergent or unexpected theme in the stakeholder interview included a concern of *communication* related both to explaining the project to a broad community and to a concern of communication with the upper administration of the public school district, the body responsible for overseeing operations at all local school sites.

Project Timeline The PTO landscape chairperson noted that the garden construction timeline and process itself was well organized. But the fact that all work except site clearing, grading, and some stone construction was accomplished by volunteers necessitated a large number of community workdays, stretching over a six month period. As a result, the landscape chairperson received negative comments from some school parents, who disliked continual email requests for volunteers.

Budget Although the landscape chairperson did not explicitly state that the budget was a challenge, a lack of funds for professional installation resulted in the need for many workdays employing volunteer labor.

Communication According to the interviewee, communication between team leaders (university partners, school principal, community leaders) worked well. But pre-construction communication with the broader neighborhood was weak. The landscape chairperson regrets that we did not hold a larger community meeting, beyond just the school PTO. He expressed that such a meeting would have been a chance to invite possible volunteers, "…explain to them, this is *not* going to be a one weekend type of a deal, we have to do dirt work, planting, and hauling, so it's going to take months…and we need your help." He feels this might have prevented some community members' expressions of surprise or annoyance at receiving multiple email requests to attend workdays.

The PTO landscape chairperson emphasized that the school district's decision to remove the garden so shortly after installation was his largest surprise and disappointment about participating in the project, saying, "…it was such a quick turn around. We'd just installed it and they tore it out" (fig.3).

Fig. 3. The re-built Learning Garden, more than two years after the original garden's removal

He went on to say, "Maybe if it was five years down the road," it wouldn't have been such a disappointment. His responses reflected broadly upon the perceived impermanence of designed landscapes in contrast to the perceived permanence of buildings. The landscape chairperson diplomatically highlighted the need for better coordination and communication between building and landscape facilities planning, as seen in the trajectory of the Learning Garden's removal. The problems he identified are wasted resources in terms of landscape work that must be undone or redone due to building construction. "Nothing's ever set in stone; things change…it comes down to [decisions by] all different departments….You just really can't get attached to anything."

Assessment: Critical Issues for Further Reflection

While design educators often prefer to report on the benefits of their live projects, reflecting upon obstacles and challenges is a critical step within a participatory action research process. Conducting a community partner interview allows us to examine pitfalls in our live project, with a future goal of comparing these pitfalls across several engaged projects.

Budget

In relation to the Learning Garden installation, the interview responses implied the need to gather a substantial enough project budget in order to limit volunteer labor to a scope of work that can be easily conceived of and enjoyed by the community. Broadly, the partnership with Northview School has spurred our interest in state legislature and local community budgeting for education and in community attitudes toward outdoor learning. Across the school district, interested individuals and groups have independently created small school garden projects and greenhouses, the Learning Garden being one of the largest designed sites at a local school. However, there is no mechanism to fund maintenance of these projects at the district

level. Kansas school districts face shrinking budgets and rising costs to deliver basic curriculum. The next phase of our advocacy for local schoolyards will include examining case studies of school districts that have successfully funded experiential schoolyard design, installation and maintenance.

Communication

Implicitly, both the public school partners and university partners expected one another to take a larger role in communicating the project to a broad community and school district administration audiences. Because partners only outlined expectations for the lines of communication between those directly involved in garden construction, both sides of the partnership overlooked broader communication issues. In future partnerships, use of an explicit communication tree (or similar diagram) would be helpful. The scope of audience for the project should be critically evaluated and re-evaluated by all parties.

Findings of the community partner interview offer insight into the real and thorny challenges endemic to engaged design-build projects. Neither of the final reflections on budget and communication should be taken as absolute rules for best practice. Rather, this reflective dialogue is a small step toward envisioning more effective university-public schools partnership in the context of design-build, live practice. As we gather partner feedback about the Learning Garden project, we move nearer to identifying strategies for elusive structural change in American public schoolyards.

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References

[1] Kemmis, S. and M. Wilkinson. "Participatory action research and the study of practice" in B. Atweh et al. (eds.), *Action research in practice: partnerships for social justice in education*, Routledge, London. 1998. pp. 21.
[2] Ibid, pp. 21-36.
[3] Scott, D. and P. Weeks. "Action research as reflective collaboration" in B. Atweh et al. (eds.), *Action research in practice: partnerships for social justice in education*, Routledge, London. 1998. pp. 241-259.
[4] Erasing Boundaries project. "Service-learning case study framework" developed by a consortium of educators, presented at the Environmental Design Research Association 40th Annual Conference, Kansas City, Missouri, May 28, 2009. Available online https://erasingboundaries.psu.edu
[5] Kingery-Page, K., J.D. Hunt and L. Teener. **"**A Grassroots effort to renew the schoolyard: the Learning Garden.**"** International Making Cities Livable Congress, proceedings of conference held October 2010, Charleston, South Carolina. Selected for inclusion in Documentation Set #62: Children and Nature. Available online http://www.livablecities.org/documentationsets/62-children-and-nature
[6] Kecskes, K. and K.M. Foster. "Fits and Starts: Visions for the community engaged university" in *Journal of Community Engagement and Scholarship*. 6(1): 2013. Available online http://jces.ua.edu/fits-and-starts-visions-for-the-community-engaged-university/
[7] Ibid.
[8] Kolb. D. A. and R. Fry. "Toward an applied theory of experiential learning" in C. Cooper (ed.) *Theories of Group Process.* London: John Wiley. 1975.
[9] Danforth, P.E., T.M. Waliczek, S.M. Macey and J.M. Zajicek. "The effect of the national wildlife federation**'**s schoolyard habitat program on fourth grade students**'** standardized testscores" in *HortTechnology* 18: 2008. pp.356-360. Available online http://www.ashs.org
[10] Smith, L.L. and C. E. Motsenbocker. "Impact of hands-on science through school gardening in Louisiana public elementary schools." In HortTechnology 15: 2005. pp.439-443. Available online http://www.ashs.org
[11] Melvin, R. J. Master's report, *Site as playground: expanding the experience of play*. 2012. Available through K-State Research Exchange http://hdl.handle.net/2097/13754
[12] Kingery-Page, K. and R.J. Melvin. "Site as experiential playground: artistic research for a learning landscape" in *International Journal of Pedagogy and Curriculum*, 19 (4): 2013. pp.71-89. Available online http://ijlpc.cgpublisher.com/product/pub.250/prod.58
[13] Taylor A. F., F. E. Kuo and W.C. Sullivan. "Coping with ADD: The surprising connection to green play settings" in *Environment and Behavior* 33 (1): 2001. pp.54-77.
[14] Taylor A. F., F. E. Kuo and W.C. Sullivan. "Views of nature and self-discipline: Evidence from inner city children" in *Journal of Environmental Psychology* 22: 2002. pp.49-63.
[15] Kolbe, T. N. *Comparison of structured physical education and free play in elementary schools*. Kean University. 2012. ProQuest Dissertations and Theses. Available online http://search.proquest.com.er.lib.k-state.edu/docview/1024271953?accountid=11789. (1024271953).
[16] Ruff, H. A., and K. R. Lawson. **"**Development of sustained, focused attention in young children during free play" in *Developmental Psychology* 26 (1):1990. pp.85-93.

SYMPOSIUM: TOOLS TO UNDERSTAND DESIGN (2 papers)

'And … Action!' Keeping it Real in Dublin's Suburbs

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Introduction

Frank Perry's 1968 film, *The Swimmer,* follows a day in the life of middle aged Ned Merill after he decides on a whim to swim his way home through suburban Connecticut, via his neighbours' backyard pools. As the day progresses the mask of this seemingly popular, successful family man begins to crack until Ned at last arrives home, and is revealed as a ruined man, utterly alone. As we embarked on a journey to test film as a means of design in Dublin's suburbs*, The Swimmer* – an alarming critique of the suburban condition – seemed an apt first film to watch.

Our group, called *Imaginative Territories* was one of three 4th Year design studio groups working in suburban Dublin during the 2013 autumn semester at UCD School of Architecture. Reflecting on previous experience of teaching design studio projects located in suburbia, we felt that students often lacked the analytical and design tools to operate with confidence and imagination in a suburban context. The loose formal structure of the suburb, compounded by lack of grain or dense mixture of function, challenged students and tutors in the search for parameters to offset and test proposals. The comment that 'there is no there there' sums up this lack of resistance, which is not encountered to the same extent when working in the city or the landscape. A search for a governing system can yield little deeper understanding and a form-based approach can literally end of up in 'cul-de-sacs' of subjectivity and whimsy.

Following on from recent short films made in practice, our group, called *Imaginative Territories,* aimed to test whether the structure and discipline of producing and directing a short film could offer students the freedom to consider the suburban context as one of potential delight, utilizing the filmic devices of sequence, narrative, framing and depth-of-field. We wondered if this studio could offer a means to imaginatively engage suburbia, to keep the students in the mindset of 'play' for a longer period in the design process, through the suspension of belief that film can offer. We wanted to test whether the use of film, as a design tool, might offer students a means to respond explicitly to the suburban context. And we wanted to challenge students to be both engaged and ambitious: to give them the space not to know all the answers, but to at least be able to ask the pertinent questions. As the School explores better ways to articulate its voice beyond the campus, we wanted to see if film could communicate the potential of architecture, across platforms, age groups and territories.

Methodology (5 x 5)

Knowing that one semester would be a tight time-scale to design and produce a short film – while also analyzing, understanding and responding to a new territory – we divided the studio into five groups, each with five students. Our location was the suburb of Walkinstown, in west Dublin. Film and architecture were discussed in parallel from the beginning. The primer task set for the first week, called *First Shot*, asked students to chose a still from a film that they admired and to then design a still from their own imagined film which in some way related to the first one *and* to their first visit to Walkinstown. This first brief and the review discussion of the stills immediately immersed the group into the language of film. Colour, framing of territory and of people, shadow, pattern, and depth-of-field emerged very early as techniques used consciously by filmmakers to construct illusion and to build a relationship between the space of the film and the audience. The exaggeration of a particular idea or atmosphere in film, which edits out other aspects of reality, allows the viewer to focus on what the director wants the audience to notice.

This bubbling of ideas about film accompanied the students in their initial mapping of Walkinstown. Working in groups they collected and mapped a diverse range of data: from demographics to street lighting; from information on commuter patterns to signage; from housing typology to studies of public space. Students sought out similar spaces in Walkinstown to those they had enjoyed in film: empty playing fields under a big sky in Walkinstown Park echoed the wide open landscapes in Wes Andersen's *Moonrise Kingdom*. Other research unearthed historic characters that had been instrumental in the shaping of the suburb. Interviews conducted and filmed by one of the groups in a purpose made Storybooth revealed that local residents felt the area lacked both a sense of place and social amenity: many had fond memories of the former cinema. The data was brought back to the studio,

drawn and analyzed, and formed the basis of spatial strategic responses to this suburban context. Students were repeatedly reminded not to think of Walkinstown as a problem to be solved. Instead, they were challenged to understand and describe a particular spatial or socio-spatial characteristic of Walkinstown, in order to consider means of intensifying its potential to be *wonderful, fantastic, and delightful*. These three words were chosen deliberately as counter to how suburbia is often described.

In parallel, and in order to better understand suburban typology, the utopian origins of the suburb were explored, including the theories of Ebenezer Howard and Parker and Unwin, and the impact of Development Plans for Dublin proposed by Patrick Geddes and Patrick Abercrombie during the early twentieth century were considered. Dublin was effectively a slum city at the end of the nineteenth century and the new suburbs were hailed as a panacea to the city's poverty and the colonial legacy of its overcrowded tenements. The provision of new housing for those who lived in dire conditions was contested political ground.

Today, the suburb of Walkinstown comprises low-density housing and an established industrial zone, on the inner edge of a series of ring roads that circumnavigate the city. The population is settled and stable, house values are low and amenities are scarce.

Storyboard

Armed with their initial analysis, each of the five groups was asked to propose an initial spatial response in the form of a storyboard. Designing a storyboard allowed students to frame their ideas temporally. They could propose a narrative, move the camera around the territory and dwell on spaces and spatial qualities, which might otherwise be overlooked or judged to be negative according to traditional urban design standards.

An example of how this process opened up the response to place can be seen in the work of one group who began to work with the Walkinstown roundabout. (Fig. 1) Seven busy roads feed into this junction and it has a reputation in Dublin as a junction best avoided unless you're sure of your exit. With film in mind, one group simply enjoyed the experience of circling this roundabout continually over the course of a day, from dawn to dusk. The backdrop to the roundabout shifted as daylight changed. Lights going on and off behind the walls of buildings affected the reading of the space of the roundabout. Streetlights provided a grammar, traffic lights a syncopated rhythm. Spatial experience of depth-of-field became the focus. This group's film, *Carousel*, pays homage to circular movement and acknowledges the role of the car in shaping suburban landscape. Instead of dismissing the car as a negative force on urban form, *Carousel* embraces it. The group began a process of re-calibrating the perimeter of the roundabout to create a thick wall of spaces for the community through which vehicles, pedestrians and cyclists were choreographed.

Fig. 1. Still from *Carousel*

Animatic

Five 'stories' began to develop and gradually clarified into structured animatics. An animatic is a series of stills that provides a framework onto which the rest of the film is produced. Viewing the animatic gives an idea of the look and timing of the finished film and highlights how much work needs to be done to develop continuity between the shots.

Technique differed from group to group. One group chose to explore Walkinstown through watercolour-painted backgrounds, over which they laid spaces and characters, which the camera explored through shifting perspectival viewpoints. (Fig. 2) They initially worked with stop motion, but it became apparent that a smooth stop motion animation of their full story would take months (and an army of artists) to make.

Fig. 2. Still from *Will's Walk in his Town*

Another group chose to explore the existing and newly imagined territory of Walkinstown through sectional model. Their test models and shots revealed that panning a camera through a 1:50 sectional model of a suburb required more space, and technical resources than we had at our disposal. And the *Garden City* group, which used black and white vector line drawings to re-imagine Walkinstown as a continuous garden suburb realised that they would have to find a way to manipulate and move through and over their drawings without sacrificing the quality of line they had worked hard to achieve. (Fig. 3) In response to these challenges, two types of software came into use. The

first, *Adobe AfterEffects*, allowed students to work as they would with *Photoshop,* but over time. The second was editing software (a range of programmes was explored), which facilitated the postproduction, cutting, sound and export of the final films.

Once the basics of these programmes were learned, there was a huge leap in the development of the films. Conceptually, each film could now get to the point at which it had been aiming. Yes, you can travel by section! Yes, you can follow the camera through your hand-painted perspective and out the other side. The marriage of analogue and digital formats (be they painting and perspectival movement, or sectional model and continuous panning) meant that the projects held on to the character of their initial concepts, consciously resisting the homogeneity that can be part of the language of digital rendering.

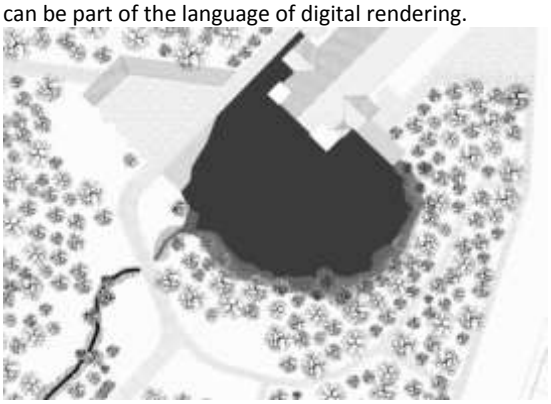

Fig. 3. Still from *Garden City*

We Love Film

As the films evolved each week, the studio was infused with films and filmmakers. Short film, animation, documentary, features, films by artists, films by architects, recent films, classics, we watched and shared them all. The studio became a temporary mini-cinema, energizing students and staff. Of particular interest was the use of film in recent work by practices such as MOS Architects, Urban Think Tank and Studio Mumbai. Film is used differently, and for different reasons, by each, but there is a common thread of deliberate intention which comes with a knowledge of what film can offer, *in the communication of ideas*, that is different to static drawing and model. We invited guests to share their experience of working through film. Dublin filmmaker, David C. Lynch spoke frankly about how he produced some of his own short films and artist Niamh O'Malley, described how her work through film explores themes of perception, relationship of the viewer and the object.

In the concluding weeks of the semester, draft film clips were screened and discussed in tutorial sessions. Students were confidently handling and manipulating their proposals in drawing, model and film and began to describe fluently how they changed through time, how the viewer/occupier moved through them, how people bumped into one another in their daily encounters within the spaces they were making.

We Love Design

The five films were completed and screened as part of a one-day final review at the end of the semester. (Figure 4) The screening formed a background to the subsequent world café discussion on how architecture might better respond to the space of the suburbs. Students submitted their films into national and international film festivals. The film festival circuit is a surprisingly easy network to access, and one that offers an inexpensive way of widely disseminating the work.
Developing tools and skills to evaluate and respond to suburban context is a pressing issue. Low-density suburbs, particularly common in Ireland, the UK and the United States, are coming under pressure as urban populations continue to expand. The traditional tools with which the form and space of cities are analyzed and designed do not necessarily work when applied to suburbs. Therefore we can assume that other models need to be tested which tune into different factors at play here.

The importance of the car, lack of enclosure, the shifted relationships of fore-/mid- and background, the scale of the sky, the connectedness of people in their daily routines – these are parameters that film can cope easily with, can drop in and out of, can even enjoy. Without doubt students found this studio challenging, but also enabling. They found that working with the process of film and designing and describing space through it, as part of a collaborative team, gave them the opportunity to say more, with less. Their work is engaged, direct, and self-explanatory. Film enabled students to maintain a dynamic connection to the context in which they were working, which was then manipulated and tested over time. Designing through film, in its open-ended and plastic nature, allowed students to work imaginatively for a longer period on the thesis of a project, and to hone this thesis with clarity.

Fig. 4. Final Review Film Screening

Five Films

1. Boundaries of Suburbia

Produced and directed by Eoin Diamond, Julien Miguel, Mathew Mullin, William Spratt-Murphy.
Curious about what residents of Walkinstown felt about their area, this group designed and built a portable storybooth, based on Buckminster Fuller's geodesic dome structures, and conducted and filmed interviews with local residents. The collected stories revealed the under-use of Walkinstown Park and how much residents missed the since demolished cinema. The interviews directly informed the brief for an intensified edge to Walkinstown Park incorporating new performance and film screening spaces. The film folds together the documentary footage (of the construction of the storybooth and filmed interviews) and animated plano-metric drawings of the proposed new boundary to the park. (Fig. 5)

Fig. 5. Still from *Boundaries from Suburbia*

2. Carousel

Produced and directed by Sarah Browne, Marwa Elmubark, Grainne Nic Gearailt, Sanaa Shaikh.
With a nod to Jacques Tati's roundabout sequence in *Playtime*, the camera enjoys the circular movement of the car as it passes streetlights, other cars and the change in translucency of the background buildings from dawn to dusk. Into this context of continuous movement this project proposes new structures, housing public buildings that accentuate the experience of shifting depth of field and parallax. Circulation remains orbital, the car, the cyclist, the pedestrian, tying together, above and below, in front of and behind the isolated spaces left behind by a roundabout while spaces of communal activity overlap as thick spokes within the field. This film directly emerged out of the process of designing through film, having developed from a combination of observation based on movement through time. Film offered students the intellectual space for experimentation and the opportunity to find spatial potential for delight in a mundane and challenging environment.

3. *Garden City*

Produced and directed by Maryam Bakhtvar, Lisa Blumenthal, Fiona Gueunet, Bruna Moraes and Darragh O'Shea.
Taking its clues from the landscape architecture of Roberto Burle Marx, this film re-imagines Walkinstown as a continuously cultivated garden. The leaky space of low-density roads, backlands, unused park areas and even back yards are seen as opportunities for the garden city to spread. Drainage and control of water is a key factor, explored at a variety of scales through the design of channels, streams and wetlands. The use of film allowed the new landscape to be explored through the passage of daily and seasonal time and in changing weather conditions. As the camera pans out of the suburb, we see that the garden city principles are starting to spread.

4. *InSection*

Produced and Directed by Justine Ackers, Dylan Callanan, Rachel Hoolahan, Nicky Rackard and Sarah Richard.

Joe and Mary are lonely. They live near each other but have never had the opportunity to meet. This film brings the viewer on a lighthearted journey through the suburb of Walkinstown, travelling through section. As each section is given the freedom to expand, adapt, heighten and clash, unlikely encounters start to take place. Neighbours who never had occasion to meet find themselves brought into contact in how they overlook space, work, live and in what is a happy-ever-after story, Mary and Joe find eternal love. Each of the five students in this group surveyed a long section through Walkinstown, onto which they grafted saprophytic structures that added benefit to the existing context, while also injecting new use. Proposals vary in scale. An existing factory becomes the base onto which new housing, a swimming pool and multi-story car park are added. The frequently empty church is converted into a library, while maintaining its sacred function in a smaller chapel insertion. Existing back lanes become home to small business workshops and a training center. And the interface between the front of suburban terrace of houses and the road is re-ordered to provide a long public park and a continuous inhabited edge to the private domestic space. This lighthearted narrative allowed the students in the group to develop and maintain a positive attitude to suburbia; they fell in love with Walkinstown.


Fig. 6. Still from *InSection*

5. *Will's Walk in his Town*

Produced and directed by James Corboy, Roisín de Paor, Aoife Morris, Emilio Souto and Ailish Walker
Will Wilkins grew up in Walkinstown, but he no longer lives there. After receiving an invitation to view a film in his old neighbourhood he boards a tram that brings him from the city to Walkinstown. He remembers his halcyon days as a teenager, playing soccer, hanging out. On his return he finds a place empty of people. He takes out his sketchbook and begins to imagine a collection of new spaces tied into the existing, from a community centre to a new sheltered market space, from a small shelter beside the playing pitch to a bike repair shop and café. We walk with Will as he moves through his newly imagined neighborhood. This film uses hand-made watercolor paintings, perspective and the manipulation of fore-, mid- and background (as though they were stage sets) to capture and expand the traditional image of the suburb. The film plays with memory and place (memories of growing up in suburbia can be a colliding mixture of the freedom to roam the streets and the choking claustrophobia of having nothing to do). The analogue format of the paintings convey this emotional connection with place, while the digital editing process allowed the proposals to open out the inner eye's journey into one of possibility and potential.

Filmography

Mon Oncle (1958), *Playtime* (1967) Jacques Tati
The Swimmer (1968) Frank Perry
Powers of Ten (1968 and 1977) Charles and Ray Eames
Not By Bricks Alone (1969) Sean Egan
Persepolis (2008) Marjane Satrapi and Vincent Paronnaud
Paraisopolis (2008) Urban Think Tank
The Polish Language (2009) Alice Lyons & Orla Mc Hardy
Island (2010) Niamh O'Malley
Moonrise Kingdom (2012) Wes Anderson
Irish Folk Furniture (2012) Tony O'Donoghue
Already Happened Tomorrow (2012) MOS Architects
Praxis 1 (2012) Studio Mumbai

Drawing is Alive – The Observer's Momentum

Raquel Pelayo

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Introduction

Architecture is always about changing how things around us are. Any intervention is an intervention on the landscape, be it urban, wild or rustic. Architects have a tremendous responsibility once most of their interventions have this public component in which we are all its users. In this sense architecture builds worlds to be lived by all of us.

The faculty of architecture of Oporto University (FAUP) in the northern Portugal has a strong identity developed in the second half of the XX century that has produced two Pritzker awarded architects – Siza Vieira (1933) and Souto de Moura (1952). Its singular approach to architecture teaching bases itself in two main aspects. The first one is the importance given to formal context, valuing differences and specificities as possible determinants of the form, from the beginning of the design process. The second aspect is the use of the indeterminacy of observation freehand drawing as a powerful tool for the architect to think about visual complexities; be it focused on the preexisting site or the one(s) to be. Thus, architecture is understood as a process of providing experiences and ultimately as something to be lived through all one's senses. Even if a parallel can be established with Pallasmaa's[i] thought, this vision is rooted in some of the main founders of FAUP, professors Carlos Ramos (1897 - 1969) and Fernando Távora (1923 - 2005) or Alberto Carneiro (1937), a sculptor that played an important role as professor of drawing from 1972 to 1994 at FAUP.

Carneiro[ii] developed a contemporary pedagogical approach to architectural drawing that answered the school needs inherent in its founders' vision and that overcame the shortcomings of the so-called modernist pedagogical paradoxes in art teaching - the ones De Duve[iii] has referred to, that embraced a growing iconoclast position that waived the representational power of observation freehand drawing. FAUP drawing puts the architect in the position of the observer. This means that drawing becomes a technology – even if it's a Stone Age one – to awaken the senses and sensibility, promoting deep knowledge of the intervention site only obtainable through actually living it. This approach is considered to be fruitful in terms of students' design thinking and the faculty is still embracing it today, even though it's a considerable time- and resource-consumer. Observation freehand drawing became a bridge between site and studio, a way for the architect to create a deep connection with the site, a way of creating a living experience of it that aims to go further than merely a rational one.

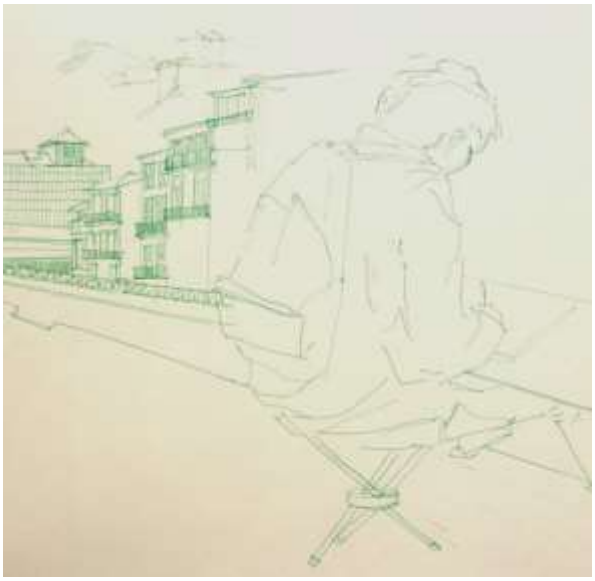

Fig. 1. Student freehand observation drawing at Porto, pen on A3 paper.

Drawing 2 is a second year class in the architecture course offered by FAUP. The first exercise students undertake is the "analysis of a place" in very much the terms defined earlier by Alberto Carneiro. The real place to be studied through architects' eyes is defined by the main course of that year, Project 2. Always located in the city of Oporto, it is the site for which students develop an intervention project, during the whole academic year, with no use of computers allowed. The drawing skills required for the task have been developed the academic year before in Drawing 1, a very intense course on how to draw (8 hours a week - annual).

A theoretical discussion, from the viewpoint of one of the professors that is also the researcher, tries to gather arguments to explain, through the cognitive processes involved, the added value of the approach that requires so much time, patience and endurance, once the site is to be lived during seven classes of three hours each, one

per week, sometimes in not so good weather conditions. Nevertheless the main argument is still the resulting body of students' work.

Pedagogical Practice

If architecture pursues living/experiencing then its process should begin with an empathic encounter with the existing place; a process in which the concepts of understanding and living become fused with one another. Portuguese urban sites can be quite complex. Their organization has apparently no rules unless the terrain is organic. Its main characteristic is the multiple coexistence of fragmented organic geometries which – only sometimes – have a clear geometric rule or pattern. Articulation of fragments frequently creates abrupt changes in directions and creates a very rich environment. Still, any cityscape has high levels of visual information challenging its understanding, its reading and interpretation when there is a proposal to design new equipment for that site.

Fig 2. Student freehand observation drawing at Porto, pen and color pencil on A3 paper

Drawing "in loco" allows a much deeper encounter with the site than alternative ways such as photography or video. Drawing produces not only visual information registers, but also an experience-based process of discoveries, of information codification, of memorization and of projective interpretation. A profound body and mind understanding of the site can lead to a fair and creative problem interpretation of the project commissioned and can be a light, suggesting ways to achieve good solutions. By the opposite, a handicapped encounter will lead to skewed readings and eventually to solutions that do not fit the problem.

Cognitive Performance Involved

Observation drawing is about creating representations. It mobilises cognitive operations that rely on visual analysis to overcome an initial state of perplexity. The first of those operations is the selection of the visual cues that refer to three-dimensionality that are adequate to the production of a coherent bi-dimensional simulacrum and it can be based on the observer's location when producing a perspective drawing, or it can be based in the thing being represented producing an axonometric drawing. It also can, more abstractly, be based on orthographic views like sections, elevations or floor plans. This means that the draughtsman perceives in a conditioned way, conducted by specific interests in some kind of elected visual information – in this case the formal properties of constructions in space that form the site.

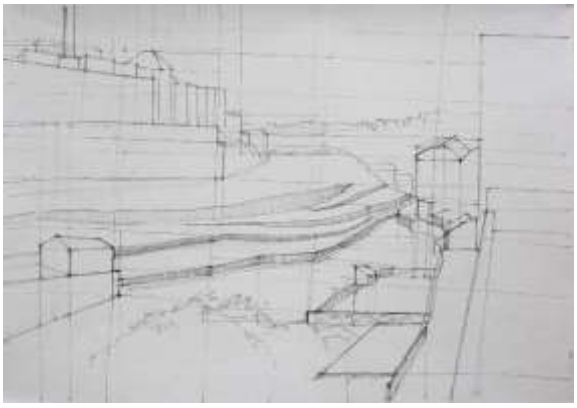

Fig. 3. Student freehand observation drawing at Porto, pen on A3 paper.

So, when drawing from observation, our perception functions more like a top-down process, relying on visual attention mechanisms to solve the drawing task. It is a different perception from the naïve and dispersive perception of everyday life that is mainly bottom-up, generally conducted by the visual stimulus characteristics. The main difficulties in learning how to draw from observation come from this phenomenon[iv], once it generates a paradox in the graphic representation processing; namely in what concerns form constancy and actual information from the observer's viewpoints. The first one comes from long term memory, and the second one comes from working memory.

Equally important, and also concerning the mentioned cognitive operation, is the interpretation of relative sizes of forms that demands comparison of visual cues with each other multiple and successively, like comparing relative sizes, relative directions and relative positions of edges in space[v]. Despite visual information necessary for graphic representations being available to the observer's senses, all observational drawing requires the use of memory - although of different kinds.

Different graphic representations ask for different memory uses. Intuitive perspective entails an intense use of working memory once the brain is not able to keep perceptive images more than half a second, requiring constant returns to the thing being visualised. The task is even harder when the brain also has to alternate the model visualizations with the ongoing drawing visualizations, in a specific rhythm.

In its turn, axonometric representations, that keep objects' form constancy, ask for long-term memory,

once dealing with propositional information that is previously acquired, synthesised and archived. In this case the representation is basically a geometric translation in the sense that Willats[vi] proposes, that is, it is about producing highly codified abstractions by geometric systems which translate tridimensional information into a view that has never been seen. Frontal views, plan views, and sections are also quite abstract.

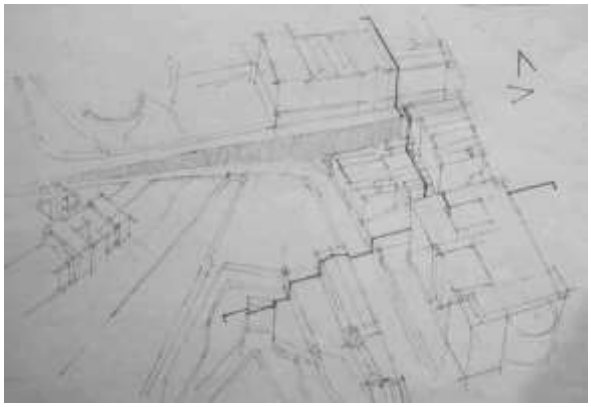

Fig. 4. Student freehand observational drawing at Porto, graphite on A3 paper.

At the site, students are encouraged to use all representational systems, starting with perspective. In the first stage they have to establish physical contact with the place through walks that aims to develop an intuitive encounter with it to discover, observe, realise and interiorise sensorial information through drawing perceptions from different viewpoints. Perspective drawings are an analytical instrument and require the student to choose the most adequate viewpoints to draw a series of drawings that only in their set will reveal the formal complexity of the wholeness. Perspective drawings in sets have a power to construct a personal visual discursiveness that uses the space "in between" the images.

The next stage is to draw a plan and axonometric representations of the complete site, or portions of it, depending of the site extension and complexity, based on walking through the site, and eventually measuring distances walking. Note that these other than perspective representations separate time to observe and time to register but still, the exercises are mostly done on site. These drawings are more about creating an interpretative synthesis and are no longer analytical. In fact, they play an important role once they allow the draughtsman to confront himself with his interiorised information about the site; namely what has been retained and what hasn't. A student's critical revision of these drawings looking for errors and blanks allows him to verify what he know and doesn't know about the site. Note that at this point students already had access to the official plans of the site in Project 2. This analysis of the resultant drawings frequently shows misunderstandings of proportions of the site's formal properties. This means that unconscious misconception of the site can easily create preconceived ideas or even wrong expectations of what the site is. It's fair to deduce that these errors in relative sizes can emerge from misconceptions of the place and can make the design solving process difficult.

Other types of representations like sections, elevations or floor plans are explored. Drawing floor plans at the site can be quite challenging. It questions the main axes that organise all elements of the place and, again, implies an interpretation of it. Sections planned over floor plans, embedded in axonometric representations or even in perspective drawings (only considering parallel plans to the projection plane) allow one, at any time, to make new readings of height differences of buildings and/or differences in the relief. Those drawings can be used for analysis or as part of a visual discourse in a final synthesizing description of the place.

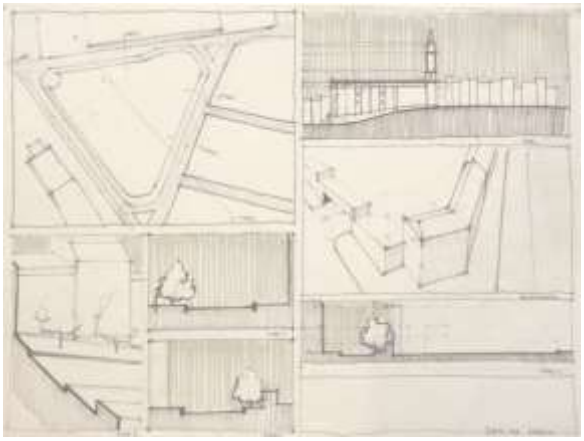

Fig. 5. Student freehand observational drawing at Porto, graphite, pen and marker on A3 paper.

The interplay of all kinds of representation codes, sometimes to analyze the site, other times to establish discovered characteristics of it, implies the use of different visual memory mechanisms and different cognitive high-order cognitive skills that have to do with interpretation. Drawing at the site also mobilises a complex process of information management – focusing on information outside and inside the draughtsman – that is expected to develop visual intelligence and drive towards an understanding of the site that can't be achieved by other means.

There's a game between perception and mental representation going on, that might be similar to a child's mind figuring out the world she lives in. Drawing at the site, in terms of representation, makes the draughtsman confront himself with the very representational limits offered by drawing. In that sense, drawing is an invitation to the draughtsman to force those limits to capture what is subjectively true for him as interpretation of what the site is for him and also for others; although here in a more rational way.

Conclusions

Based on the discussed complex cognitive mechanisms involved in drawing freehand from observation, we argue that to draw from observation can be a live experience enhancer for the architect and even more for the architecture student. By spending some hours walking around the site drawing, one has the opportunity to feel it, flirt with it, recognise it. Trying to understand it by oneself. The premise is that one can't intervene in a complex urban space just by analyzing the city plans or using other second-hand representations: one has to experience it more deeply, taking time to apprehend it through one's unique sensibility. A precious time to spend living and learning architecture.

Fig. 6. Student freehand architecture design drawing at the site, Porto, graphite on A3 paper.

References

[i] Pallasmaa, Juhani. *The Thinking Hand* John Wiley: United kingdom. 2009.
[ii] Carneiro, Alberto. *Desenho Projecto de Desenho*, Instituto de Arte Contemporânea: Porto. 2002.
[iii] De Duve, Thierry. "When Form Has Become Attitude- and Beyond" in *Theory in Contemporary Art Since 1945* Blackwell: Malden, MA. 2005.
[iv] Pelayo, Raquel & Fonseca, Teresa. "Drawing as a Cognitive Strategy: Perception and Creativity" in *Proceedings Book of Drawing in the University Today - International Conference on Drawing, Image and Research*, University of Porto: Porto. 2013. (in press).
[v] Pelayo, Raquel. *Saber Ver no Desenho - Percepção e Representação no Ensino do Desenho de Observação*. PhD thesis presented to Faculdade de Psicologia e Ciências da Educação da Universidade do Porto. 2009.
[vi] Willats, John. *Art and Representation. New Principles in the Analysis of Pictures* Princeton University Press: New Jersey. 1997.

SYMPOSIUM: CONTEXT AND DESIGN (2 papers)

SOCIALForm: [re]Linking Architecture, Culture, and Environment

James Eckler

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First, What is Environment?

"[New spaces of habitation] build upon the shattered form of the old order a new category of order inherent only in present conditions, within which existence feels its strengths acknowledges its vulnerabilities and failures, and faces up to the need to reinvent itself as though for the first time.[1]"

- Lebbeus Woods

"Environment," in contemporary architectural practice, has come to embody issues of sustainability to the exclusion of most other considerations. This is an error. It places emphasis on architecture – as object – employing technology, materials, and design strategies to maximise efficient operation. However, it fails to realise that architecture is also a component of a social, historical, cultural, and spatial environment. Buildings that do not lend themselves to the betterment of this metaphysical environment are destined to fail. They will fail, not because they didn't work, but because they didn't engender the social investment necessary for them to work in perpetuity. Instead, can we define environment more broadly to encompass social forces as well? How can architecture be a product of the interrelationships between space and community?

Architecture linked to place cannot be derived from esoteric concept or require the erasure of existing circumstances to ensure ideal conditions for the idea to be feasible. Nor can it simply embrace a litany of "rules-of-thumb" for good sustainable design, which almost ensures placeless ubiquity for the architecture. What kind of value will an occupant, or community, place on such architecture? Will it be regarded as something worth saving when time renders it, or its function, obsolete?

Instead, shouldn't architecture – as inhabited environment – be a construct derived from both physical and metaphysical forces? Should it not regard the sun as both a source of heat gain, as well as light and color? Shouldn't material be considered for both its insulating qualities as well as its tactility?

Because contemporary practice and thinking tend to compartmentalise and separate contextual issues, this proposal draws from earlier theories in order to define new strategies linking architecture and environment. In it, architecture is seen as resultant. It emerges from the convergence of the realities of place, programmatic demand, and desired experiences. It is a designed environment integral to existing organizational, material, spatial, social, and natural systems. These are not new ideas. Many have explored them extensively[2]. However, design methodologies that effectively deploy them are rare.

This paper outlines techniques that reconcile physical and metaphysical environments toward the creation of truly responsive architecture. It supposes that implementing these techniques in the early design process can produce an architecture that is responsive to site. And, simultaneously consider the transformation of site by the addition of a new component. This position stands in stark contrast to the notion that architecture is imposed upon site; that it is self-referential. The foundations of these techniques are found in generative mapping. In which, the map is analytical rather than mere documentation. When represented using consistent graphic languages, the physical and metaphysical are understood in relation to one another. Systems of relationship are revealed through overlaps, alignments, and intersections between elements. The mapping prefigures spatial arrangement and tectonic assembly in ways that permit the architecture to emerge as resultant.

Considering the Environment

Environmental concerns are a primary consideration of the contemporary discipline of architecture. As are the technologies and design strategies that enable the architect to respond to those concerns through design. Although these concerns are imperative to the discipline and profession, they pose certain pedagogical challenges. Chief among these is maintaining a rigorous exploration of design principles and crafting techniques while introducing specific standards for environmental response. Students sometimes perceive environmental strategies as being at odds with spatial considerations. That they must choose between making the correct response for a particular environmental consideration and addressing considerations of spatial composition and experience. The foundational premise of this studio is that architecture is a

complex process of negotiation between seemingly contradictory forces. The best architectural response is one that can accommodate many different influences. This pedagogy strives to change the way students see their role as designers in the discipline of architecture. They must define themselves more broadly, not as choice-makers, but as explorers of design ideas. To do this, they need to be taught how to use graphic instruments as a means to reconcile design choices.

There is substantial (and dangerous) potential for architectural education to be reduced to formulaic compositions, for design thinking to be replaced by a short list of rules-of-thumb. Is it possible for the architect to be a steward of the environment without sacrificing those core design processes that have defined the discipline? Is it possible to introduce the vast knowledge of environmental design strategies within the time limitations set by a standard educational tract without sacrificing the development of a design process? Yes, in fact it is imperative. To accomplish this we must first stop addressing environment as a separate, overlaid issue that dictates form in response to weather patterns. Instead we must consider environment as the true surrounds of architecture. Thinking of it as an amalgamation of site forces that include climatic, cultural, and historical influences. These are all issues that can inform design decisions, and it permits the student to engage in a process of prioritizing these forces toward the generation of architectural ideas.

Much of this pedagogy has been evolving over multiple studios, at varying levels, at different institutions[3]. This paper will highlight a more recent development of it as it was applied to a project for second year students. The project was titled the "Ruins of Rocky Glen" and was intended to introduce students to ways of reading, analyzing, and responding to a landscape. Rocky Glen was a kind of amusement park filled with carnival games and rides. It has since been demolished and abandoned leaving just memories of its former structures in the form of foundation footprints and cracked, deteriorating pavement. It is located on a small, dam formed lake and is in the process of being reclaimed by the forest that surrounds it.

This site is chosen because of the importance of removing the word "nature" from the studio equation. Beginning students often misunderstand, misuse and ultimately get sidetracked by the implications of nature. Instead we focus on a gestalt understanding of environment. This opens students to the practice of considering the climate, topography, ecosystem, culture, heritage, and history of this seemingly forgotten place. They consider these things, not as isolated facts, but interrelated systems governing form and space.

A Mapping Pedagogy

"Stations and Paths together form a system. Points and lines, beings and relations… A complex system can be formally described[4]."

- Michel Serres,

How does one incorporate a sensibility for contextual response into a design studio of a discipline so dedicated to isolated innovation? In order to address this pedagogical concern, this paper proposes strategies for addressing fundamental compositional issues of the site in architectural education. Of special interest is a technique for generative mapping, the architecture that results from it, and the potential of this design process to affect the transformation of a place while preserving its unique character.

First, for the purposes of this paper, place is defined as an amalgamation. It is the collection of practices and traditions of a community as they are informed by climatic and morphological characteristics. For the city, it is a collective intelligence of a community. Architecture not only provides shelter, but is also a living record of the culture and priorities of a people. For a landscape, these instances can be subtle and more nuanced than their relatively apparent urban manifestations. Never-the-less, the ways in which mankind has used and occupied a landscape, no matter how undeveloped, will leave traces on the land, vestigial memories of culture. These have the capacity to inform subsequent design decisions. They are a part of the body of knowledge that distinguishes *this* place from *that* place. In understanding place through the subtle traces of human practice distinguishes it from location. Which, in contrast, is simply a geographic description.

The primary goal of this pedagogy is to introduce design ideas that position architectural intervention as a single component of a more complex system. In it, site is understood as interrelated systems, both cultural and physical. These issues are addressed in simple, compositional terms. The goal is not to introduce advanced theories of site response or the latest mechanical systems for making architecture more efficient. Instead, it is to instill within the architecture student a basic ethic for considering relationships between designed intervention and surrounding context.

To accomplish this, students are given a series of tasks that ultimately culminate in a descriptive diagram of the site. It is from this descriptive diagram that strategies for spatial and tectonic logic begin to emerge.

Students first embark on a series of mappings, diagrams, and analyses. This graphic research is a sort of site excavation touches on issues of topography, agriculture, vegetation, circulation, energy, history, ground, sky and programme. They search for latent organizational structures found within the physical site: molded terrain and network pathways. They look for ordering patterns in the arrangement of the greens. From these efforts they seek to extract a compositional logic to direct their own designs. But first, the students must understand the components that contribute to such patterns. We termed these elements site forces. They are any conditions acting upon the site formally, organizationally, or socially. These also include environmental factors such as large-scale topographic features, climate considerations such as water flow and sun direction, and the cultural context of the neighborhood and region. These peripheral forces make up an understanding of the contextual condition of the site. Local site forces are those that not only direct design decisions, but are also subject to manipulation as a part of the design scope. These include tectonic features of site: the trees that function as frames, or the densely packed vegetation as masses. These elements can be reconfigured, removed, or worked around. Other local forces include existing built form, and topographic features.

The ultimate goal of this process is to synthesise analyses of site disparate site forces into a common graphic language. This enables the student to study the site beyond casual observation. It is a position that simply going to a site – researching it; walking around it; documenting it – is not enough. This kind of site study is a superficial exploration of extant conditions. Origins, causes, and relationships often go unnoticed. The layered map is a means to excavate and interpolate this information toward the generation of the architectural idea. An idea that not only proposes the intervention of a new constructed environment, but also a transformation of existing site conditions. Can architecture be at once generated by the constraints of its surroundings and a force for directing their evolution?

This methodology identifies two positions to avoid:

- First is the use of contextual response as an excuse for willful formalism. This position is one in which students are compelled to use irrelevant or obscure contextual characteristics as justification for idiosyncratic, novel, or self-referential design. The complexity of any site provides innumerable opportunities for post-rationalised decision making enabling students to derive justification for architecture that is primarily a vehicle of self-expression. This kind of formalism is by its nature detached from its place in that it doesn't respond to the demands of the people that are to inhabit it. The role of the map should be to circumvent this approach rather than justify it.

- Second, is the fabrication of historicism logic based on the imagery of a place. This position uses context as a kind of pattern book and leads to designs that are amalgamate replications of existing conditions. It removes any accountability from the student as their decisions are strictly scripted by the image of material, ornament, and programme of surrounding buildings or the picturesque natural landscape. Design of this nature is also detached from its place in its disregard for spatial, formal, and programmatic systems.

Instead, students should understand fundamental relationships that comprise the interrelated systems of site and base design decisions on those. Students must be encouraged to observe the environment and use the act of making as a means to critically study it. More than this, students need to realise the way these characteristics are derived from, or affected by, cultural practices of the citizens of a place. The entire process is one rooted in investigation and inquiry.

Mapping and Cognition _ Emerging Spatial/Tectonic logic

"The city is seen as a gigantic man-made object, a work of engineering and architecture that is large and complex and growing over time[5]."
- Aldo Rossi

The documentation and analysis of these conditions leads to a process of design intervention that rationalises information extrapolated from the arrangement and distribution of site forces. In this process, strategies are invented for responding to these forces in order to accommodate the project programme. In order to understand the site, students analyze it by characteristics of constituent site forces and studying them independently. The component site forces include: topography, vegetation, solar orientation, position and arrangement of objects in the landscape, and materiality of ground. Students also track organizational strategies for: programme, new vegetation, interior and exterior circulation, cut-fill territories, and redesigned landscapes. This material is worked on simultaneously so the different parts can react to each other. Erasure is discouraged so that students can more easily track the different steps in their design process. When those analyses are then reconstituted, the synthesis results in a drawing that is not only documentation but also a site model that mirrors specific operational characteristics. This exercise becomes a point of departure for visualizing site conditions, as well as testing the implications of the designed intervention it is to receive. It is a long-term exercise in dynamic mapping.

As a part of this rationalization of site forces, students determine points within overlapping organizational patterns and spatial systems to determine site placement. The intervention placed there is a product of overarching compositional characteristics of its surroundings. Likewise, those surroundings are manipulated in order to optimise their accommodation of programme.

Can design ideas emerge from the act of mapping? Or, must they be originate elsewhere and be imposed upon site?

The premise of this pedagogy is that mapping can aid the designer in identifying latent logics for organization embedded in the site. And, that every place is a rich palimpsest of existing information to be mined. Under that assumption, it should be possible for organizational and tectonic strategies to emerge from those native to the place. The map becomes, not only analysis, but also progenitor.

- Systems of relationship identified in the map prefigure organizational logics for integrating new design into existing networks.
- Any existing constructs provide clues toward appropriate orientations, adjacencies, and proximities to augment the qualities of place rather than disrupt them.
- Existing spatial conditions containing social events can inform the arrangement and distribution of new interior spaces configured for programme and experience.
- Qualities of landscape can be exploited or changed to extend the architectural idea across the envelope and simultaneously direct design of space for both the interior and exterior.

In examining these possibilities, among others individually discovered by the students, the map becomes a tool that facilitates cognition. It is a device for generating ideas, not simply communicating them (Fig 1).

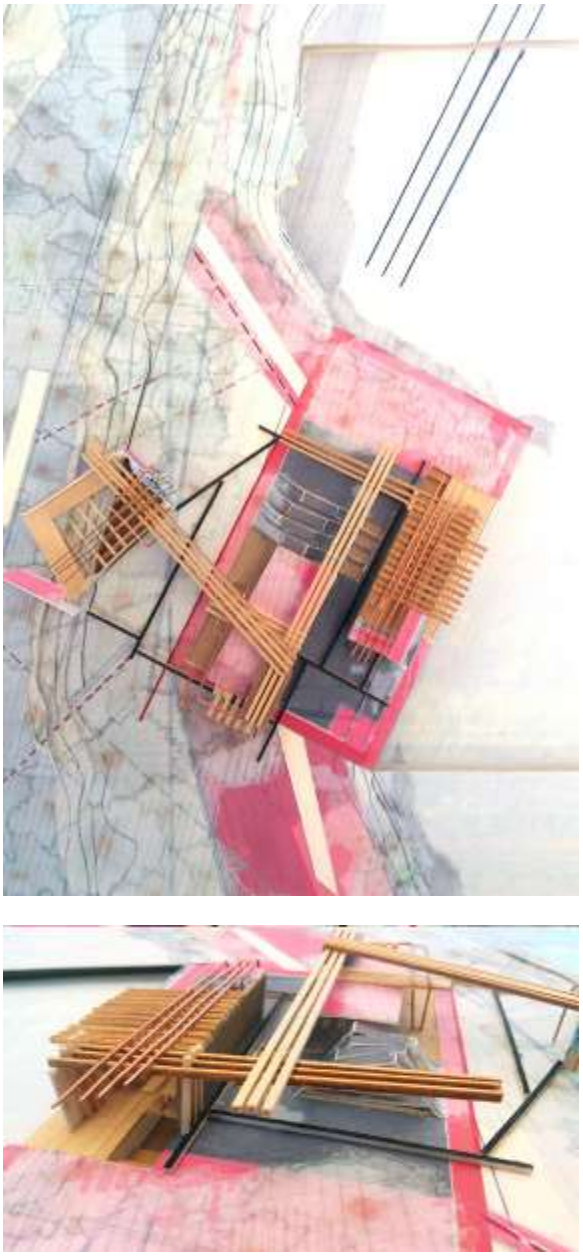

Fig. 1. Tectonic and spatial ideas emerge from the latent organizational properties of the map.

In the Studio

Each student, or group of students, is given a very specific site characteristic[6] to document in precisely measured detail. These characteristics are divided amongst Organizational, Morphological, and Programmatic categories.

Organizational Characteristics (Fig. 2)

- Edges/Boundaries – this student/group is responsible for mapping layers and edge conditions. This includes elements that compose boundaries between interior and exterior spaces, programmed layers of street edges, and the composition of elements that define boundaries of public civic spaces.

- Light Regions – this student/group is to chart various conditions of light as effected by solar orientation and landscape features. There are highly differentiated regions of light and shadow throughout the day that are critical in determining placement of a new building as well as tectonic strategies deployed in the design of its envelope.

Morphological Characteristics (Fig. 2)

- Materiality – this student/group is responsible for recording materiality of the site. The goal is to define the taxonomy of site materials, chart shifts in material across territories of the landscape, and define experiential effects of different materials across those territories (i.e. thresholds, reflectivity, texture, naturally formed vs. constructed, etc.)

- Objects/Obstructions – this student/group is responsible for documenting objects in the landscape. These can be construed as typical objects, or anything that might pose as an obstruction – an impassable clump of vegetation for instance. Trees, caliber of those trees, rocks, hill sides all factor into determining placement of the structure and the manipulation of the landscape around it.

- Topography – A typical topographic study augmented by the presence of man-made constructs altering the condition of the landscape.

Programmatic Characteristics (Fig. 2)

- Histories – This research group augments other student maps to account for past qualities of the traces documented by the students from other categories. Climate – This research group augments other student maps to account for qualities of sun angle. Specifically it accounts for variations in the Light regions map depending upon changes in the landscape. Additionally, it collects a body of climate data to be used in determining later architectural decisions.

Fig. 2. Layers of the map completed in group work

These layers are subsequently synthesised and redeveloped by each individual student according to priorities of his/her own project. The resulting mappings are overlaid and converted into compatible graphic conventions. It is in this synthesis of information that correlations and relationships are recognised between disparate site systems. These correlations are the subtle forces that define place and manner of dwelling[7]. They also provide the students with the necessary catalysts for design decisions relating to any intervention they might proposeAt this point, the project transitions into a stage where students design an intervention in this place. They have, from the beginning, been aware that they are to design a training facility for a crew team. While investigating site, they have also been researching rowing sports. They begin to understand the constraints provided by the dimensions of a scull, and the equipment necessary to operate it. They also begin to formulate a programme based upon the needs of a crew team that will live at this facility for the majority of a season.

With these constraints in mind the students set about the task of constructing within their layered site diagram. Lines of organization, territories, and material all understood in relation to one another provide a point of departure for arranging spaces and assembling components. Tectonic, spatial constructs are built directly into the maps responding to the graphic language established therein. The surrounding map acts as a kind of site model with preliminary proposals woven directly into its layers of information. It is also and a means of evaluating the success of different design decisions based upon the degree of integration with the various interdependent site forces. The resultant proposals evolve over time according to information gleaned from the map.

Transformations of place, disruptions in the network of site forces caused by the inclusion of the new piece of architecture are made immediately apparent. These transformations are also evaluated using the same mapping techniques as before, only now the new proposal is considered a native condition to the landscape. In analyzing their own ideas relative to existing context, the students are able to include an additional evaluative layer

in their design process, and another opportunity for ideas to emerge for subsequent iterations.

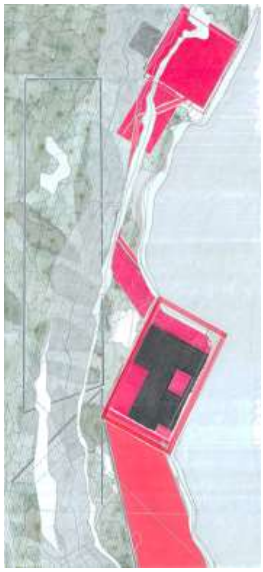

Fig. 3. The individual student synthesis

Context as Architecture

The programme requires that the architecture address the water. Lanes act as physical extensions from the interior of the building across the open lake. The Boathouse is a bridge across the edge between solid land and open water. The landscape is an integral component of the architecture, not simply a field within which a building is situated.

Single diagrams are drawn that show as single graphic entities: programme, circulation, vegetation, and cut/fill. In addition, these diagrams are coded to distinguish between existing, removed, and added components: how many trees have been added, which ones have been kept, how do they interface? This step is important in order for students to see that the different systems have their own internal logic besides a larger contextual rationale.

Synthesizing the design strategies formed from mapping and response results in an understanding of site design as component of architectural design. Landscape is seen to have programmatic and spatial consequence equal or even greater to that of their buildings. There is a broadened sensibility that site context consists of visible and invisible forces and that a rich interchange beyond the lines of an individual building can reinforce the cultural robustness of their design intentions. Students gain an awareness of the intrinsic alterations produced by the process of intervention. The architecture is a vehicle for manipulating and exploiting existing site forces. Site forces direct the architectural configuration of space and form. This understanding yields a cyclical process of discovery, response, and manipulation that oscillates between the scales of site and building.

Leaving this studio, the student has integrated design thinking with environmental consideration. This fusion prepares them to meet future, more sophisticated challenges, wherein they will be equipped to manipulate, and compose tectonic form as a servant toward the spatial environment. Questions of spatial ordering and system organization will become more automatic so that they will be able to conduct deeper research into other issues. They will be able to use assemblies to exploit characteristics of the environment toward the configuration of space and the production of experience ultimately yielding a more culturally durable order for architectural space.

Notes

[1] Lebbeus Woods writes about the "ethical and moral commitment in such an existence" of a place that is evolved from present conditions rather than replaced by an imposing design vision. This seemingly stands in contrast to woods' proposals, but the way in which he applies this logic to formal composition can also be applied to systemic integration.
Woods, Lebbeus, *War and Architecture: Pamphlet Architecture 15*. New York: Princeton Architectural Press, 1993.

[2] Kevin Lynch, Aldo Rossi, Collin Rowe, Fred Koetter, et al have written extensively throughout the 1980s regarding issues of urban design according to the constraints of place. Those texts successfully framed critiques of non-place based urbanism and outlined priorities that should be better considered. What was missing was a clear set of applicable strategies for this kind of urbanism. These paper seeks to build upon that critique a strategy for generating place responsive architecture.
Lynch, Kevin. *Good City Form*. Cambridge: The MIT Press, 1984.
Rossi, Aldo. *The Architecture of the City*. Cambridge: The MIT Press, 1984.
Rowe, Colin and Fred Koetter. *Collage City*. Cambridge: The MIT Press, 1984.

[3] I have worked on versions of this pedagogy with Professor Karl Wallick, associate professor at the University of Wisconsin: Milwaukee. We have not only taught together but published and presented some of this research in prior efforts. I have continued to develop these strategies and implement them in my studios at Marywood University.
Eckler, James and Wallick, Karl. "Rationalization and Reconciliation" *2011 National Conference on the Beginning Design Student Proceedings* (March 2011).
Eckler, James and Wallick, Karl. "Unplanned City: Preserving Place through Urban Making" *2012 ACSA International Conference Proceedings* (June 2012).

[4] Stan Allen quotes Michel Serres to open Points and Lines. Allen and several other authors go on to describe strategies for integrating architecture into the existing systems of the urban context in a way that "involved the renunciation of perspective in favor of other notational and cartographic systems." This logic plays a major role in the generative mapping pedagogy described in this paper.
Allen, Stan. *Points + Lines: Diagrams and Projects for the City*. New York: Princeton Architectural Press, 1999.

Quote originally from: Serres, Michel. *The Parasite*, trans. Lawrence R. Schehr. Baltimore: Johns Hopkins University Press, 1982.

[5] Aldo Rossi refers to the city as a "gigantic manmade object" in order to illustrate that a single piece of architecture is a component of the larger urban system. Additionally, Rossi refers to architecture, that has "developed in both space and time" as "urban artifacts" that act as a record of the cultural history of a place.

Rossi, Aldo. *The Architecture of the city.* Cambridge: The MIT Press, 1982.

[6] Kevin Lynch formulates a list of criteria for analyzing and determining success of urban form "based on spatial qualities and which are measurable scales, along which different groups will prefer to achieve different positions." This set of criteria closely mirrors the methodology for "Generative Mapping" that I propose in this paper.

Lynch, Kevin *Good City Form*. Cambridge: The MIT Press, 1981.

[7] Christopher Alexander describes the interdependence of human behavior, urban spatial systems, and infrastructure. In a short narrative he demonstrates that activity is determined by the interdependence of "the newsrack, the newspapers on it, the money going from people's pockets to the dime slot, the people who stop at the light and read papers, traffic light, the electric impulses which make the lights change, the sidewalk which they stand on form a system – they all work together.

Alexander, Christopher "A City is Not a Tree" *Architectural Forum* 122, no. 1, April 1965: 58-62.

Sustainability and Difference in Suburban Cape Town

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Introduction

Suburban development and its inherently unsustainable spatial and socio-economic characteristics pose a major challenge for the transition to more sustainable forms of urbanism. The rapid growth of African cities, most of which can be categorised as suburban, or at least peri-urban, defy belief, and the associated population growth results in a host of environmental pressures[1]. For the majority of this growing population, the urban condition is one of informality, and experts suggest that most African cities will remain predominantly informalised and reliant on the routine efforts of ordinary people to secure livelihood and shelter, without recourse to government support programmes[2].

Where such programmes are available, there is often a large gap between official urban planning policies and the everyday lives of the people for whom they are designed, which is widened by a profound lack of knowledge of what actually constitutes everyday life in informal settlements[3]. To explore ways in which such "suburbs" can be altered to become more sustainable, we require comprehensive and context-specific approaches.

After presenting the theoretical premise underlying this exploration, we will discuss an ongoing research-by-design project which forms part of the doctoral research of the author. The project utilises a combination of live project methodology and scenario development to determine pertinent urban sustainability issues in the context of informal settlements in Cape Town (fig. 1). Given the socio-economic diversity of the South African urban population it is expected that a variety of approaches towards sustainability will be uncovered. In attempting to understand informality in this manner, the architectural profession might re-establish its relevance in the rapidly evolving African urban context.

Fig. 1. Khayelitsha, the largest informal settlement in Cape Town (Zabel, Z. R., 2013).

Whose Sustainability?

There are competing and conflicting views over the meaning of the term sustainability, and about what the most desirable means of achieving this goal is[4]. What, for example, is sustainability when seen from the perspective of an economically disenfranchised person living in an informal settlement? In such a context, where scant attention is paid to official urban planning, communities develop their own specific forms of urbanism and infuse the city with their own praxis, values, moralities, and temporal dynamics[5].

Just Sustainabilities

Sustainability cannot be reduced to an environmental or "green" concern alone. In a truly sustainable society wider questions of economic opportunity, social needs and welfare are integrally related to the environmental limits imposed by supporting ecosystems. Accordingly, in defining the term 'just sustainabilities' as a plural form, Julian Agyeman acknowledges the relative, culturally and place-bound nature of the concept[6].

In South Africa, Edgar Pieterse at the African Centre for Cities focuses on sustainable lives and livelihoods, rather than the question of sustaining development. Sustainable livelihoods provides a wider conception of sustainability, referring to processes of social and ecological production situated in diverse spatial contexts, which are understand to be non-linear,

indeterminate, contextually specific, and attainable through multiple pathways[7].

Transitions to Sustainable Urbanism

Writing in the context of Cape Town, Pieterse observes that the confluence of globalised economic and ecological collapse is manifested most starkly in the dire circumstance of the majority of the city's residents, who are excluded from the formal economy and must rely on substandard public services and their own makeshift shelters[8]. This echoes Agyeman's comment that human inequality, manifested as the loss of human potential, is as detrimental to our future as the loss of environmental potential[9].

The loss of human potential should be set against broader issues which relate to long-term economic resilience and environmental sustainability[10]. In this context, Agyeman describes a paradigm of sufficiency, suggesting that there might be an optimal level of consumption which meets both material and non-material needs associated with consumption, without compromising other needs relating to environmental quality, social equality, or individual health[11].

Jeremy Till writes that as an ethical issue, our architectural approach to sustainability should become much more than short-term technological fixes, as it has to take on the wider interactions between nature and society[12]. We need to start a much livelier process of working together to identify what the architectural profession can contribute in thought and practice to help enable rapid transitions to sustainable urbanism[13].

Modernism, Apartheid and Everything After

The architecture of colonialism on the African continent is principally inscribed with a deep and enduring legacy of modernisms. Iain Low describes apartheid as a special type of colonialism, and modernism as its handmaiden. [14]

South Africa's first democratic elections, twenty years ago, brought an enabling environment open to the building of difference as a productive means for the rebuilding of society. However, the spaces that have historically kept people apart remain firmly inscribed in our landscapes. Apartheid's segregating practices resulted in radically reconfigured terrains, with communities increasingly distanced from each other in an urban geography resembling spatial practices in contemporary Palestine[15].

During the two decades of the post-apartheid era Cape Town has experienced rapid growth, developing into a huge, sprawling city with a substantial number of new neighbourhoods, townships and informal settlements. Khayelitsha is now the biggest of these, and is home to a ever-growing number of economic migrants from the rest of the country[16].

Slum Urbanism as the New Suburbia

Globally, as in Cape Town, rapid urbanisation has left vast swathes of people living in sub-standard conditions[17]. In their book "Retrofitting Suburbia", Ellen Dunham-Jones and June Williamson argue that it is no longer useful to refer to central cities and suburbs, as suburbs are behaving more and more like central cities and metropolises embrace both as they become more polycentric[18]. Following this logic of suburban metamorphosis, one could argue that informality will be increasingly recognised as a manifestation of suburbia.

Low observes a foreboding dissatisfaction among the poor regarding their habitat[19]. This is also evident in Cape Town, where the organic form of the over two hundred informal settlements often make it difficult for the City of Cape Town to provide municipal services such as water, sanitation, electricity and waste removal[20].

Across South Africa, recent riots responding to issues of governance and service delivery are indicative of this dissatisfaction, and are accompanied by unfathomable levels of (self)-destruction. The expectation of ordinary South Africans, who have been disenfranchised for generations, is enormous and their impatience more than understandable[21]. It is naive and dangerous not to put the impossibility of upward social and economic mobility for the vast majority of Capetonians at the centre of any debate about how to address the crises of economy and ecology[22].

Shack Reblocking and in-situ Upgrading

As shown in the preceding paragraphs, a complex set of competing realities has been at work in South Africa, impacting on the production of a rich and diverse set of architectural and urban interventions. Shack reblocking and in situ upgrading, both processes that respect pre-existing local conditions and respond to urban design as a temporal process, are two of the multiple and diverse design approaches that occur within the broader search for humane dimensions in settlement making[23].

The research-by-design project which will be discussed in this paper was undertaken in support of a shack reblocking project in Cape Town, facilitated by the Community Organisation Resource Centre (CORC). They are a Cape Town-based NGO that, through Shack / Slum Dwellers International (SDI) and the Informal Settlement Network (ISN), support shack reblocking projects by facilitating peer-to-peer learning exchanges; providing project support in terms of architecture and planning,

project and financial management, documentation and learning; and fund raising through small scale projects[24].

Shack reblocking involves the reorganisation of housing structures in very dense informal settlements, according to a community-drafted spatial framework. This process is undertaken in clusters identified by the community, and after implementation, courtyards are created to ensure a safer environment for woman and children by means of neighbourhood watches (all shacks face the courtyard), productive places (such as washing lines, food gardens), and to provide space for local government to install better services[25].

The process of negotiating floor areas of the "reblocked" shacks (constructed with high-quality galvanised steel sheets with high fire resistance ratings, until such time as in situ upgrading of the structures take place) builds social cohesion and solidarity, and further mobilisation occurs through savings schemes and livelihoods initiatives, enumeration (establishing a comprehensive household-level socio-economic and demographic profile), the spatial mapping of existing services, community-based design, and eventual collaboration during the implementation of the settlement-wide upgrading strategy[26]. The success of shack reblocking projects in Cape Town have been such that the local government has adopted the process as part of their informal settlement upgrading policy[27].

This is emblematic of Nishat Awan, Tatjana Schneider and Jeremy Till's concept of spatial agency, which starts with an understanding of the political implications of a given context and then uses that understanding to creatively transform space for the better, or more particularly to transform the lives of people within that space by paying close attention to how space affects social relationships[28].

Enter Pedagogy

Till observes that many of the values that define the architectural profession are first established during the education process[29], and further states that architectural education has become autonomous from the real world. The resultant stasis has produced a political and ethical void in which the underlying processes and their social detachment are left unexamined[30]. However, there are growing number of attempts to change the values of practice from within academia, through the introduction of an ethical dimension to architectural education, making students aware of their wider social responsibilities[31].

Curriculum in Flux

Contemporary approaches to research and teaching increasingly reposition students in the "real world" to facilitate a learning experience specific to their immediate and local context, thereby enabling them to produce locally relevant knowledge[32]. This situated knowledge counters Zygmunt Bauman's ethical paradox of the post-modern condition; that it restores to agents the fullness of moral choice and responsibility while simultaneously depriving them of the comfort of the universal guidance that modern self-confidence once promised[33].

The model of architecture as transformative agency is dependent on a revised version of professional values, asking them to operate as one set of informed principles among many. It does not ask that architectural knowledge should be disbanded[34]. We must avoid the temptation to abandon the traditional architectural skills of design and spatial intelligence, and instead see how they might be exploited in different ways and contexts[35].

Design-Build Research Studio

Architectural education at the Cape Peninsula University of Technology (CPUT) in Cape Town is undergoing a change in content and delivery methods, and the Design-Build Research Studio (DBRS) was established by Hermie Delport and the author during 2011 to support this change, by addressing the ethical responsibility of designing to stimulate growth and renewal in South African socio-economic realm.

Fig. 2. CPUT students constructing an outdoor classroom at the St. Michael's School, Grabouw (Photograph by author, 2012).

We agree with Salingaros and Masden that the learning experience must be specific to students' immediate and local context[36], and as such the DBRS fosters real world, hands-on learning opportunities at various locations in and around Cape Town (fig. 2).

Vygeskraal

During March and April 2013, the DBRS collaborated with CORC and the community of Vygeskraal to support their own shack reblocking project. Vygeskraal is an informal settlement in Athlone, 15 kilometres east of Cape Town, with a population of 546 inhabitants living

in 245 shacks. The settlement is located on a portion of land owned by the City of Cape Town, between an established suburban neighbourhood and a storm water channel (fig. 3).

Real world, hands-on engagement

As the collaborative project entailed the involvement of, partnership with and ownership by the community, the role players included residents of Vygeskraal, CORC, DBRS and the City of Cape Town. The brief was determined by CORC, DBRS and community representatives, and forty Bachelor of Architectural Technology students participated in the project during March and April 2013.

The aim of our involvement in the project was for students to assist the residents of Vygeskraal with capturing their development goals toward the upgrade of their existing informal settlement. The Vygeskraal project was distinct from a typical studio project in its engagement of real clients or users, in real-time settings. Students were taken out of the studio setting, and repositioned in the "real world".

Olwethu Jack of CORC described a community driven design process to our students as an exchange of knowledge and ideas between professionals (or students, in our case) and community members to solve a problem, while allowing the community to lead the process.

Fig. 3. Aerial view of Vygeskraal (Google Maps, 2014).

Prior to their interaction with the community, the students were sensitised to aspects such as different backgrounds, different levels of education, different languages and cultures; and the fact that the community members have little or no understanding of design jargon or principles. During the visit to Vygeskraal for data-gathering and on-site analysis (fig. 4), the 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.

Fig. 4. CPUT students on a site visit to Vygeskraal (Photograph by author, 2013).

CORC expedited the process by providing the students with the relevant information (in mapping the settlement and measuring the informal dwellings), 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.

Fig. 5. Studio-based collaborative design workshop with students and community members (Photograph by author, 2013).

By engaging with the community, the students became increasingly aware of the community's urgent need to create shelter (fig. 5). They 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 aimed toward a more user-friendly and demystified design process to allow for the direct involvement of the community in the decision-making process[37]. By the end of the collaborative project the students had developed a slide-show presentation, design proposal posters (fig. 6), process video and site layout model.

Fig. 6. Excerpt from student presentation (Photograph by author, 2013).

Thus the project achieved material benefits for the community in the form of infrastructure, site and dwelling layouts, as well as the academic development of the students. The proposals generated during the project will also inform the ongoing shack reblocking and in situ upgrading of the informal settlement as it unfolds.

Conclusion

Although only one community benefits from each shack reblocking project, the most profound change that occurs is most likely within the learning of our students. Not only do they learn about design and technology, as they would with any normal studio project, but they are made aware of the benefits and possibilities that relatively small interventions can have for whole communities. Edgar Pieterse writes that the only viable agent of urban reforms will be dynamic coalitions of organisations rooted in communities[38]. The architectural profession must learn how to apply their skills and knowledge in support of these organisations and communities.

The inescapable reality of the world must be engaged with, and in that engagement is the potential for a reformulation of architectural practice that would resist it present marginalisation and find new hope[39]. 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. As Roberto Mangabeira Unger writes, it is not about wholesale revolution from on high, but about engaging with existing structures to "establish small-scale, fragmentary versions of the future"[40].

References

[1] De Boeck, F. 2014. "Challenges of Urban Growth: Toward an Anthropology of Urban Infrastructure in Africa." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 93.

[2] Pieterse, E. 2014. "Competing Imaginaries of Empowerment in African Cities." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 105.

[3] De Boeck, F. *ibid.*, p. 93.

[4] Agyeman, J. 2013. "Introducing Just Sustainabilities: Policy, Planning, and Practice." London: Zed Books, p. 4.

[5] De Boeck, F. *ibid.*, p. 95.

[6] Agyeman, J. 2013. "Introducing Just Sustainabilities: Policy, Planning, and Practice." London: Zed Books, p. 4-5.

[7] Pieterse, E. (Editor). 2010. "Counter Currents: Experiments in Sustainability in the Cape Town Region." Auckland Park: Jacana Media, p. 14.

[8] Pieterse, E. 2010. *ibid.*, p. 13.

[9] Agyeman, J. *ibid.*, p. 7.

[10] Pieterse, E. 2010. *ibid.*, p. 13.

[11] Agyeman, J. *ibid.*, p. 32.

[12] Till, J. 2009. "Architecture Depends." Cambridge, MA: The MIT Press, p. 183.

[13] Pieterse, E. 2010. *ibid.*, p. 13.

[14] Low, I. 2014. "Urban Impact: Important "Counter Currents" from South African Cities." In Lepik, A. (Editor). Afritecture: Building Social Change. Munich: Architekturmuseum der TU München, p. 156.

[15] Low, I. *ibid.*, p. 151.

[16] Tovrov, D. 2011. "Five Biggest Slums in the World." Available at: http://www.ibtimes.com/5-biggest-slums-world-381338 [accessed 2 August 2014].

[17] Awan, N., Schneider, T. and Till, J. 2011. "Spatial Agency. Other Ways of Doing Architecture." London: Routledge, p. 41.

[18] Dunham-Jones, E. and Williamson, J. 2011. "Retrofitting Suburbia. Urban Design Solutions for Redesigning Suburbs." Hoboken, N.J.: John Wiley and Sons, p. xxvii.

[19] Low, I. *ibid.*, p. 152.

[20] South African SDI Alliance. 2012. "City of Cape Town adopts reblocking policy." Available at: http://sasdialliance.org.za/city-of-cape-town-adopts-reblocking-policy/ [accessed 16 March 2014].

[21] Low, I. *ibid.*, p. 152.

[22] Pieterse, E. *ibid.*, p. 259.

[23] Low, I. *ibid.*, p. 151.

[24] Fieuw, W. 2013. "Shack Reblocking." CORC presentation, n.p.

[25] South African SDI Alliance. *ibid.*

[26] Fieuw, W. *ibid.*.

[27] South African SDI Alliance. *ibid.*

[28] Awan, N., Schneider, T. and Till, J. *ibid.*, p. 39.

[29] Till, J. *ibid.*, p. 17.

[30] Till, J. *ibid.*, p. 15.

[31] Awan, N., Schneider, T. and Till, J. *ibid.*, p. 47.

[32] Salingaros, N. A. and Masden, K. G. 2008. "Intelligence-Based Design: A Sustainable Foundation for Worldwide Architectural Education." Archnet-IJAR: International Journal of Architectural Research 2(1), p. 129.

[33] Bauman, Z. 1993. "Postmodern Ethics". Oxford: Blackwell, p. 3.

[34] Till, J. *ibid.*, p. 165.

[35] Awan, N., Schneider, T. and Till, J. *ibid.*, p. 26.

[36] Salingaros, N. A. and Masden, K. G. *ibid.*, p. 129.

[37] McGill University. 2006. "Community Architecture", p. 33. Available at http://www.mcgill.ca/files/mchg/chapter3.pdf [accessed 17 April 2013].

[38] Pieterse, E. 2014. *ibid.*, p. 112.

[39] Till, J. *ibid.*, p. 2.

[40] Unger, R. M. 1987. "False Necessity: Anti-Necessitarian Social Theory in the Service of Radical Democracy." Cambridge: Cambridge University Press, p. 411.

Learning in Action. Mapping San Siro: an Exploration into City/University Collaboration

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Introducing Polisocial. From New Challenges for the University, Towards a Model of Public Engagement

At the beginning of 2012 the Politecnico di Milano, in collaboration with the Fondazione Politecnico di Milano, launched Polisocial, one of the first public engagement programmes with an academic nature in the Italian context. At the end of 2011 a political change within the institution favoured this launch: the new Rector presented an innovative work plan introducing new issues in the political agenda that will guide the development of the university in the coming years.
The political programme is based on three main challenges: 1] internationalisation, aimed at achieving a higher degree of competitiveness in education at the global level; 2] cross-disciplinarity, intended to foster the interfaces among the different disciplines existing inside the Politecnico and, beyond that, in the broader system of universities in Milan; 3] public engagement, aiming to enhance and reinforce the culture of social responsibility and public commitment, thus creating an academic institution more and more able to serve communities and deal with emerging social issues.

Unlike others in the international context, Italian universities find it hard to identify themselves as actors in the city and to define their role in urban development and regeneration (Pasqui, 1998; Martinelli, 2012). Traditionally, Italy lacks a solid national tradition in public engagement and can only count on individual commitment and efforts of teachers and researchers.
In this picture, the ambition of Polisocial is to set up a programme capable of becoming both a framework policy for the many experimentations running at the Politecnico and also a "producer" of new collaborations and project opportunities, balancing the "top down" policy of the Politecnico and the "bottom up" voluntary commitment of teachers and students. Polisocial aims to place the university in close contact with the dynamics of change in society, extending the university's mission to social issues and needs that arise from the territory, on both a local and global level (Balducci, 2013; Castelnuovo Cognetti, 2013). Therefore, the Politecnico has to pursue a higher level of academic excellence in line with the third mission: building a "model" of public engagement while keeping the social role of the university at the heart of the educational and research processes.

Polisocial and the Double Responsibility of the University. Towards a New Relationship with the City

Through the development of Polisocial, the Politecnico di Milano intends to take part in the dynamics of the city and territory, by developing a third field of applied knowledge at the service of the community. To reach this goal, Polisocial actively works to rebuild the link between university and territory. As a matter of fact, over the last thirty years, Milan has struggled to recognise its universities as an important resource for the production of new ideas for urban management, while, on the opposite side, universities have only tentatively looked at the city as a major field of reflection and research/education practices (Balducci, 2010).

Looking specifically at the Politecnico di Milano, it often happens that teaching, research and consultancy carried out on behalf of public and private institutions, focus on urban issues and social problems, but those activities stop at simulation when teaching; are largely self-referred in the case of research projects; and are generally fragmented and barely visible when it comes to advice given by faculty experts to public actors. In the name of its autonomy, the university sees itself as an isolated body and is likely to remain alone within its borders, unable to affect major changes and to generate common goods and public debate. To refocus the "missing" link between university and city, Polisocial has based its vision on the idea that university, as a leading institution actively involved in addressing social changes and in producing collective learning, has to take on new social responsibilities.

The experimental programme "Teaching in-the-field" ("Didattica sul campo") is the action-based initiative set-up in the wider framework of Polisocial and it has been designed and "used" as a strategic tool to initiate developing the broader public engagement programme. The basic idea is to establish a link between teaching activity developed at the University and intervention and experience in the field, opening the perimeter of the classrooms and bringing students and teachers outside. The aim is to involve and engage students, teachers and academic staff in real situations, putting them in very close contact with social actors and concrete problems. Through interaction and commitment, individual and collective abilities can be compared with reality and a process of knowledge production can take place; by this process, individuals

can gain new skills and capabilities, new critical perception and awareness of the world where we all live and operate. These skills are complementary to the competences acquired in the standard courses and become increasingly necessary to face complex and multiple social needs (Gronsky & Pigg 2000). This given, a key condition for the educational process takes shape and has to do with the need to act in the sphere of practices, contributing to their course and their change, in order to develop a major awareness of one's role as professionals and responsible individuals and, at the same time, to generate virtuous processes of active citizenship and civic growth. Starting from these considerations, the "Teaching in-the-field" programme is based on five principles which are:

1. Assuming a double responsibility. The vision is based on a twofold responsibility. Whereas the first and most apparent form of responsibility is directed outwards and is aimed at establishing new spheres of relationship between academia and the wider society, the second is primarily orientated toward students and the academic community and entails the thorough revision of the structures and methods of education and research.
'Responsibility' is the recognition of the role that one plays as a professional in the social dynamics of others and the development of a sense of social duty and ethical/political intent which arises from the direct engagement with concrete real situations and problems.

2. Instilling the ethical value of public commitment. This second principle assumes that the programme will contribute to build a social environment (school, teachers, administrations, institutions, associations, …) , collectively engaged to contribute to the construction of public goods. Living in such an environment, new generations can be educated to develop a new ethic of responsibility and social commitment, preparing a future generation of capable, aware and responsible citizens and practitioners.

3. Applying cross-disciplinarity to social issues stimulating exchange and interaction among disciplines and among different competences, sharing them during the experience in the field; this third principle has to do with the extension of the multidisciplinary approach to social issues. The multidisciplinarity is becoming a common topic at Politecnico among the four branches of knowledge of the academy (engineering, architecture, design, planning).

4. Looking at the city as a platform means to consider the territory as a complex environment made by various interacting components (actors, visions, projects). From this perspective, the city is not just a field in which to apply and experiment with knowledge production, but primarily it is the environment within which co-design projects and policies exist. This reflection entails that we need to find new forms of interaction between the university and the territory able to reverse the one-way relationship traditionally conceived: from the idea of the city as an object of study, to the idea of the city as a partner with whom we can build a co-design path to better understand social and urban changes.

5. Renewing the forms of learning. This means to encourage students and teachers to rethink the way we learn, exploring new types of knowledge production by changing the very codes of education, in a process of continuous learning taking place through reflection, before, during and after the action. It means also to create new learning opportunities in order to experiment with disciplinary competences and build new skills that are shaped "in the field" and "in practice". The aim is to training professionals and researchers capable of producing changes in society and carrying out applied and responsible research to contribute to increasing quality of life and to the reduction of poverty and inequality in the communities within which they operate.

In summary, the "Teaching in-the-field" programme is the tool made available by Polisocial to restore and strengthen the relationship between action and learning with the result of giving teachers and students a concrete "ground of work" where they can apply, exchange and develop new knowledge.

An Action-Learning Project: "Mapping San Siro. Exploring Projects and Policies in a Public Housing Neighbourhood"

Mapping San Siro (MSS) is a research action project taking place in the public housing neighbourhood of San Siro in Milan. This experience is included in the experimental programme "Teaching in-the-field" and it is one of the most interesting cases of action-learning, allowing us to reflect on the development of the programme and its contents.

The context

San Siro neighbourhood is one of the biggest public housing districts in Milan, built between the 30s and 40s of the 20th century and composed of about 6000 apartments held and managed by the Regional Agency for Public Housing of Lombardy (ALER). Around 10.000 people live in the neighbourhood, of which around 40 percent are immigrants (doubling the city's average) and a consistent percentage are elderly people (mostly living alone) and people with psychological disabilities. It is a context characterised by strong socio-spatial inequalities and intercultural/intergenerational conflicts. San Siro is an example of the problematic dimension of the management of public housing stock and housing policies in Italy and their effects on people's lives. Indeed, ALER is facing a financial crisis caused by a mismanagement of the agency in the past years. The lack of financial resources leads the agency to a progressive neglecting of its properties: on one hand, when possible, the agency tries to sell them,

encouraging the right to buy and the consequent shrinking of public housing stock; on the other hand, since it has no resources to rehabilitate the stock, it often leaves it empty (for instance, San Siro is characterised by urban decay; vacant and abandoned dwellings, squatting by people in need. See figure 1). For these reasons, even if San Siro is located in a quite central and connected part of the city, it is a marginal and problematic area in terms of living conditions, mainly because of an urban blight that exacerbates problems like disadvantage, poverty and co-existence of different populations. In addition, even if at a first glance the neighbourhood seems to be an homogeneous part of the city, characterised by a strong and fixed urban and architectonic structure, it is indeed a spatially and socially fragmented space, a constellation of different formal and informal ways of inhabiting, coexisting and managing both spaces and relationships.

In this multidimensional, and of course multi-problematic frame, particular attention should be paid to the strong and connected network of local actors, a rich array of community groups, non-governmental organizations and institutions that work towards the amelioration of living conditions in the area, promoting social inclusion and social cohesion and also trying to build a different and more complex representation of a very stigmatised neighbourhood. However, with scarce resources, it is difficult for them to face both an everyday-action-centred role and a role of production of alternatives; locally produced and shared forms of representation. Moreover, richness and diversity do not have a place in the current and dominant representations of the neighbourhood produced by both institutions and media, which tend to criminalise it and reduce it to a problematic and marginal context.

Fig. 1. Housing stock and urban decay

The action-research project

Being aware of this framework, the first part of the action-research project MSS was started in January 2013 with a two-month workshop that took place in the public-housing neighbourhood San Siro, promoted by Beatrice De Carli and Francesca Cognetti, researchers at Politecnico di Milano and active in Polisocial Programme, based on the idea to study the complexity of this context by using an approach able to keep together the several dimensions of this reality: social, cultural, spatial and political. Through the involvement of over thirty students and ten teachers, coming from several different disciplines and universities, and in partnership with several local organizations, the workshop aimed to expose and examine the underlying conditions, policies, and physical and institutional spaces that enable or constrain changes in the neighbourhood. Central to the approach was a focus on the degree to which the co-construction of a situated knowledge of the place, interactively built by students/researchers and local residents, can contribute to identifying avenues for more inclusive forms of urban transformation. At the same time, through a multidimensional, intercultural and cross-disciplinary path, the experience aimed to consolidate the educational process of students, by exhorting them to develop new social competences and stimulating them to operate as critical thinkers, able to embrace the complexity of the urban and social contexts in which they normally operate. The activity of the group within the workshop was useful for questioning the current and consolidated forms of representation of the neighbourhood and to activate local actors and inhabitants, involving them in the process of critical analysis of three main core themes: coexistence and conflicts; private and public properties; under-used spaces (inactive and vacant flats). We understood that often there is a lack of information that impedes facing up to problems, changing situations and making dynamics comprehensible, because of a diffuse difficulty in interacting with local institutions and having access to information. Starting from this idea, we decided to build a shared knowledge for San Siro, conceived as a knowledge useful to tackle problems but also as a tool for change.

Fig. 2. Mapping San Siro group. Meeting in the neighbourhood.

After this first experience, a group of about 20 people (students, researchers, professors and practitioners. See figure 2)[2] decided to stay in the neighbourhood and conduct further research and activities. The need comes from a question: how their knowledge and competences

could support inhabitants' and local partners' activation, with the aim of producing shared and critical knowledge about certain relevant phenomena. Starting from this aim, we set up a sort of live lab, in which to experiment with knowledge-sharing between academia and neighbourhood[3], through which we are able to enhance teaching and research activities through civic engagement. The action-research activities were focused on three main issues: living conditions and home; courtyards as new common spaces; inactive and vacant commercial and social spaces. The team collected data, stories, interviews, etc. with the aim of understanding and giving voice to people, interpreting facts about and the dynamics occurring in San Siro, but also with the aim of building new representations of the area; we are developing an approach that is based on three main lines of work:

1) Creating a 'multiple sources' observatory on processes taking place in San Siro: this activity includes quantitative and qualitative research on living conditions in the neighbourhood, including not only work on formal and informal data, but also work on inhabitant perceptions (as particularly problematic because they are not faced in public debate). The observatory in the field work is a platform for: listening and emergence of under-represented voices (immigrants, immigrant women, elderly, people with mentally illness) and their view of the neighbourhood, through the mediation of local actors; encouraging dialogue about relevant and problematic-conflicting issues, such as squatting (related to social movements but also to criminal organisations) and coexistence of different populations (especially young immigrants and elderly Italians); supporting access to certain knowledge, such as knowledge about the public housing stock. The platform is also a concrete tool/product because its aim is to provide a manageable and usable knowledge that could be used by local actors to create further spaces of dialogue with institutions and among themselves. The multiple-source observatory experiments with a mobile overlook, inside and outside the neighbourhood, holding together different perspectives and questioning established visions, especially related to the imagined periphery.

The set of tools includes: work on maps produced both with quantitative and perceptive data, life stories, interviews both with institutional and organised entities and with inhabitants who offer a relevant perspective (see figure 3). The process of mapping is collective and strives towards gathering a multiplicity of visions of the territory.

Within this framework, maps are conceived as tools for dialogue between different interpretations of the territory and of certain dynamics. Mapping therefore becomes a process in which even weak and under-represented voices and visions are able to emerge. Working on a collective production of representation that involves both researcher and activist and their different competences, by using different and complementary tools, is a way of critically revising established and "imposed" forms of representation, exploring the possibility to represent complexity. Working on mapping as a complex and open process also enables researchers to question themselves about which tools are more appropriate to represent different voices, perspectives and phenomena, criticising the way in which traditional ways of mapping "reduce" and simplify diversity when it comes to representation.


Fig. 3. Mapping the perceptions of inhabitants

2) Building new scenarios for steering the transformation process and projects. The scenario is a possible concrete way towards a real transformation. It has a design nature and is made by different actions, which, when combined together, may permit change in the direction of processes and reorientation of practices and policies. We wonder which will be the future of San Siro in terms of possible changes and transformation exploring elements and processes that can enable or constrain these transformations. We started from the assumption that nothing will change in San Siro, depicting an inertial scenario in which different dynamics remain untreated. We design an inertial scenario also as a tool to provoke reflections and reactions on this future. Then we tried to imagine how this scenario could change, acting on a set of levers (actions) which could enable a move from the ongoing path and we defined a possible alternative scenario in which the trajectory is reorientated.

3) Acting on concrete projects and activities co-designed with local actors (formal or not) and inhabitants. In particular, the Lab wants to share experiences with the local community with the aim of developing concrete actions and projects in a process in which skills, competences and knowledge are shared. The main purpose is to define and develop some concrete actions (see figure 4), suggesting how it is possible to trigger changes in the frame of urban policies at local and city level and how it is possible to ameliorate living conditions, recomposing spatial and social fragments.

What is the Link Between University and City? The First Reflections on Outcomes

The question posed in the title suggests the vision of Polisocial. It moves from a double assumption of responsibility, both inward and outward regarding the university: the first responsibility is orientated towards students and is aimed at experimenting with new concepts in producing and applying knowledge; the second responsibility is orientated towards society and is intended to establish new forms of relationships, experimenting with new approaches to usability and knowledge sharing. Indeed, "taking roots" in a real context generates new learning environments and practices of learning developed "more closely to" real situations (Crosta, 1998), and it is an approach to "make a classroom a real-world space continuous with the world outside - a place where real problems are debated, real practical skills evoked" (Nussbaum, 2010:65,66).

Having this statement in mind and looking at the Mapping San Siro (MSS) experience, we recognise that this project works in a twofold direction searching to reach two different types of outcomes: the first ones are concerned with territorial outcomes, the second ones are related more specifically to the role of the university.
Regarding territorial outcomes, MSS aims to:

Fig. 4. Workshop activity. Working on empty and vacant spaces.

- increase the awareness of local actors in relation to their capability of re-interpretation and activation of the context, supporting their action with a renovated and reinforced knowledge;
- produce a common heritage of shared visions and scenarios for the future development of the area;
- identify "levers for change" understood as "concrete steps", actions that may interact with undesired changes, drawing a different picture of the future of San Siro;
- de-construct the homogeneous and negative image of the neighbourhood and build a new interpretation of the territory, recognizing and showing complexity, by introducing different levels and scales of observation.

With reference to the second set of outcomes, the Mapping San Siro experience is able to question the forms of learning and the role of the university. We can say that this experience works on:
- exploring the ways in which the university can interpret its public role, by seeking to activate new fields of research;
- reflecting on the ways in which the university takes a stand and actively supports the dynamics of development of local contexts;
- providing more usable knowledge that could help local actors to legitimate their actions;
- promoting spaces of interaction between the local context and institutions in which the university may act as an intermediary and enhance a positive dialogue.

Surely, one of the purposes of Mapping San Siro is to "transfer" the university into a specific local context trying to "contaminate" the academic world with other perspectives, by encouraging direct interactions between activists and local actors and researchers, all equally involved in the production of knowledge. For students and teachers this situation entails a change in perceptions, attitude and sensitivity. Through the development of these new abilities, we hope to foster interaction active and critical intelligence able to face the complexity of urban events and to promote a new civil growth. Moreover, for urban studies, working directly through practice is a fundamental tool; it allows the development of reflective knowledge, a necessary component of a good technical competence (Balducci & Bertolini 2007).

Similarly, with a medium- to long-term perspective on the process, the possibility of creating new areas of expertise and new "competent profiles" emerges. These profiles shall be able to use their technical competences to act effectively in support of local communities, especially the most vulnerable groups. Finally, all these factors are seen as chances to change the code of education and explore new forms of knowledge co-production: on the one hand, students can be seen as part of a dialogue and not as "passive recipients", in which knowledge is just transferred, while produced elsewhere; on the other hand, the development of a project "in the field" offers the opportunity to deal with many forms of knowledge production, preparing students to better understand the design process and contexts in which they operate as practitioners; that means, simultaneously, fostering both professional growth and civil growth (political, cultural, social), while implementing, within the university, awareness of social issues which becomes a constituent component in the educational process.

In conclusion, if we look more in general at the whole "Teaching in-the-field" programme, we can say that the MSS experience also allows us to reflect on which outcomes could achieve this type of initiative in terms of "academic utility", towards students and teachers, and in terms of "social utility", towards the city and communities. Indeed, it seems possible to identify at least two spheres in which the outcomes are (or have to be) articulated: the first one, internal to the academic world, in which the aim is to bring into the classroom,

in the teaching activity, relevant social issues which students can confront. In this sense we may identify internal outcomes dealing with:

a. The development of new awareness (sensitivities). This type of outcome refers to the potential that the field-work has, in relation to complex social issues, in an educational process that aims to train future professionals and individuals able to observe and interpret the social dynamics in a critical way . The development of the "Teaching in-the-field" projects, through the construction of possible responses to the demands posed by external stakeholders, gives students the chance to develop new feelings and awareness of their role in society, new ways of looking at urban and social issues and new cultural values.

b. A teaching activity more focused on social content. This type of outcome refers to the nature of the didactic activity and its contents. The teaching activity is organised and planned starting from the demands and needs of stakeholders and it proposes a diversity of design elaborations. Ideas, design explorations, activities and materials, produced during the teaching activity, face specific issues and themes which arise from specific needs and they intend to produce concrete and usable tools for transformation and possible actions (see figure 5).

c. New resources for research. The themes and projects developed within different teaching contexts can be considered as new opportunities for academic research. High quality research and teaching feed off each other in an effective academic community that sees the "Teaching in-the-field" initiative as an opportunity to strengthen and/or open up new areas of investigation informed about urban and social changes. In the "Teaching in-the-field" initiative, the themes developed offer, on the one hand, new ideas and lines of research and, on the other hand, more structured research paths, which can guide the content of the teaching activity.

The second group of outcomes, instead, work outside the university, in practice. They are tangible and intangible, activating a "trespassing" action that leads to a blend between academic knowledge and practical knowledge. These external outcomes deal with:

A. Opening-up toward the city. The results produced open a reflection on the role of the university as a scientific and cultural institution. Developing "in-the-field" proposals, the purpose is to make the knowledge produced in the university more understandable and reachable involving communities in activities, initiatives and cultural events, exhibitions and debates open to the public. In some cases, the university opens its borders to the city establishing itself as a cultural resource for public use. In other cases it comes out through the territory creating chances to exchange with the city, animating a large public debate on urban issues and social issues.

B. Creating new networks and synergies. In the process of interaction with local actors and in the co-design process of visions and strategies for a territory, the university becomes an actor among others and it builds up its role as a subject able to provide expert knowledge to tackle social problems.

C. Developing design tools. The design elaborations developed in the teaching contexts are a real support for communities and local actors. The collaboration with the community is seen as an opportunity to support local actors' works and projects in order to help them develop several aspects of a design process.

D. Supporting community. This has to do with how the university offers and provides service to the community. It refers to those tools useful to activate a process of real transformation of a given condition or, in other cases, it has to do with direct and voluntary involvement of students and teachers to serve communities and direct their energies towards a better society through service-learning activities. Design explorations can contribute to guiding the action of social realities in the construction

Fig. 5. Common spaces and inhabitants' desires.

of 'models of intervention' aimed at strengthening practices that are often fragile and fragmented. This contribution deals with the production of knowledge in order to generate a common framework (shared visions and scenarios) for practices and actions and it has an important role especially in reference to the possibility of supporting those experiences that show a high degree of social innovation and leading local actors to start a self-reflection process. That means also that the university can play a role of activator, giving voice to those who currently have no voice and pointing out re-framed issues and problems; also activating a capacity-building process.

Therefore, to some extent, the Politecnico is designing a path to rethink its "social utility", seeking ways to achieve a concrete re-approach to the big issues of urban development, creating a virtuous circle among research, teaching and "the world of policy and practices" (Hambleton 2006:77). Indeed, the Polisocial programme is not just a window on social issues and problems emerging from communities; primarily, it is an important tool to refocus the contents of research and teaching activities and to keep informed about urban and social changes – both academic tasks – with the result of favouring the relationship with communities and stakeholders as partners bringing their own knowledge and assets (Ostrader, 2004; Harkavy I., 2006).

A question remains in the background of Polisocial, but it is constitutive of the approach: the capability to bridge the gap between academy activity and the large set of urban policies and social practices, which are the channel of urban changes. Indeed, we have to rebuild the link among universities and society, recovering that essential relationship which, at the beginning of the 20th century, was the basic factor for the birth of the universities of the Milanese urban region (Balducci, Cognetti, Fedeli 2010) and for other important moments of cultural and social innovation. This condition entails that we need to find new approaches to interaction between the university and society able to overturn the one-way relationship traditionally conceived: from the idea of the city (and the territory) as an object of study for the university, to the idea of the city as a partner with whom we have to build a dialogue useful to refresh academic reflections and to enhance our collective understanding of urban practices.

Seen from the viewpoint of the university, the situation implies the identification of new lines of action, with the purpose of sharing competences and approaches outside academic boundaries, interacting with different stakeholders, not strictly academics. Working on this relationship between "inside and outside", Polisocial intends to redesign this threshold (Cognetti 2012), innovating the sphere of interaction between "academic utility" and "social utility." Inside and outside goals do not necessarily coincide. Their relationship is not to be considered as a fully accepted and agreed upon bond: academic reflections will be nourished, gaining from direct interaction with practice, while experiences in-the-field will take into account questions developed within the academic world. Therefore, it is not a radical overlapping between two fields but rather the search for a "shared space" between the university and the city, with a good degree of significant interactions, understanding and mutual enrichment.

References

Balducci A. (2013), "Polisocial, un progetto di responsabilità sociale del Politecnico di Milano", Territorio n.66.

Balducci, A. (2010), "La città come campo di riflessione e di pratiche per le università milanesi" in Balducci, A., Cognetti, F., Fedeli, V., (a cura di), Milano: la città degli studi. Storia, geografia e politiche delle università milanesi, Editore Abitare Segesta, Milano, pp. 197-199.

Balducci, A. & Bertolini, L. (2007) "Reflecting on Practice or Reflecting with Practice?", in Planning Theory & Practice, 8:4, pp. 532-555.

Balducci, A., Cognetti, F., Fedeli, V., (2010), (a cura di), Milano, la città degli studi. Storia, geografia e politiche delle università milanesi, Associazione Interessi Metropolitani, Editore Abitare Segesta, Milano.

Butin, D.W. (2003), "Of What Use Is It? Multiple conceptualizations of Service learning Within Education", in Teachers College Record, vol. 105, n. 9, pp. 1674-1692.

Castelnuovo I., Cognetti F. (2013), "The double responsibility of public engagement. Reflections from the Polisocial Program", in Nash E. J., Brown N.C., Bracci L., Intercultural Horizons: Intercultural Strategies in Civic Engagement, Cambridge Scholars Press.

Castelnuovo I., Cognetti F. (2014) (a cura di), Fare Didattica sul campo. Un anno di sperimentazione, I Quaderni di Polisocial, n.1, Fondazione Politecnico di Milano, Milano.

Cognetti, F. (2012), "Le università milanesi: nuove prospettive per lo sviluppo urbano", in Urbanistica, n. 149, gennaio-giugno, pp. 39-42.

Cognetti, F, e De Carli, B. (2013), (a cura di), "Città/Università. Esperienze di impegno civico", in Territorio, n. 66, rivista del Dipartimento di Architettura e Studi Urbani, Politecnico di Milano.

Crosta, PL. (1998), "L'interazione tra università e città come pratica di apprendimento", in Archivio di Studi Urbani e Regionali 60-61, pp. 353-367.

Furie, M. (2003), "Beyond the ivory tower: service learning for sustainable community development", in South African Journal for Higher Education, vol. 17, n. 1, pp. 31-38.

Gronsky, L. & Pigg, K. (2000), "University and Community Collaboration. Experiential Learning in Human Services", in American Behavioral Scientist February, vol. 43 n. 5, pp. 781-792.

Hambleton, R. (2006), "Rethinking the role of the modern urban university. Insights from the USA", in Dialoghi Internazionali, n.2, ottobre, pp. 68-81.

Harkavy I. (2006), "The role of universities in advancing citizenship and social justice in the 21th century", in Education, citizenship and social justice, pp.5-37

Martinelli N. (2012), "Università e territorio in una diversa competitività", in Urbanistica n.149.

Nussbaum, M.C. (2010), Not for profit. Why Democracy Needs The Humanities, Princeton University Press, Princeton.

Oldfield, S. (2008), "Who's Service Whom? Partners, Process, and products in Service-Learning Project in South African Urban Geography", in Journal of Geography in Higher Education, 32:2, pp. 269-285.

Ostrader (2004), "Democracy, Civic Participation, and the University: A Comparative Study of Civic Engagement on Five Campuses", in Nonprofit and Voluntary Sector Quarterly (33, 1): 74-92.

Pasqui, G. (1998), "Le università milanesi come attori urbani. Politiche, strategie e processi di interazione", in Archivio di Studi Urbani e Regionali 60-61, pp. 115 -143.

Wiewel, W. e Broski, D. (1997), University involvement in the community. Developing a partnership model, (web.pdx.edu/~wubbold/EcoImpact08/Partnership%2520model.pdf).

About Mapping San Siro action-research activity

Cognetti F. (2014), "Dal progetto disegnato al progetto immaginato", in Territorio n. -, *forthcoming.*

Cognetti F. (2014), "Il ruolo dello spazio nelle dinamiche di segregazione scolastica. Quale giustizia spaziale?", in Mondi Migranti. Rivista di studi e ricerche sulle migrazioni internazionali, n.1

Cognetti F. (2013), "Le corti del quartiere San Siro. Verso spazi e soggetti attivi, costruire scenari per I beni comuni", in Lambertini A., Metta A., Olivetti ML. (a cura di), Città pubblica/paesaggi comuni. Materiali per il progetto degli spazi aperti dei quartieri ERP, Gangemi editore, Roma.

Cognetti F. (2012), "Quale giustizia tra gli spazi scolastici della disuguaglianza? Un'esperienza di progettazione in corso", in Territorio n.63, Rivista del Dipartimento di Architettura e Studi Urbani, Politecnico di Milano.

De Carli, B. (2014), "Informal Trajectories of Housing in San Siro, Milan", Planum n.-, *forthcoming.*

Maranghi, E. e Ranzini, A. (2014), "Politiche e pratiche di accesso alla casa nella crisi. Il caso del quartiere San Siro a Milano", paper presented to the XXXV Conferenza scientifica annuale AISRe.

Orsenigo, G. (2014), "I cortili di San Siro a Milano. Un laboratorio di condivisione", in Territorio n. 72/2014, *forthcoming*

Additional materials

www.facebook.com/pages/Mapping-San-Siro

http://youtu.be/jBh4UFXF7Ik

http://issuu.com/beatricedecarli/docs/wms_report?e=2340921/2172719

Notes

1 Francesca Cognetti is Assistant Professor at DASTU – Department of Architecture and Urban Studies at Politecnico di Milano, she is member of the Board of Directors of Polisocial and coordinator of Mapping San Siro Lab; Ida Castelnuovo earned a PhD in Regional Planning and Public Policy at Università IUAV, Venice, she is project manager of Polisocial at Fondazione Politecnico di Milano and member of the research group of Mapping San Siro Lab.

2 The team is composed of a group people with different backgrounds (urban planning, architecture, sociology, visual arts, photography...), both belonging to universities and to organizations and associations active in the city. Moreover, it is supported by a scientific committee with the aim of supporting the theoretical reflections of the group and mediating its relationship with university; and by a local committee that recognised the need for a critical analysis and representation of the neighbourhood.

3 The group also have a little space, located in the neighbourhood, that contributes towards strongly representing the will to strengthen its relationship with the local context.

SYMPOSIUM: PARCIPATORY APPROACHES (2 papers)

Embedded: Participatory Research Techniques in Problem-Setting/Brief-Writing for Design Projects and the Role of Exhibition in Community Feedback

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Introduction

This paper presents a case study of integrating participatory research techniques into design projects in the first year of the Part 2 Architecture course at Northumbria University. It explains the philosophical, pedagogical and pragmatic reasoning behind this. The paper outlines the introduction of participatory research techniques to the students and illustrates three examples of research 'tools' employed by the students at various stages of the design process. It concludes with the author's observations on presenting the work at the end of the project and receiving feedback from the communities involved.

Background

The Professional Diploma in Architecture at Northumbria University (subsequently renamed Master of Architecture in 2010) was first validated in 2009 during the transitional period leading up to the adoption of the current UK Validation Criteria in 2011. The Royal Institute of British Architects (RIBA) used the introduction of the Criteria as an opportunity to require schools of architecture clearly to articulate the "distinction between Part 1 as a first degree and the enhanced standards expected from a higher degree." (RIBA 2011) In the published Criteria, the "Graduate Attributes" for Parts 1 and 2 "… reflect the differing aspirations and intellectual agendas of part 1 and Part 2 courses." (RIBA 2011).

The first year of a Part 2 course therefore occupies the curious position of being at the same academic level as the final year of the undergraduate degree (which, under Northumbria University's regulations, means that work undertaken during this year cannot "count" towards the qualification) and yet the RIBA, as the professional validating body, requires it to reflect Masters level learning.

At Northumbria, that distinction between Part 1 and Part 2 is defined pedagogically as the transition from being taught to self-directed learning at postgraduatelevel. In architectural design projects this manifests as moving from "problem solving" to "problem setting"; that is, for the student to be able to identify a brief or state a research question, which they then address.

This might sound self-evident, but observation shows that this change in mind-set is not straightforward for the students. Whilst final year undergraduate project briefs do allow some scope for the students to elaborate on a narrative for their project and, perhaps, to chose from a prescribed number of sites, fundamentally the design process is directed towards responding to a brief set by the tutor. Typically this approach is further reinforced by the students' "year-out" experience. The first year of the Master of Architecture therefore seeks to equip the students to produce an independent final year design thesis. Those who find this transition most difficult frequently, initially complain that they 'don't see the point of it' as 'Architects just do what their Clients ask them to do.'

An Enterprise Approach

The functions carried out by practising Architects have become increasingly proscribed with specialists, such as Quantity Surveyors, Project Managers and CDM Co-ordinators taking over parts of the Architect's traditional role. Falling fees and alternative forms of procurement act to squeeze the design period and disincentivise innovation.

The Architectural profession has been slow to apply creativity to solving its own predicament. By introducing the concept of enterprise, through the taught Practice, Management and Law module, the concept of "problem-setting" in the design projects is thus framed; architects do not have to wait for a client. By instigating a project, acting "upstream" of conventional practice, architects can create the conditions for a project and place themselves at the centre of that process.

Obviously this is not without potential financial risks, even merely in terms of the time commitment (but then neither are design competitions). However an enterprise approach is not (necessarily) about speculating to accumulate money, but about making opportunities to do something, which might include making money but may have more altruistic or creative objectives. By creating low-risk opportunities for students to experience acting entrepreneurially they will at least be able to contemplate this as a possibility. Hopefully they will be better informed about the risks they are personally willing to take and able to assess whether the risks are outweighed by the potential benefits.

Contextuality

Students are encouraged to develop authentic briefs and to derive intrinsic design concepts emerging from their research into the context and dialogue with the community or communities.

The ethos of "contextuality" underpins the Architecture programmes at Northumbria University. "Contextuality" is defined in the widest possible sense to mean the social, political, economic and environmental influences on a design. Projects are set that enable repeated and prolonged interactions with sites and for students to become "embedded".

That approach contains some risks, however. To enable the students easily to access the site they are always within a relatively close proximity of the University. The programme can be accused of parochialism if it is not recognised that this approach can be adapted to different locations and circumstances. In common with "live projects", it also risks limiting the students' imagination and aspirations if they merely accept what they learn in and from the community as a given brief, rather than use it critically. As with much that is termed public consultation, it also risks alienating the communities if they perceive that they have given up their time and opinions but received nothing in return.

Participatory Techniques

Public consultation processes, or participatory research techniques, are intended to engage a wider community (often ambiguously referred to as "stakeholders") with decision-making that, in some way, affects them.

Arnstein (1969) proposed the metaphor of a ladder to describe eight types, or levels, of participation and "nonparticipation". These descriptions can be useful in designing participatory research projects to frame the level of control and engagement of the "facilitator" and "stakeholder" participants.

4. Learning and Acting Together	The Participants have the power and responsibility for solving problems they chose to tackle	**Citizen power**
3. Deciding Together	Facilitators control the consultation process and decide the forms of recording participants' responses.	
2 Consulting	Facilitators are given a controlled set of opinions that they are asked to gain from participants e.g. questionnaire.	**Tokenism**
1. Informing	Methods of questioning controlled with limited options for participants to respond	

Table 1. Ladder of Citizen Participation (Serginson et al., 2012

However, for students' design projects, we want to collect qualitative data enough to identify and then justify their emerging briefs – but we do not require this to be scientifically rigorous and cross referenced. In the initial stages of "problem setting" at least, we require only an overall impression from a range of, perhaps conflicting, voices.

Participatory research activities, or 'tools', are used iteratively throughout the project alongside conventional desktop studies and empirical site investigation. In later stages of the design process they can be used to gain a more detailed or nuanced understanding of a problem, or to get feedback on the direction of work in progress.

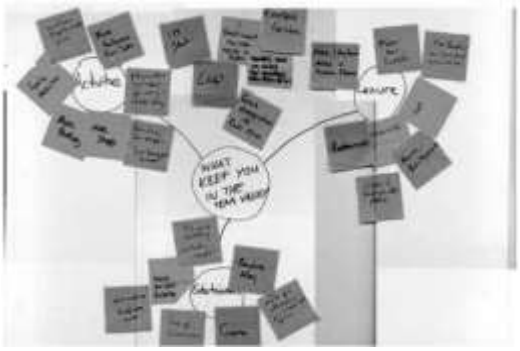

Fig. 1. "What would keep you in the Team Valley after 5 pm?" street interviews, Claire Bartlett (2011)

Participatory research techniques are introduced to the students in three ways. Firstly in a workshop supported by a handout. Secondly, in a design charrette, which requires the students to assimilate the contextual knowledge they have already acquired, to act collectively to represent that information and to use it to speculate, then to agree priorities and roles to proceed with the project. Thirdly, by reference to the work undertaken by previous cohorts.

The workshops, led by Ross Mowbray and Catherine Butcher of Participatory Evaluation and Assessment, Newcastle upon Tyne (PEANuT), introduce the concepts and roles in undertaking participatory research and, through short exercises, demonstrate some simple 'tools' to gather different types of information. This gives the students a starting point to develop activities which they can then try themselves: not always successfully, but that is also part of the feedback.

Example 1. Questionnaires

The students approached 5 workers and 5 shoppers in each area (different coloured Post ItTM notes indicated where the interview occurred) and asked them to rate Team Valley and its amenities on a scale of 1 to 10. This ranks the strength of feeling. They also asked them to comment "why?" which identified some of the strengths and weaknesses of the area.

The students also asked "What would keep you in the Team Valley after 5 pm?" (fig. 1). This question was particularly useful to the students in identifying a number of common themes – lack of activities, leisure opportunities and entertainment – corroborating some issues which the students had themselves identified.

It has sometimes been possible to 'piggy-back' on larger events, such as the Shieldfield Fete organised by Newcastle City Council and the Team Valley Trading Estate (TVTE) Open Day hosted by the TVTE landlords, UK Land Estates.

Fig. 2. "Comment-tree" at the Shieldfield Fete (2010)

At Shieldfield, the Fete was organised to support a public consultation process to chose from three (nearly identical) proposals for redevelopment of Shieldfield Green . Using Arnstein's ladder, this "consultation" merely was tokenism.

Key: indicates the approx. location of the residence of (A) Amanda, resident 8 years (B) Paula, retired, resident 24 years (C) Nora, historian, resident 32 years (D) George, retired, resident 32 years.

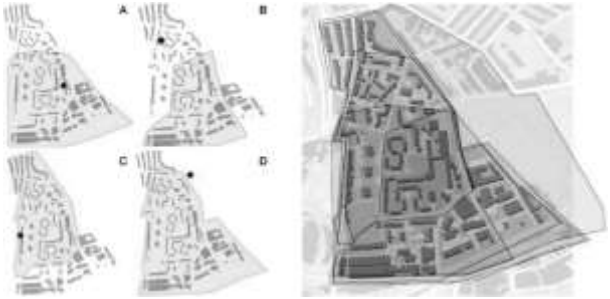

Fig. 3. "Shieldfield undefined", Josh Treverton (2010)

By contrast, the opportunity to use the green which the Fete provided was embraced by the community, with street food and cake stalls and demonstrations by a local Circus school of juggling, unicycling and slack-wire walking. The students created a "Comment-tree" on which people could leave their thoughts about the area (fig. 2).

Example 2. Indirect Consultation

The students had observed that the designated social spaces were under-utilised, but a lot of people were sitting on the roadside. One student attached stickers to the kerb with the slogan "I'm sitting on the kerb because…" and received the following answers:

"… it's quiet"

"… I can smoke"

"… it's in the sun"

Another group of students experimented with the responses they could get from passing motorists by holding up a sign that read "honk if you love Team Valley".

"After 10 minutes we got no honks but a few foul words shouted our way."

Example 3. Mapping

The students asked local residents to draw the boundaries of Shieldfield on a map (fig. 3). All of the residents identified the 1960s Shieldfield Centre complex, housing local shops and healthcare centre with deck-access flats above, as being within the

boundary. The majority of the residents identified the Northumbria University campus (on the site of a former railway goods yard and separated from the road by a 2-3 storey retaining wall) as the west boundary. Most identified New Bridge Street as the southern boundary, although one resident (C) excluded the new student accommodation recently built along New Bridge Street. The northern and eastern boundaries were less clearly defined with most residents identifying the Victorian terraced housing to the north as part of the adjacent, and slightly more affluent, area of Sandyford.

This was informative of the residents' identification of the area with its' post-war residential architecture.

Fig. 4. "Gospels" Charrette (2013)

Fig. 5. An early morning visit to North East Fruit and Vegetable market, Team Valley (2011) photo: Daniil Leover

Design Charrette

The design charrette (fig. 4) is intended to accelerate and focus the design process and to encourage group working.

The charrette will begin at 10 am and stop at 3 pm. During this time you will use 2D/ 3D collage, rough'n'ready models, freehand sketches, diagrams and other mapping techniques to speculate on potential narratives, uses and interventions in and on your site. At 3 pm you will superimpose your ideas on those of your colleagues' groups to identify 'hot spots' for further investigation. At 4 pm we will discuss as a whole year group any common themes which have emerged from the charrette.

Extract from "Spaces for Ceremony" Brief (2012-13)

Gonzo

The students become active participants in the participatory process, both documenting the results of their 'tools' and also documenting themselves doing it (fig. 5) [which we called "Gonzo", styled after the journalist, Hunter S. Thompson.]

Exhibitions + Feedback

When engaging a group of students with the communities in one geographical area for an extended period of time, it is imperative the students do not just 'take' from the community without presenting the conclusions of their work back to the community. Exhibiting the work acts as a celebration of what they have achieved, but it also creates the opportunity to 'test' their propositions (out-with the 'crit' and its academic setting and language) through a dialogue with the community for whom the projects are intended (fig. 7). This follows the participatory principles of taking the research/ work to the 'stakeholders' and explaining its intentions in clear English.

In the projects described above the students' work has been presented in two types of exhibition. The first mainly presents 2D work for a short duration in an accessible location, for example, at a stall at the Farmer's Market in Morpeth's town square (figs. 06 & 07) and at the Team Valley Trading Estate Open Day. These exhibitions have been the most successful at encouraging the students to engage in conversation with the general public about the work.

The second type of exhibition, in more conventional gallery settings, requires a greater amount of organisation and a (modest) budget. They attract a different audience demographic. From a participatory point of view, these have been less successful (although they have had other benefits, for example the "Plug in & Play" exhibition at the London Festival of Architecture 2012 did lead to CV enquiries from local Architect's practices).

Fig. 6. "Morpeth 100" project (2010) Morpeth Farmer's Market, Northumberland

Fig. 7. "Morpeth 100" project (2010) Morpeth Farmer's Market, Northumberland

Whilst both types of exhibition have generated some interesting discussions, as they have occurred at the end of the projects, these have not been formally captured. There has also been a degree of 'opting-out' by less-engaged students. This is probably inevitable when the exhibition does not form part of the assessment, but does lead to resentment against those 'not pulling their weight' and those students also seem to have a less 'meaningful' experience.

Conclusion

The examples discussed are necessarily only vignettes, giving a glimpse of one aspect of the first year Part 2 projects which ran between 2009 and 2013. This paper also concentrates on the 'doing' of the research, with observations from the students' design reports and brief reflections by the author. In the spirit of participation, a longer study would seek the views of the students on the roles and efficacy of participatory research in their projects and what they carried forward usefully into their final year design theses. Further research could investigate the role of participation in the design process. This might identify systematically the most effective level of participation at different stages of the design process and which 'tools' it is most effective to use.

References

Arnstein, S.R. (1969) 'A Ladder of Citizen Participation', Journal of American Institute of Planners, Vol. 35 (4), pp. 216-224

Drury, M., Staunton, A., Clarke. C., Messer, S., Holgate, P., Elliott, B. (eds.) (2011) Shieldfield 2012. Newcastle upon Tyne: Northumbria University

Mowbray, R., Butcher, C. (2010) PEANuT: A Short Hand-out for some Architecture Students. Newcastle upon Tyne: Northumbria University

RIBA (2011) RIBA Procedures for Validation and Validation Criteria for UK and International Courses and Examinations in Architecture (2nd Revision 2 May 2014). London: RIBA

Serginson, M., Giddings, R., Messer, S., Landinski, V. (2012) 'Assessing the Effectiveness of Architectural Design Communication Methods Through Public Participation' Design Principles & Practices 6th International Conference on Design Principles University of California, Los Angeles

Participative Process in Rural Public Space Planning as a Pattern for Living and Learning

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Introduction

Rural planning seems generally to be a side subject for the present world, since nowadays over half of its population lives in cities. Nevertheless, in the south-west of Poland an idea of the "Network of most interesting villages" is being developed at the level of region authorities, architects, scientists, villages' administrators, and last but not least - inhabitants. The process of live-learning is connected with participation of local communities in the planning of public spaces in villages, which is designed by experts and cooperating students at the University of Applied Sciences in Nysa (2010-2013) and the University of Natural Sciences in Wroclaw (before 2010). In 2013 many meetings such as workshops, conferences, laboratories, and science symposiums have been organised in Poland, wherein all the interested groups, mentioned above, took part. The paper aims at presenting the most important contents and conclusions made during these meetings, as it is being created by all the involved groups. These findings refer mostly to traditional and new open public spaces in rural south-west Poland, based, as a method, on live instructions and comments made by both 'main' sides – users and professional planners – as well as other actors. The thesis is, among others, that new public spaces will function in an optimal way, if its future shape and use-programme is designed in collaboration with inhabitants and supported by professionals, including the planning experts. Additionally, the work of professors with students during the projects is a live learning process including spatial wishes of local users, which influences the education process as a kind of architectural experimental teaching.

Participation is the Key to Spatial Success

The problem explored in this paper is the engagement of the local community in rural areas. With a focus on creating new public space in historic villages, the thesis is that new public spaces will function optimally if their future form and land-use is discussed with inhabitants, with support from professionals: architects and urban planners**.** This statement is supported by the theory [4, 5, 6, 13] and the practice (see figs. 1-8) [1, 2, 7, 8, 9, 10, 14]. During 2013 many of types of thematic science and working meetings have been organised around this topic.

Appropriate use of public space is meaningful for the process of the development in the region and has a strong influence on its inhabitants, as authorities of the Opole region state.

Living and Learning - participation of students

The experimental process of live-learning includes the participation of local inhabitants in the landscape planning of public spaces in the countryside of the Opole region, which is designed by experts and cooperating students at the University of Applied Sciences in Nysa (UAS in Nysa) 2010-2013 [15, 16] (Figs. 1-3) and the Wrocław University of Environmental and Life Sciences (WUELS), Poland (before 2010, Fig. 4). The Opole Region in south-west Poland is a pioneer in the rural renewal carried out by means of the participative process in this part of Europe [11].

Fig. 1. Students' visits to the countryside – consultations with leaders of villages in 2011. Students of the UAS in Nysa are making "the list of wishes" – they will create projects about rural public spaces. The main project rule is the participation of inhabitants in the design process, Opole Region, south-west Poland. Photo: Students of the UAS in Nysa, 2010.

Fig. 2. The teaching and learning process in the UAS in Nysa: Students presenting their concepts after consultations with inhabitants of the countryside, local authorities, and experts from the Institute of Architecture and Urban Planning/UAS in Nysa. Photo: The author, 2011.

Fig. 3. Representatives of students and professors participating in the third edition of the European Programme Competition "Programme of the Rural Renewal" in 2013 in the UAS in Nysa (the author: first on the left). Photo: Bartosz Bukała, Public Relations Officer, UAS in Nysa, 2014

During the design process of the mentioned rural public spaces the social consultations with inhabitants, local authorities and participating students affected not only the future shape of the recreation areas in the daily living space but also enabled students to experience the important modern practice of the work of architect and urban planner.

Participation in the regional scale: The Opole region, Poland

One of study trips is for example the one from the Podlaskie region in north-east Poland to the Opole region with participants like leaders of rural communities, NGO representatives, local authorities, and institutions supporting the development of the countryside [14]. The purpose was to visit four villages, which took part and won the competition "The Beautiful Opole Countryside". It was connected with the conference in Pawłowice in Opole Region: "The Meeting of Leaders of the Rural Renewal Programme" on 5 and 6 December 2013 within the framework of "The European Expert Programme PROW 2007-2013" (Fig. 5).

Fig. 4. The example of the finished new public space along the car-road in Stare Siołkowice in Opole Region. Authors of the project: Students and experts from the WUELS, Poland, supported by consultations with countryside inhabitants and local authorities. Photo: The author, 2013.

The most important conclusion in conversations between authorities from the Department of Agriculture and Rural Development in Opole Marshall's Office and guests was, that the basic condition for the present Opole villages' success is the cooperation between local organizations and groups of inhabitants, informing the local community, engagement of inhabitants with the realization of projects, cooperation with the local authorities, as well as the capacity for cooperation with the local institutions and businesses. The word "cooperation" and "inhabitants" appears often in these comments, which refer to the participative process. Some of these conclusions are made after the author's presentation of the public space projects made by the UAS in Nysa.

Fig. 5. The national conference in Pawłowice, the Opole region, Poland, on 5 December 2013 also with guests from the Podlaskie region in north-east Poland. In the photo Ms Mariola Szachowicz is speaking, the Vice-Director of the Department for Agriculture and Rural Development in the Marshall's Office in Opole, Poland, organizing the Conference (the author: Second from the right side). Photo: Organisers of the Conference

On 5 November 2013 the crucial meeting – an example of participative action in the form of workshops with local authorities, scientists, experts, and inhabitants on "The Polish Network of Rural Renewal and Development" – took place in Jemielnica, in the Opole region. There, the governor of the province (the Voivode), Ryszard Wilczyński, presented the criteria which villages were required to meet in order to be included in the "Network of the Most Interesting Villages". These criteria (for example: the quality of rural interiors, greenery accessible to public, dominant features, landscape accents, possibility of accommodation, parking places, etc. [12]), referring to the chosen villages, were evaluated by participants during the conference, proving that consultations and cooperation among different actors are very needed. Working groups represented various regions of Poland. On 20 November 2013 in Opole city, a science conference "The Public Space of the Opole Region 2013"

was organised by the Marshalls Department in Opole and the Voivode. It was accompanied by an exhibition of the best projects (and realizations) of public space in the Opole region submitted for the competition. These projects resulted from a participative planning process, which involved cooperative work between professionals, local authorities and users. The effects of this process were also discussed during the conference of Rural Renewal Leaders "15 years of the Rural Renewal Programme" in Prószków, Opole region, on 20 March 2013 [9].

Remarks on participative public space planning in the Opole region

The conservator of monuments in the Opole region complains about the difficulties in achieving protection for heritage in Opole villages, which he feels is caused by the lack of financial incentive for inhabitants. In the end, the effects of participation cannot be fully realised. The theory about safe-guarding heritage and the practice of living in the countryside conflict when it comes to the economic context. *The economy exists at the scale of the particular inhabitant*. One sees, for example: tile roofs changed into shingle roofs; cheaper plastic windows fitted rather than desired wooden windows; elevations of houses appearing in various colours which are not part of the local tradition. Similarly, new alien forms of buildings appear. Many of these start to grow in height and width. With this currently uncontrolled development of the landscape, the character of the historical Polish countryside changes in negative ways. Architecturally and spatially arbitrary acts in Polish villages are happening often nowadays, which is quite different to the social consultations established and controlled by the law.

The second issue is *the economic scale of the countryside*. This means, for example, one sees the introduction of large-surface-services (supermarkets), resulting from economic forces, which appear against the wishes of heritage protection representatives and local producers. Furthermore, the Vice-Director of the Department for Agriculture and Rural Development in the Marshall's Office in Opole, states that the living style of people in the Opole countryside has changed meaningfully. They do not work only in fields all day long and rest at home. They want to spend the rest of the day after work in ways different to their ancestors. They also wish to go out during the day and in the evening to spend their free time in public open space, close to their homes. Today, these inhabitants desire to meet other people, their neighbours and to be in public space, just as the inhabitants of European cities have since the middle of the 19th century. Nevertheless, the difference is that in these small villages people know each other and they want to spend their spare time together, rather than in the anonymous markets and squares of big cities. This familiarity prevents vandalism, so there is no fear of people destroying elements of public space. People's involvement in the design process and the fact that they often build it with own hands, also means that they take care of the space when they use it.

The Vice-Director advocates for social consultations with local inhabitants by architects and town planners when working on new public spaces in Opole villages. However, the inhabitants must not create these plans by themselves: also important is knowledge of local plans and strategies. For example, local authorities in the Opole region are keen on the planting of traditional Polish broadleaf trees in rural areas, whereas the inhabitants of some villages prefer conifers so as to avoid having to rake leafs. Local authorities also maintain that litter bins should not be placed right next to benches, but a few metres away to avoid unpleasant smells by seating. However this is not always adhered to. Experts also say that the thematic paths in villages should be marked by information signs and special surface materials to distinguish them from other surfaces. However, some remarks during social consultations are contradictory to this professional opinion.

Participation at the national scale: Poland

The idea of a "Network of Most Interesting Villages" [3, 13] is being developed in the Opole region at the level of regional authorities, architects, scientists, villages administrators, and last but not least, inhabitants. Its author, the Voivode of the Opole region, was the main organiser of the science conference in the framework of a Public Debate on "The Network of Most Interesting Villages – the way to keep the cultural heritage of rural areas in Poland" stemming from the European Expert Project "Rural Renewal Programme PROW 2007-2013" in Warsaw in October 2013 (Fig. 6). It was an occasion to discuss rural renewal in Poland, focused on the specific values of the given Polish countryside but also on methods of consultation with inhabitants when designing new public spaces. The meeting contributed to the creation of the Advisory Team for "Preservation of the Cultural Rural Heritage and Protection of the Rural Landscape", constructed by the Opole Voivode (of which the author is a member).

In Warsaw another context for discussing the participative process in rural public space planning was the "Urban Laboratory" - the International Polish-Swiss Urban Workshops, organised by the Swiss Embassy and SARP (Association of Polish Architects). One of the panels discussed public space, where the author took part describing positive experiences of projects in the Opole region. This resulted in an interview by the Warsaw magazine, since social consultations seem to be the new design way in Poland, affecting the final planning concept. This method, despite being well known in Western Europe and in the Opole region, in other

regions of Poland meets many difficulties caused by authorities, which prefer to "avoid the problems" connected with listening to various opinions and "too many" wishes of inhabitants.

Fig. 6. The author with the Voivode of the Opole region, Ryszard Wilczyński, the author of the idea "The Network of Most Interesting Villages" at the National Conference on 3 October 2013. Warsaw, Poland, in the President Palace. Photo: Organisers of the Conference.

Participation at the international scale: Poland, Portugal, Germany

The author gave a lecture about the participative process in the Opole region and the contribution of the UAS at Nysa, at the Department of Civil Engineering and Architecture in the University da Beira Interior in Covilha, Portugal on 20 Mai 2013 (Fig. 7). The title was: "Empty Spaces. Re-use Urbanism. Concepts of the Land-Use for Public Spaces in Villages in Opole Region - South-West of Poland." This was an opportunity to disseminate the work internationally. The lecture was accompanied by long and fruitful discussion among students, professors of the UBI, as well as experts from Museu de Lanificios in Covilha. This resulted in the idea of holding an international science symposium at the UAS in Nysa on rural public space planning.

The idea was realised in October 2013, when an international group of scientists from Portugal and Germany visited Nysa in order to present, exposé and take an active part in discussions on traditional and new public spaces in the countryside (Fig. 8).

Fig. 7. Information about the International Conference at the Universidade da Beira Interior in Covilha, Portugal on 20 May 2013 (on the internet sites of the UBI in Covilha). The author presented there the lecture on "Empty Spaces. Re-use Urbanism. Concepts of the Land-use for Public Spaces in Villages in Opole Region, South-West of Poland." Author first from the left. Source: https://www.ubi.pt/Noticia.aspx?id=3770 (25/05/2013)

The purpose of the symposium was to collect various observations and solutions connected with new and traditional public space projects. Another goal was to take a look at spatial processes, which appear in the present structure of villages, where the heritage is often placed in the shadow of new elements. As far as the results of the symposium are concerned, these will contribute to both wider awareness and also to improvement of the state of rural structures and public spaces; i.e. the consideration of local tradition when developing streets, marketplaces, and squares. Therefore the symposium addressed both traditional and new aspects of public space. The participants presented examples from Morocco, Portugal, Germany, England, Poland and other countries. Moreover, the students taking part in the Rural Renewal Programme PROW, 2007-2013, in the third edition at the UAS in Nysa, presented their own design projects for new rural public space in the Opole region, which was developed through consultations with local authorities, inhabitants and experts.

The International Science Symposium inspired deliberations on the local public space in the countryside, which has been destroyed and which expects revalorization. This symposium and planned future editions, are intended to present projects, realizations, as well as existing situations, which shall serve as examples of architectural and spatial revalorization and revitalization possibilities, referring to new accessibility for inhabitants in an aesthetically pleasing, comfortable and useful way. In this process the participation of future users in the design process is significant, next to local authorities and experts, who support design concepts professionally.

A forthcoming science monograph will contain the thematic papers on this subject, concerning also social consultations as design method. Repercussions after the symposium were significant in the region: interviews for radio, papers [1, 2], information on internet sites of neighbouring universities and other popular and science internet sources. This post-symposium echo, proving additionally the importance of the science meeting, was for at least two reasons. Firstly, the international scientists and regional authorities who visited the UAS in Nysa, and secondly, the range and wider relevance of the problem.

Going live

The Polish countryside, like many in Europe, does need revitalization in order to become more attractive to stay in and to live in, since the problem of emigration increases. In the spatial sense, the revival may also occur thanks to re-use of formerly neglected areas as new public spaces. This process in rural areas in the Opole region takes place through a participative method. “Going live" considers two possibilities, as far as the dynamism of rural revival and spatial behaviour is concerned: static and dynamic. To explain, during many time periods, which follow one after another, one action may happen (i.e. "static"), or many actions may happen during only one time period (i.e. "dynamic"). Life lived during one stage, seen as one task ("static") or life lived during a few stages ("dynamic") can be seen as two possible types of spatial rural revitalization.

Suggestions for the Education Process, which Result from Participation

In the participative process of rural public space planning there are three stages. The first one is about a design process by professionals which is supported by future users and local authorities. The second stage is the realisation of the project. The third stage is related to the use of the space, taking care of it, protecting and maintaining it in the best local way. *On the one hand*, as far as the essential idea of the new public space is concerned: what is necessary is to build the net of public spaces, which in the future may consist of various types of rural neglected areas (former local industry or production areas, abandoned palaces, unused and neglected empty spaces with natural values, like river valleys or the unofficial public space used by inhabitants spontaneously) connected with existing markets and squares of historical character (like sacral public spaces in front of churches, rural main markets, and squares by local shops). *On the other hand*, the difficult task is to indicate "criteria for beauty" of the public space, e.g. what percentage area should it have in the land-use plan of a village? How many trees and which shapes contribute to an optimal aesthetic for an area? Beauty depends each time on the type, character, and function of the given space. Its utility is fulfilled by the process of participation, since the very inhabitants, as its future users, shape these public spaces and its individual beauty.

Summary

The participative process as a method for learning how to design public space optimally and how to live in this space, is the subject of the author's scientific papers (1.”Landscape of the Opole countryside shaped by its inhabitants”– as coauthor with W. Strabel, Science Monograph of the UAS in Nysa, 2012; 2."Heart of Countryside. New Public Spaces of the South-West Poland", ACEE, Silesian University of Technology in Gliwice, Poland - in press; 3."New public spaces in rural areas in the process of revitalization. Case study: Opole region in Poland", Science Monograph of the UAS in Nysa - in press). There are two aspects in this case. The first one says, this is the right place to present the didactic results as evidence of the participation of students in the process of the creation of new public spaces in villages. The second one indicates that students and other people are learning by reading these articles and this way they become actors in this process.

"Social consultations give to inhabitants the sense of belonging to a village", says one of the representatives of local authorities in one rural area of the Opole region

inhabitants may finally decide, how, where, and in which surroundings will they spend their free time. Advantages of this process are obvious. This is the sign of planning democracy, which today is the priority in European urban and rural design. Nevertheless, some negatives are to be found as well [17]. The aim of social consultations is to research if plans are well-founded.

However, some inhabitants may try to make private business using these consultations (for example to build a home in the legally forbidden place). Prefects do not allow such illegal practice, so these people may try to abolish prefects in elections. The participative process may be sometimes used by some people politically in order to destroy the existing governing power. Besides, in another rural area in this region, there are too many sports facilities, in the opinion of local authorities. The big sport hall will be soon built based on guidelines of the spatial land-use plan. Close to this hall a public space with a playground and football field is desired by local inhabitants, since they want to play and rest right next to their homes in a quiet space "right on the other side of the fence", as they say; they want the public space for themselves. Experts, architects and urban planners state that such diversity of big and small, loud and peaceful, very close and more far-away public spaces is profitable and creates a wider spatial offer. Nevertheless, local authorities claim, that such cases are not economic and cause the loss of money by building two recreation places in one area. The rural community has to manage money carefully. If they construct a building or organise space for public use it has to serve and function well and constantly be in use, state local authorities. They prefer small architecture and small squares to avoid paying too much for maintenance. Even though money is short, the wishes of people in villages in the Opole region have priority and the new closer quiet public space will be also designed in that area. The authorities of the other area say "we serve the society".

Finally, despite the previously mentioned difficulties, it should be stated that the participative process is the crucial key to solving difficult and easy spatial problems, giving legitimate arguments and reaching well-balanced decisions.

References

[1] Bochenek, Klaudia: *O przestrzeni na wsi. PWSZ w Nysie. Architekci szykują się do międzynarodowego sympozjum (About the space in a countryside. The University of Applied Sciences in Nysa. Architects are preparing themselves for the international symposium)*, [in:] Nowa Trybuna Opolska. Tygodnik Opolskich Środowisk Akademickich (Weekly Magazine of the Opole Academic Community), Opole, 21 October 2013.
[2] Grudzka, Anna: *Stare Kolnie Wypiękniejną dzięki żakom. Popielów. Studenci nyskiej PWSZ opracowali projekt zagospodarowania wsi (Stare Kolnie Countryside will grow pretty thanks to students. Popielów Community. Students from the University of Applied Sciences in Nysa have prepared the land-use project of the countryside),* [in:] Nowa Trybuna Opolska. Tygodnik Opolskich Środowisk Akademickich (Weekly Magazine of the Opole Academic Community), Opole, 30 January 2014, p.6.
[3] Kasperek, Karolina: *„Najciekawsza Wieś" – marka Premium (The Most Interesting Village – the Quality Sign),* Interview with the Opole Voivode Ryszard Wilczyński, [in:] Tygodnik Rolniczy, No. 32/2014 (04/08/2014).
[4] Marshall's Office of the Opole region: *Przestrzeń publiczna województwa opolskiego - aspekty gospodarcze, społeczne i rynku pracy (The public space of the Opole region - economic, social and marketing aspects)*, Proceedings, Marshall's Office of the Opole region. Opole, Poland, 20/11/2013.
[5] *Odnawianie centrów wsi wspomaga ich rozwój (Renewal of countrysides' centres contributes to its development)* http://www.portalsamorzadowy.pl/prawo-i-finanse/odnawianie-centrow-wsi-wspomaga-ich-rozwoj,48750_1.html (02/06/2013).
[6] *"Raport o sytuacji społeczno-gospodarczej województwa opolskiego w ujęciu przestrzennym" (Report on the social and economic situation of the Opole region from the spatial point of view),* NTO Nowa Trybuna Opolska. Tygodnik Opolskich Środowisk Akademickich (Weekly Magazine of the Opole Academic Community), Opole, 7-8/12/2013, p.6.
[7] Report on the Symposium Trip through Opole villages on 24.October 2013 on the occasion of the International Science Symposium "Traditional and New Public Spaces in Rural Areas" in UAS in Nysa, on 24-25.10.2013: http://www.popielow.pl/cms/php/strona.php3?cms=cms_popie&lad=a&id_dzi=0&id_dok=1540&id_men=35&powrot=1&slowo_szuk=&gdzie_szuk=&id_men_szuk=0 (09.11.2013).
[8] Report on awards and distinctions for students in the UAS in Nysa on the occasion of closing the Rural Renewal Programme 2013 - projects of new public open spaces in countrysides in the Opole region, Poland. January 2014: http://www.pwsz.nysa.pl/index.php?p=4&ak=52,3459,0 (09/07/2013).
[9] Report on the conference in Prószków in the Opole region, Poland, on 20 March 2013: http://www.pwsz.nysa.pl/index.php?p=4&ak=52,2907,0 (09/07/2014).
[10] Reports on the International Science Symposium "Traditional and New Public Spaces in Rural Areas" in the UAS in Nysa, on 24-25.10.2013: http://www.pwsz.nysa.pl/index.php?p=4&ak=52,3435,0 09/07/2014).
http://www.pwsz.nysa.pl/index.php?p=4&ak=52,3231,0 09/07/2014).
http://www.pwsz.nysa.pl/index.php?p=4&ak=52,3283,0 09/07/2014).
[11] Rural Renewal in the Opole region: http://www.odnowawsi.eu/serwis/index.php?id=20 (16/07/2014).

[12] Wilczyński, Ryszard, et al: *Kryteria uczestnictwa w sieci najciekawszych wsi – karta oceny miejscowości (Criteria of the participation in the net of the most interesting villages – the chart of the area estimation)*, Jemielnica, the Opole region, Poland, 2013.
[13]. Wilczyński, Ryszard (ed.) *Sieć Najpiękniejszych Wsi. Opracowanie eksperckie projektu - możliwości utworzenia sieci. (The Net of the Most Beautiful Villages. The expert project - possibilities of creating the net)* http://www.odnowawsi.eu/serwis/index.php?id=542(15/11/2013)., p.23, 74.
[14] Wyjazd studyjny do Województwa Opolskiego (The study trip to the Opole region).
http://www.odr.pl/1385-wyjazd-studyjny-do-wojewodztwa-opolskiego (09/07/2014)
and the Conference *"The Meeting of Leaders of the Rural Renewal Programme"* on 5 and 6 December 2013 in Pawłowice, the Opole region.
[15] European Expert Projects prepared 2010, 2011, and 2013 in the Institute of Architecture and Urban Planning of the UAS in Nysa on order of the Marshall's Department in Opole, Poland – in frames of the „European Agricultural Fund for Development of Rural Areas: Europe Investing in Rural Areas". Project financed by means of the European Union in frames of the Scheme of III Technical Help - Programme of Development of Rural Areas for 2007-2013 / Managing Institution PROW for 2007-2013: Minister of Agriculture and Rural Development. In the previous six years (before 2010) other projects had been prepared by the WUELS, Poland.
[16] Experts and leaders in the projects 2010, 2011, and 2013 in the Institute of Architecture and Urban Planning at the UAS in Nysa: Włodarczyk J.W., Strabel W.W., and the author.
[17] Interview with one of representatives of local authorities in a countryside in the Opole region, Poland (23/07/2014).

SYMPOSIUM: FIELD WORK (2 papers)

Fieldwork: Uncovering Cultural Landscapes

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Introduction: An Interest in Place

"Placeless events are inconceivable, in that everything that happens must happen somewhere, and so history issues from geography in the same way that water issues from a spring: unpredictable but site-specifically" Anne Campbell – archaeologist and cartographer[i]

Defining 'place' is central to an architecture that is not only successful as a visual object but also effective in responding to how we occupy space and affect the surrounding environment. If an architect wishes to meaningfully address a place and propose relevant transformations, working from inside rather than outside the location helps them understand what is important. The role becomes relational rather than solitary, and positions the architect within a network of users and needs, where the interpretation of site will be constantly transformed and renegotiated and the definition of place will become open ended rather than singular.

In this paper I describe three years of an undergraduate design studio at the University of Brighton, and how working continuously in the field has helped students develop a response to a place that holds a richer and more complex conception of it and their relationship within this definition. Physically working in a site has implicated them in their design ideas and made them responsible for the consequences of their ensuing propositions.

The Architect's Fieldtrip

The Grand Tour, Prix de Rome, Polyark Bus and creative residencies show that there are many approaches to leaving the safety of own's environment and bedding into an alien context for the sake of curiosity and learning. But as a learning device, these are of most interest to me when they allow the student to move from the role of tourist into a participant.

If a study trip places the student as a passive observer, a residency allows more of an active role. It is when the artist-in-resident model moves away from the format of the provision of a studio as refuge from daily distractions, and instead invites the artist to situate their work in direct relation to the context that they stay in, that an opportunity arises for an architect interested in place-making. Whether the ensuing artwork is physical, cultural, social or political, it gives a deeper insight into what the character of the place may be. In teaching architecture it asks the student to engage not only with the study of spatial and material explorations but also take responsibility for the consequences of the abstracted theoretical experiments when placed into a real world context.

At university, few architectural programmes have successfully embedded a residency throughout the length of a design project whilst still fulfilling other course commitments. Rural Studio has run its 'off-campus, design-build programme' for over 20 years, engaging with 'what should be built, rather than what can be built'[ii], but this is still fairly unique as a model. However, short-term residencies are also powerful tools whereby the student, taking the role of 'guest', can engage with a place and local community for a few days or weeks. This then becomes more akin to a field trip, and it is the successes of this model in my own teaching practice that I will describe later.

The motive for framing the design studio as working 'in the field' is that, when running my own architectural practice – Architects In Residence, my approach to any design project was to gain a deep knowledge of the location with the aim of uncovering complex and surprising uses and characteristics and allowing any proposition to address the extraordinary daily occupation of a place. To do this you need to spend time in it, so we would camp out on sites or move in with clients. We called what we did as Creating Storylands and our ambition was to create places that would allow every person to feel that the space was specific to them, but that each of these spaces was also larger than them by being relational to what was beyond.

'Genius loci' is a philosophy that is invoked by many (from Pope to Rossi to Norberg-Shulz), when describing the importance of centring place at the heart of design[iii]. But this assumes that the character of a place can be distilled to a single description or spirit. The reality is that place is far more multifaceted and contradictory and rather than having a clearly defined character, is one that is constantly in flux. Working somewhere over a long period of time reveals some of these complexities and changes, generating a deeper set of questions. Relationships can be developed, opinions challenged and both theoretical and intuitive ideas tested in a physical context rather than answers being assumed.

Fieldwork

My teaching practice investigates the British landscape where the studio is developing cultural readings of the countryside and coastline that understand it as a place as rich and diverse as any city with its own strong cultural legacy.

The choice of place to work comes, in main, from my own personal curiosity or knowledge of a place – I look for distinct landscapes that were once teeming with life and activity to investigate lost industries and communities that had made rural Britain more than the current attitude of preserved landscape. Each of the project locations has been a rich resource to discover how the countryside and coastline is a manufactured, worked landscape that had distinctive cultures and strong communities. Shoreham's shingle spit was once home to the early British film industry. The Island of Portland used to have 100 working stone quarries, most of them now lying redundant. And the Ouse was once a busy navigation carrying goods across Sussex.

Although these three sites were chosen for their character, accessibility was a significant factor, and the proximity of each location to Brighton defined the nature of the site visit and the roles a student would take when there – tourist, consultant, guest or resident. It is this nuance of the part one plays and how it may change on repeat visits that can radically alter the student's response to a place.

As an example, Shoreham is a half hour bus trip from Brighton. The students used this proximity to visit multiple times, but chose to position themselves outside the community, taking the more traditional role of architect as consultant designer. The students approached the project with a clearly defined educational time frame. Conversely, in Portland, although a three-hour journey away, students were invited as guests of the Portland Sculpture Quarry Trust (PSQT), and were completely immersed into island life for a week resulting in them taking full responsibility for their design proposals, remaining in discussion with locals throughout the project, returning to exhibit them at the end of the year and continuing to develop ideas with PSQT during their Year Out. The educational experience has spread beyond a university degree. These students were transformed by the place as much as they were suggesting transformations to the island.

Fig. 1. Shoreham Fort: Installing 'Look-Out' 1 of 6

To write a brief that allows students to develop a strong relationship with a place requires planning that will allow them the time to slip below the surface of immediate responses. Working in the field offers them this time. The field trip makes the student become active, working outside with changing conditions requiring the work to develop dynamically and remaining constantly receptive to external opinions and situations. It is a chance to develop and test questions that may challenge current preconceptions of a place. Before working at Shoreham Fort, the students saw it as a forgotten ruin on a windswept, vacant site. After spending six weeks working weekly in it to install large scale 1:1 'Look-Outs' for a public exhibition, they realised it had a fabulously rich history that they were previously unaware of and that it was much loved, used and cared for by locals.

Fieldwork is part of any fieldtrip. Architectural education has borrowed it from the geography department and developed it to move beyond the observational into the propositional. The fieldwork becomes not only about recording and collecting data, but also about testing physical ideas. Along the Ouse, being on the edges of Brighton, we could veer between quick daytrips and weeklong residencies, taking a long view in discovering its nature and testing various fieldwork techniques in recording its change.

The objective is to infuse the student experience of design process with the realities of tangible conditions, complete with its disorderliness and complexity. Fieldwork fails, instruments are broken, prototypes don't fit, access isn't granted and locals don't always want to engage. But students then learn to work around these problems much as an architect does in practice.

Fig. 2. Rescuing Wayfinder from Flooded Fields

When working directly into site and alongside local residents, students forge tangible relationships and links to the real world are exposed to the consequences of their own opinions and ideas making them responsible for their design actions. When we stayed for a week on the riverbanks of the Ouse, the first of last year's big storms hit so the students took on the local residents' concerns of flooding and falling power cables. They watched sluice gates be opened, saw ancient trees fall and heard of a teenager being swept out to sea. When a real connection is made to a place, the student becomes another stakeholders in its future. They begin to care about the impact of what they place into the site however radical the design.

The studio briefs that I set are intended to frame the question of whether architecture can hold multiple eras of history together simultaneously, keeping company with livelihoods and communities that have gone before but without becoming sentimental or nostalgic in these readings of place. Instead a student is instilled with the understanding that buildings are most successful when relevant to the local community for which they are made. This asks of a student to begin not with an abstract diagram and predefined opinions, but with close observation and conversation in order to cultivate a bespoke approach to site.

Deep Mappings

Working along The Ouse in Sussex, the students developed their studio work from deep-mappings they made of the area – putting stories to places and seeing what joins them. This was to allow them to visualise their findings about place, and link scale and time with events so that architectural ideas could emerge.

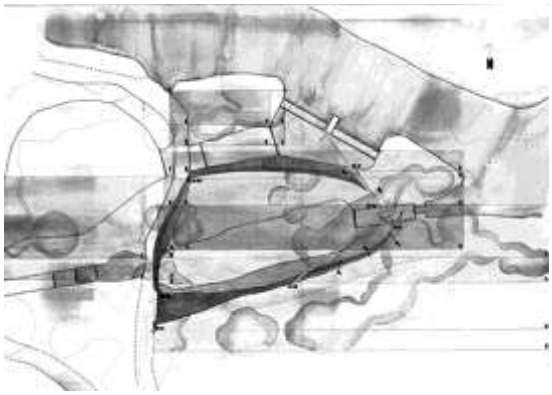

Fig. 3. Choreography of Past & Present Events, Barcombe Mills

Deep Mapping is a phrase coined by American travel writer, William Least Heat-Moon, now in his 70s.[iv] It is used by cartographers and archaeologists, poets and psycho-geographers and refers to approaching a place by including within any reading of it, history, folklore, natural history and hearsay. Mike Pearson (theatre director) and Michael Shanks (archaeologist) wrote of this method that it is about

"…representing the grain and patina of place through juxtapositions and interpenetrations of the historical and the contemporary, the political and the poetic, the discursive and the sensual; the conflation of oral testimony, anthology, memoir, biography, natural history and everything you might ever want to say about a place…"[v]

The drawings offered the students a new type of survey note and map that they could start to draw scaled structures, spaces and programmes into. When added to, the drawing could continue to offer multiple readings of the relationship between proposition and landscape.

Tailor-Made Instruments, Props and Probes

This idea of relational drawings has been asked of students in the projects in order to uncover for themselves interesting histories, memories and myths about the place, so that they develop a connection with it through their own curiosity of it. In each project the drawings become the resource from which to design a physical construct that would act as a site-specific probe. They are given to particular people, placed precisely in landscapes or used as an instrument or prop to reveal change, collect data, unveil hidden stories, provoke conversations or start friendships. The studio returns periodically to retrieve and critique the findings and test new ideas through further physical interventions, events and exhibitions.

Fig. 4. Taking the Mobile Smokehouse to Cove Opie Fishing Huts, a Gift to Local Fishermen

In Shoreham we called them look-outs, referencing the role of a Fort, on Portland we called them Gifts as we were visitors to the island and along the Ouse we named them Waymarkers to acknowledge the pathways and routes that run parallel and perpendicular to it. The purpose of the probe as a teaching tool is to give immediate feedback from the site developing a two-way dialogue between student and place. As a learning mechanism it lets students' fieldwork and their ensuing ideas evolve quickly and confidently beyond the observational and into the propositional.

What evolves out of the fieldwork is the development of an architectural language in form and use, alongside a programmatic proposal, that responds to the conditions of a specific place with not only an awareness of the physical environment but also a local social and economic one. This allows the architecture that emerges to rethink uses of our landscape and reinvent structures, forms, materials, and spatial solutions – both robust and fragile encapsulating the different timescapes that have formed our countryside.

Case Study 01: New Uses for Historic Structures

Choosing a site that was a scheduled Ancient Monument, with fragile flora environment, meant that we needed the students to clearly understand and respect the material and environmental context and constraints of place.

Fig. 5. Resident Playing with the Kaleidoscope

By beginning their design process by building large scale 1:1 'Look-Outs' carefully placed into the fabric of Shoreham Fort, they had no choice but to closely record the existing context, making not only traditional survey notes, but also recording how the site is currently occupied against how it had once been occupied. The proximity of Shoreham to Brighton meant that the students could afford to keep returning to the site multiple times. Being there in different weather conditions and from weekday to weekend changed their opinions of the appropriateness or validity of their proposals.

Prototypes were taken back and forth between site and workshop to be installed and assessed. The failures and problems were carefully recorded, measurements were retaken and designs were rethought. The final versions were installed as an open exhibition and the local residents and friends of Shoreham Fort were invited to come and 'play' with the devices. Meeting the locals in an informal setting with the Fort as a stage set and the Look-Outs acting as props, was invaluable to the students' grasp of their role as architect. For the first time the students understood that the residents were also their clients.

Throughout the process, the students' role remained one of a more traditional architect, acting as concerned consultants and designers - but having to install the devices for a public exhibition meant they took responsibility for the safety of the public, the care of the fabric of the fort and the custody of the environment's fragile flora. There was a direct physical repercussion if they did not. This meant that when later translating their ideas into an architectural proposition they were more understanding of the sensitivity and skill needed to design into an existing ancient structure, and more aware of the consequences of their design ideas to the physical environment and to the social and cultural conditions of Shoreham's local community.

Case Study 02: Guests on the Island

As a tutor, I wanted to engender a way for students to become genuinely concerned for the place they were working in so that they were transformed by it as much it could be transformed by their ideas.

From previous trips as both an architect to specify Portland Stone and as rock climber to scale the cliffs and quarries, I had met the Portland Sculpture Quarry Trust, a locally based charity that manages a redundant quarry, turning it from a municipal refuse site into a working sculpture park. They invited us to work with them, using their workshops, hall and kitchen as our studio, lecture theatre, gallery and communal dining room. They were keen to collaborate in developing ideas as to how to regenerate the island's many redundant quarries. This allowed us to run a socially engaged brief in a place three hours away from Brighton as we could work 'in-residence', closely linked with the local community.

It was an intense week starting by carrying their gifts across the island to find the person or place they were to give them to. Living in Portlanders houses gave the students immediate access to meeting others relevant to their projects and a steady stream of local knowledge and feedback. Stone carving workshops, visits around the working quarries, and lectures from local experts gave the students a stronger understanding of the qualities of stone and geology and ecology of the island. The set up allowed students create their own community naturally supportive of peer-to-peer learning and teamwork. Nightly communal meals were shared with locals and an exhibition of their weeks work lead the ensuing conversation about redevelopment on the island.

Fig. 6. Stone Carving Workshop

During the week, PSQT had provided us with a home and a workplace, and the arrangement had caused the students to take full ownership of their projects with the fieldwork and project development becoming increasingly autonomous. The gifts still remain on the island – secreted in a quarry fissure, propped up on a quarryman's mantelpiece or hung up in a local pub.

On returning to Brighton the students had grown in confidence and ambition in translating initial findings into an architectural contribution to the landscape, one that was capable of supporting a sustainable future for the islanders and their environment.

Case Study 03: Fieldwork Close to Home

If there was any year to understand a relational landscape with itself and human inhabitation it was this past one - breaking records in the South East for both drought and floods. Working along a river's edge from source to mouth, the students became fully aware that any design proposition had long-term consequences to the local and global community.

Choosing a river that was on our doorstep meant the students were familiar with it, putting them in the role of local resident, with their own vested interests. But prolonged fieldwork was intended to break any complacency with their assumptions as to its character and use.

We used the river as an outside studio and mixed in a week-long residency with the weekly daytrips and site visits. On the fieldtrip we were the residents inviting our local community to come to talk to us and share in our growing understanding of the Ouse. We were staying on a farm only a twenty minute train ride back to the university, so although we lived by the river with our own studio space, the students could return to use the university workshops. This helped them to immediately modify their Waymarkers in response to failed in-situ tests, and bring them back for further testing. There was less urgency to have work completed than on Portland as we could return another day, but this was still a week of complete immersion with the surroundings and people, sharing the fears of the local community as a vicious autumn storm brewed and floods were warned of.

Fig. 7. The Plough – Using The Wayfinder

By residing next to the river for that week, the students were part of the system and so took complete responsibility the rest of the year for the consequences of their design actions. And by living close to the area, their ideas could continue to percolate as they could repeatedly return to their chosen sites and to ask questions of locals. What emerged from this process were architectural proposals that show unexpected and speculative ideas, that move beyond the sentimental or nostalgic and could act as a catalyst to regenerate Sussex towns and villages that sit along the Ouse, working symbiotically with the river and its catchment area instead of turning its back on it.

Conclusion: The Value of Acting in the Field

Architectural proposition is nearly always transformative, and the value for a student to work in a real-life setting, having such a direct relationship with the context of the project, is in being implicated in the work, rather than separated from the community and site. The connections made with a place are often the spark for a student in instigating a real understanding as to how architectural ideas are generated and developed, but also offer alternative ways that initial ideas can be tested to take on bottom-up as well as top-down views. Learning to be responsible for the consequences of their design proposal teaches a student to take on a level of autonomy in learning within a teaching framework and allows the generation of a personal line of enquiry that I have seen develop into an accomplished thesis. The student develops skills beyond the traditional role of architect. They learn to act as protagonist and entrepreneur, environmentalist and community worker. And they learn the value of place making in an architectural project.

Notes

[i] McFarlane, Robert. "Gneiss" " in *The Old Ways: a journey on foot* Pin 2012. p 1846

[ii] 'Rural Studio Purpose and History' http://www.ruralstudio.org/about/purpose-history accessed on 17.07.14

[iii] Leach,Neil. "The Dark Side of the Domus" in *What is Architecture?* The Journal of Architecture Vol.3. 1998.p.88

[iv] Gregory-Guider,C. "Deep Maps: William Least Heat-Moon's Psychogeographic Cartography" in *ESharp: Issue 4: Journeys of Discovery* Press:Univeristy of Glasgow 2005 .p.1-2

Design with Life: Regeneration in Historic Spaces :*Urban Design + Architecture Design Joint Studio Between Tianjin University (China) and University of Nottingham(UK)*

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Introduction

The paper records the process of a mixed-culture joint design studio, which was focused on how to revitalise a historic townscape in China to play an important role in people's lives again. In this joint studio, 16 students from both China and the UK in 4 groups were asked to carry out a site analysis together and to propose an overall design strategy for the conservation and revitalization of the area to include a new museum of modern history of Tianjin City. After a two-month-period of architecture design studio work, they presented their final outcomes in different formats. The Chinese students focused on urban planning and British students focused on more detailed architecture design according to the different requirements. All the designs of the students were to enable the people who would live in the area to be the absolute protagonists, try to create an active public places to meet the demands of people and at the same time improve the connection between the people and the city. Through introducing the experience gained from the 2010 China-UK Joint Studio conducted by the School of Architecture, Tianjin University and the Department of Architecture and Built Environment, University of Nottingham, the process of running the studio, critical analysis and evaluation from both staff and students will be presented.

Foreword

In recent years, more and more international teaching exchanges and cooperations are being carried out by schools of architecture in Chinese universities. These are enabling teachers and students from both sides to further understand each other in terms of design teaching methods, contents and approaches, etc. During the period 2010 - 2013, Tianjin University, China and The University of Nottingham, UK conducted three design course based exchanges projects. Each of these activities lasted one semester on the basis of short-term design work camp. The participating students from both sides completed a joint urban design project for the same site followed by an architectural design project as per their normal schedule, difficulty and requirements of their respective design course. The students' works were then collectively exhibited at the end of the semester. In particular, the co-teaching of the two universities in 2010 was the first cooperation between both sides, from which we gained more experience and inspirations than in other activities. This paper, taking as an example the joint graduation project in 2010 –the design of Tianjin Modern History Museum and urban design of the surrounding area summarises the learning process, achievements and reflections of teachers and students from the two universities during this activity.

1. Origin and Objective of Co-Teaching

The Department of Architecture and Built Environment of The University of Nottingham shares a similar development history and teaching and research focus with the School of Architecture of Tianjin University. The two schools both have a strong engineering background and are wellknown for excellence in developing students' practical design ability. In September 2009, the two universities began preparation for the co-supervision of graduation projects in the Spring semester of their respective courses. The group from each side consisted of 5th year undergraduate students who majored in architecture and urban design, and the project was design for the transformation and renovation of the Tianjin Contemporary History Museum as well as a cluster of residential buildings to the north of the Museum located in the Wudadao protected historic architecture area in Tianjin.

The teaching objective of this joint design project was to stimulate the students to think and explore how to conserve the historic architecture in a "non-showcase" manner, namely to introduce functions and a vitality to the historic architectures and districts. This would involve the upgrading and extension of existing buildings and the introduction of sympathetic new buildings to create a successful residential and commercial environment, whilst protecting the material and cultural environments of the existing architecture and streets.

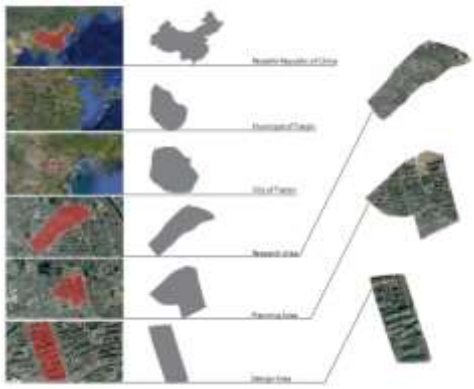

Fig. 1. Site Location

Fig. 2. The Existing Museum of Modern Tianjin and World History

2. Process

2.1 Introduction of the site and establishment design requirements

The existing Tianjin Contemporary History Museum as well as the building group on its north side are located to the north of Minyuan Stadium in the Wudadao historic streets protection and utilisation demonstration area. The site is next to Hebei Road on the east, and opposite on the southeast there is Prince Qing's Mansion（Figure 01）, the former home of writer Hang Ying. The Museum is built within the Wudadao historic conservation and demonstration area approved by Tianjin Municipal Government. The existing Museum is a transformation of original residences built in the period of the Republic of China (AD 1921)（Figure 02）. Apart from a few protected buildings, the rest were ruined and decayed, and therefore mostly left unused.

The existing building size of the Museum restricted the addition of any more exhibits. Therefore, the task of the regeneration was to expand the Museum building and to also include a cultural exchange centre. The original architectural structural system could be either utilised to make renovation and expansion, or treated as an influence factor for additional buildings. To the north of the Museum, one or a group of building complexes could be built, including small hotels, inns, shops, galleries, creative industry studios and so on. The brief also required that significant design importance should be focused on the protection of historic architecture feathers and renovation of historic area. Solutions should be developed to address issues related to people leaving, economic value decline, loss of cultural features and other issues confronted by the area, and to balance the benefits of original residents, new settlers and business owners.

2.2 Concentrated research and preliminary strategy

Both the Tianjin students and their counterparts from Nottingham were divided into four mixed groups to carry out a two-day detailed site and building investigation. The work involved field exploration, interviews with users, visiting historic cultural heritage conservation department and a questionnaire survey, etc.Later each group performed supplementary desk and site based research. Through five days of studio tutorials, the research reports and preliminary design strategies were formed. All the students completed their works with their own reflections on the history of the site and the historic streets as well as visions for the future life of the streets, fully exhibiting their thinking about cultural inheritance and the life of residents.（Figure 03-06）

Fig. 3. Interviews with curators

Fig. 4. Site survey

Fig. 5. Group work

Fig. 6. Analysis presentations

Fig. 7 Strategies analysing draft proposals

Fig. 8. Strategies analysing site model

In the proposed strategies by the students of all groups, the first focus was put on the lifestyle changing issues of both the original residents and new settlers as well as the improvement of quality of life. From some groups, students drew several sketches to discuss how to reconstruct public places in order to save the disappearing courtyards and community life on the street, so as to give new vitality to the historic area （Fig. 7、8）; Secondly, all strategies emphasised the special design of the project reflected historic cultural

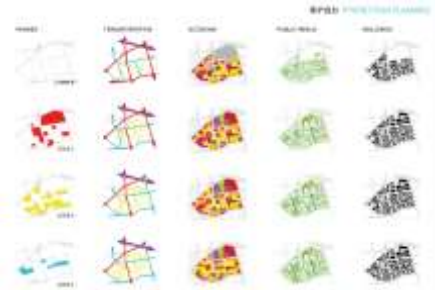

Fig. 9. Gradual and staged regeneration strategy: LU ZHANG

Fig. 10. Analysis of local people: LUZHANG

inheritance. For instance, gradual renovations and staged regeneration were suggested（Figure09）; in addition, some technical problems were studied in relation to the renaissance of the historic streets with typical cultural characteristics of modern Tianjin branded by the concession history of the context, such as traffic, parking, architectural styles and symbols.

2.3 Design process and outcomes

The process of design definitely informed the design outcomes. During the graduation project, over three months, the students followed the directions of the strategies informed by the intensive investigation, and through careful consideration, elaboration and constant improvement, before they finally delivered their respective design outcomes.

From the perspective of the entire historical and cultural demonstrative protection area, the students majoring in urban planning of Tianjin University analysed the transportation, population, industrial distribution, public space, etc.（Figure10）. They set a proposal containing three steps for the regeneration and renovation of the site. According to the analysis of the results, they formulated a land use plan including business distribution along streets and residential use arrangements for the buildings. The space for public activities was also divided optimally based on the state of the public space and street interfaces. The entire works were achieved through a logical thought process through investigation, planning, analysis, conclusions, adjustment, feed back to outcome delivery, which finally led to an urban design proposal and a control indicator system. The students majoring in architecture carried out the architectural design for the new museum area within the permitted range of the urban design indicator system. The students of the two majors communicated with each other on synchronous basis, so that from urban space to building space, the

Fig. 11. Urban design plan: JIASHENG GUO

Fig. 12. Stitching, design fills the gap between local people and immigrants: YING GUO

Fig. 13. Blending of the old and new museum buildings: WENBIN LIU

design of physical objects embodied their shared thinking regarding cultural inheritance（Figure11）.The design of the students in Group 1 emphasised their holistic respect for human life from every aspect（Figure12）. The Group 2 students stressed the spatial connectivity of the old and the new museum buildings, but meanwhile, the contrast between the two in terms of image and internal space were also highlighted, reflecting the blending and 'collision' of cultures（Figure13）. The new museum design of the students in Group 3 focussed on the lifestyle and demands of the new generations, by designing colourful and interesting indoor activity spaces for young parents and their children. The works of the

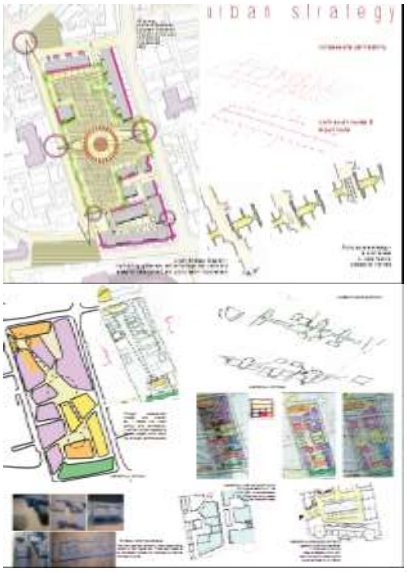

Fig. 14. Strategy of building in city: KATHRYN（UK）

Fig. 15. Revival of the life in the street: KATHRYN（UK）

Fig. 16. Culture life in a building group: SAIJAL（UK）

students from Group 4 focused on the change of people's living experience in the historic street communities, where shops, museums, book stores and cafes were connected by 'tubular' corridors, in pursuit of balance and harmony between the commercial value and humanistic value .

The University of Nottingham architecture students approached the process of creation by introducing their own thinking on urban planning in their independent architectural design solutions（Figure 14). The students in Group 1 sought maximum inclusion of the common things and individual highlights, by arranging businesses along the streets to revives street life (Figure 15) and located the new museum in the visual centre of the area. Modern steel and glass were adopted to contrast with the existing buildings and to make the new museum eye-catching from the outside. The four functional areas inside were closely connected with each other; the spatial experience of the users were well considered in the design of the internal areas and interfaces between functional areas, enabling people to experience the diversity and tolerance of life and culture. Students in Group 2 arranged aisles of different heights among a group of buildings, so as to let people walk freely from one cultural display space to another, tasting the "beauty of life" in different cultures（Figure16）. Students in Group 3 explored several combinations and decompositions of the

Fig. 17 Combinations choice plan between new museum and surroundings: RUZANNA（UK）

Fig. 18 Combinations choice plan between new museum and surroundings: SIMON （UK）

architecture of the new museum building complex, and finally chose one innovative solution for the design of the museum（Figure17、18）. Finally, the new museum was designed into two 'U-shaped' circulation which are independent in function spatially connected with each other. This symbolised the unification of the past and the future, the Chinese style and western style and many other factors. In their design, by referring to the concept "less is more" of Ludwig Mies van der Rohe in terms of exhibition spatial mobility, the structure and envelope were separated, with flat partitions freely inserted inside, which perfectly integrated the three-dimensional space inside the building and outside the building(Figure19). The design theme of the students in Group 4 was "the People's Republic". With the site in need of regeneration, the new building was an attempt to become to be the centre, boutiques, eateries and guest houses, and desirable office space to its southern edge, to completely revitalise the area. It will become an attractive and influential place to visit, drawing in locals and tourists. The quieter road to the west of the site was been pedestrianised. Through encouraging the flow of pedestrians and cyclists, the site is opened up to the square to the south-west of the site, adjacent to the football stadium, whilst becoming a calmer and safer place. The street would also become a safer place for the children from the neighbouring school, as well as encouraging them to pass through and experience the site and its activities and the small public square to the south-west of the site (Figure20). The new museum was designed into a small structure, which is

Fig. 19: New museum plan: SIMON （UK）

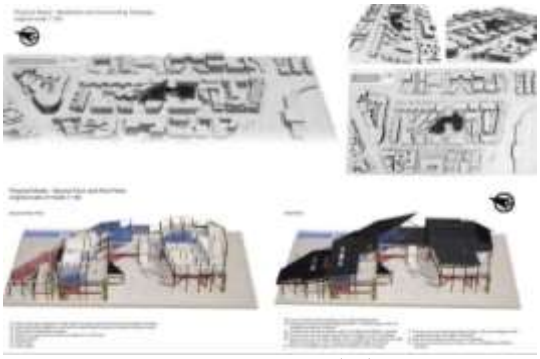

Fig. 20 New museum plan: LAUREN （UK）

extendable into the environment. The museum itself is not prominent, but it is well integrated with the surroundings, leading to blending of culture and life.

3. Experience and Inspirations

During the half-year of intensive and independent co-work, both groups of students as well as the teachers of the two universities shared many experiences in terms of teaching and learning together with cross-cultural areas. In terms of teaching guidance, both

sides had a lot in common. for example, both gave high importance to preliminary investigation and inheritance of history and culture, and they both believed that the design strategy must evolve from real life situation. However, from the outcomes of the students, we can see some differences between the teaching modes and cultural and professional effects of Chinese and British practises. Below are the strengths of the British party that have been identified from the project process and outcomes.

First, the British students attached particular importance to survey, communication and sharing, as well as teamwork in the course of survey and strategy formation. For example, during the visiting stage, the British students led the Chinese students to interview the residents of the area, listen carefully to their feelings of and comments on their life in the area, and even personally lived in the area for a day, in order to find out by themselves the pleasant aspects and inconvenient parts of life there. In addition, they used statistical methods to prepare a diagram of the use frequency and existing problems of the existing small public space. The group members highly valued the survey results, discussion on design ideas and communication with each other. Everyday, they made their discussion results and findings into powerpoint presentations to share with the group. When developing diagrams of the current status and analysis, the two groups cooperated and the work was allocated among all the participants, thus the completed diagrams were shared by both groups. From this, the Chinese students became aware that they had been less efficient due to not sharing tasks and outcomes with partners. The Chinese students benefited accordingly by developing good habits of summarising and discussing at each stage in order to inspire new ideas for the area.

Secondly, the analysis and thinking of both Chinese and British students are considerably logical. However, obviously the Chinese students and teachers are proficient in a 'top-down thought' development method, while the British students tended to adopt a 'bottom-up' approach. They emphasised the life experience of the users, and their designs paid great respect to life experiences, and also showed that they had dedicated themselves to bringing better experiences and life to the existing and future residents.

Thirdly, the British students were particularly keen on creating physical models to test their ideas , while the Chinese students tended to prefer to draw their ideas on paper or computer. The British students could also quickly engage in the comparative studies at the different design stages during the formation of design concept and also outcome models after the design was completed. Moreover their models could express the design ideas intuitively and clearly. It taught the Chinese students that the development model is a very effective study approach in the initial concept formation period.

Fourthly, the preciseness of British students on the details of their architectural design demonstrated their strengths in turning ideas into reality. In the initial design strategy formation stage, the schemes of the British students were neither more mature nor more elaborate than that of the Chinese students. However, when the final outcomes were displayed, the works of the British students integrated detailed considerations on material choice, structural safety, structure, construction process, etc., i.e., their design was not only about new ideas for spacial arrangements, but also aimed at complete and mature designs for the realisation of the 'whole' architecture.

The language of architectural design is universal for all the learners and practitioners of this field across borders and languages. This co-teaching of graduation projects broadened the horizons of both the Chinese and British parties. It not only gave an opportunity for the British teachers and students to experience Chinese history, culture and custom, but was also good for improving teaching practice, make it more comprehensive and open in terms of content and mode, and focus more on humanism and relate more closely to practical life. Some of the Chinese participants of this activity later became graduate students of Tianjin University. They obviously show improved cooperation and shared consciousness in their study, and value investigation and survey more than before. Now they have got used to thinking "what I can realise for the users" instead of "what I want to design". They also learned to make development models at an early as the design strategy is studied.

An exchange activity like this let us see a different self and different others. It is hoped that through constant learning from each other, the students can significantly improve their abilities in architectural design, thinking, creation and adaptation, and they will gain a broader horizon and become more open-minded, with excellent professional qualifications and habits, and will do better in improving human life as architectural designers in the future (Figure21).

Fig. 21. students and teachers of the joint design studio

SYMPOSIUM: Taxonomy of Live Projects *(3 papers)*

Woodland Creatures and Fabrication Wizards. Resources, Product, Context and Motivation observed in a Taxonomy of Live Projects

Jane Anderson

Oxford Brookes University

Introduction

This paper describes a taxonomy of live projects assembled using data from the Live Projects Network[1] (LPN). The website organises case study projects according to their resources, product and context. A quantitative analysis of this data informed a qualitative analysis of primary motivations for each project. Four primary motivations were found. Through correlation of resources, product, context and motives, trends and patterns were identified. Thirteen different live project models or species were observed and arranged into a taxonomy. Species so far identified and described include Fabrication Wizards and Woodland Creatures. A discussion of emerging live project models is made with reference to the three categories of motivation for live projects identified by Dodd, Harrisson and Charlesworth[2] and also an evolution of typologies described by Brown.[3]

Methodology

This analysis is based on data gathered from ninety-seven case study live projects submitted to the *Live Projects Network* between April 2012 and July 2014. LPN is an international online resource to connect students, educators, clients, practitioners and researchers involved in live projects. Its aims are to promote the use of live projects in education, share best practice, encourage dialogue and also contribute to the establishment of a theoretical basis for the study of live projects. In his critique of the live project, Brown identifies areas for future research. He states that a "critical examination of the curricula, contexts, clients and pedagogical responses of live projects in the UK and Ireland to comparable overseas projects could make a significant contribution to the literature."[4] Here, methodological approaches are explored to enable a critical analysis of an expanding set of LPN data by focusing on the influence of available resources, context and motive on live project strategies and outcomes.

Each member of the *Live Projects Network* has submitted at least one case study live project to the site by completing a pro forma, submitting three images and a 200-word description of the project. The pro forma asks for information about the project designers, external collaborator (client), resources, product and location. This information is used to provide search filters for visitors to the website to find other projects with similar resources to help them plan their future projects.

Resource information is gathered that derives from the six factors identified by the author in collaboration with Colin Priest as being common to all live projects.[5] Here, analysis of the case study data took two forms. The first was a quantitative analysis of the resource, product and location information. The second was a qualitative analysis of the 200-word project descriptions in order to identify the primary motivation behind each project.

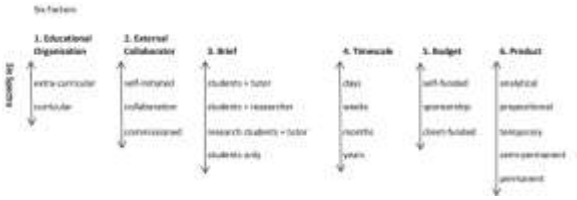

Fig. 1. Six factors of a live project ordered into spectra

Each of the six resource factors had already been ordered into its own spectrum.[6] This was used to interpret data as quantitative information. Additional information that had been gathered about the educational organisation was divided into three separate categories for analysis: Group Size, Student Level and Curriculum. Project location information was also analysed to give additional data on the development and the urbanisation levels of the project context. The working hypothesis for this analysis was that resources, product, context and motivation are key to shaping different live project models. The trends and patterns established by this analysis were correlated and profiles of different models of live project identified. The

findings were synthesised into a provisional taxonomy of thirteen identified live project species.

Quantitative Analysis of Resource and Context Data

The reason to look at resources, product and context was because live projects tend to exist on the periphery of legitimate participation in the profession and conventional design studio education.[7] A consequence of occupying a peripheral position often means that resources can be difficult to access. A further consequence of scarcity can be an increased sensitivity to one's immediate context as a source of resources to be gleaned from it. Live project educators often make a virtue from this. They devise responses that are resourceful, responsive, resilient and therefore, particularly relevant to their context and users. This is also relevant to mainstream contemporary design as it adapts to operate in a world of scarce resources. Expression of this fragile ecosystem as an evolutionary taxonomy therefore seemed an appropriate response.

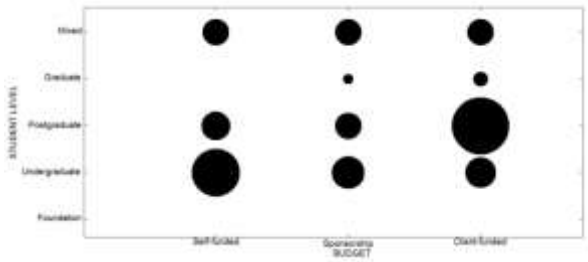

Fig. 2. Example bubble chart showing student level mapped against budget type.

To quantitatively analyse the resource data, Budget (expressed as funding source) and Product (expressed as permanence of outcome) were each mapped against each other as well as the remaining resource factors and recorded in bubble charts: Timescale, Group size, External Collaborator (client), Brief (expressed as level of institutional support), Educational organisation (expressed in relation to curriculum) and Level (expressed as academic stage of students). To analyse the context data, projects were split into two sets of data: Developed and Developing Countries[8] and into Urban and Rural Contexts.[9] These two sets of data were each mapped against every resource factor and recorded in bubble charts: Product, Timescale, Budget, Group Size, External Collaborator, Brief, Educational Organisation and Level.

The ninety-seven case study projects are located across five continents in developed and developing countries as well as urban and rural locations. Proportions of each continent making up the sample are: Europe 80%, Asia 8%, America 5%, Africa 4% and Australia 2%. At present UK projects dominate and make up 62% of the sample. The sample of data for developing countries (13%) and rural contexts (18%) were significantly smaller than developed countries and urban contexts so conclusions are less reliable for them. It should also be noted that of the thirty-four contributing educational organisations many have submitted multiple projects. Some are multiples of work by the same group, not always following the same model for every project and some are contributions from multiple groups normally following different models but all based at the same educational organisation.

The following trends and patterns were observed that most clearly relate to the aim of this study of the influence of resources, product and context on the formation of different live project models:

Resources and Products

Relationships with external collaborators are a balance of commissions, collaborations and self-initiated projects. This suggests that live projects are operating in a way that is distinct from conventional practice with a maturing track record, expertise and flexibility.

Winning funding was more successful than expected, although full funding is likely to be rare. Sponsorship (23%) is less common than self-funding (33%) and client-funding (44%) suggesting that support from industry and the profession may be under-explored. Client commissioned projects are most the likely type to be client-funded while self-funded projects are the most likely type to be self-initiated and temporary.

Temporary and semi-permanent projects are more common (62%) than permanent and propositional projects (36%). Analytical projects are rare (2%). The largest proportion of undergraduate projects are temporary or semi-permanent and self-funded. The largest proportion of postgraduate projects are client-funded. Postgraduate projects are more likely than undergraduate projects to be permanent or propositional.

Most projects happen either in days (37%) or months (45%) rather than years (18%), regardless of budget or permanence. This suggests that the academic calendar has a strong influence. Live projects are enabling students at different levels to work together in mixed groups (19%) which is rare in conventional design studio education. Large groups above fifty students are rarer, are normally self-funded and in the sample were not involved in permanent buildings.

The majority of projects are happening within the curriculum (61%). Surprisingly, extra-curricular projects are more likely to be client-funded or sponsored than self-

funded. Perhaps student labour and expertise outside the curriculum is seen as more worthy of recompense or perhaps more complex projects demanding recompense happen outside the curriculum due to the increased time commitment that they require. Overall, student level, group size and timescale seem to have the biggest impact on the other resource factors.

Context

Most projects in developed and developing countries were located in urban areas. This suggests that projects are engaging with contemporary urban issues but also that areas distant from urban-sited universities may be relatively neglected. Groups above fifty students are less likely to operate in developing countries and rural areas suggesting that cost, and accessibility may restrict activity in these contexts. Undergraduate students are less likely to operate in developing countries suggesting that complexity may restrict activity there. Similar proportions of undergraduate and postgraduate students operate in urban and rural areas suggesting that projects of appropriate complexity can be found in either context.

Projects in developing countries and rural areas were more likely to be permanent than temporary. This suggests that it is more difficult to find opportunities to build permanently in the more complex legislative and commercially competitive developed urban areas. Few projects took years, regardless of location.

Client funding was less likely in developing countries than any other context. All projects in developing countries were self-initiated or collaborative. None were commissioned. Most of these projects were carried out in conjunction with NGOs and charities. Mixed undergraduate and postgraduate projects are less likely in developing countries.

Qualitative Analysis of Motivation Data

Once a methodology to analyse the effect of resources, product and context had been established and applied to the current data set which it is hoped will increase and become more international over time, the next step was to undertake a qualitative analysis of motive. This was done by searching for key words in the 200-word descriptions of each project. Key words were identified that related to the factors that had been seen to influence particular trends and patterns in the quantitative analysis of resource and context data ("landscape", "masterplan", "commissioned"). They were augmented by words relating to values that occurred frequently across case studies ("participatory", "sustainability", "cultural").

In order to make a critical evaluation of different live project models, Dodd et al. chose to look at motive rather than outcome. Following the symposium that informed their book, they decided to move away from context as a means of definition.[10] Their case studies are "classified through the definition of the *intention* for doing live projects. This shifts the discussion away from a focus on outcomes toward an understanding of the deeper import or meaning in the practice…..we also acknowledge that the boundaries are slippery and imprecise. Certain case studies can straddle definitions, or fall into the gaps between."[11] It is hoped that by attempting in this study a whole-project method to analyse motivation, resources, context and product will enable better understanding of the inter-relationships between these characteristics, establish which projects cross single dimensional boundaries such as "motivation" or "context", why they do and what this means.

Live projects are so rich and allow participants to negotiate all aspects of reality that they encounter during the project, both expected and unexpected. This richness and authenticity is one of the strengths of live project learning and educators are faced with the challenge to absorb this characteristic into their pedagogical framework, whatever their primary motivations and without losing them. The 200-word summary of each project on the Live Projects Network allows the contributor (normally the tutor but not in every case) to reflect on their project and reveal their motivations.

To guide this partially subjective process, experience was drawn from live project educators' papers, comments and conversations at three conferences in Belfast, Oxford and Nottingham[12], Brown's thesis survey of UK live projects as well as informal conversations and correspondence stimulated by the running of the Live Projects Network. Comments such as "But your work looks more like an art installation than a building" and experiences such a demonstration of political activist techniques helped to reveal the variety of motivations and methods being employed by live project educators. This, plus the results of the quantitative data analysis was useful to help make decisions when projects fell into several categories. Each case study was allocated a primary motivation. Most correlated broadly to the motivations identified by Dodd et al. (summarised here as Technical, Social and Pedagogical). In this analysis, all were assumed to have a pedagogical basis, distinguishing them as live educational projects rather than professional projects.[13] Two categories were added for projects that were motivated by Design or Professional priorities. In this survey 38% were Design-led, 29% were Socially motivated, 26% were Technically motivated and 7% were Professionally motivated.

Correlation of Resource, Product, Context and Motive

By using the quantitative resource, product and context data analysis and arriving at a categorisation of primary motivation via a qualitative analysis, it became possible to correlate motivation, context, product and resources to build up profiles for different models of live project. This avoids the trap identified by Dodd et al. of judging a live project by its appearance. Instead it gives a more complete picture of the inter-relation of opportunity, motive and outcome for each identified model of live project. Thirteen models or species were identified and named according to their habitat (context and resources) and habit (motivation and products). Examples of different species and their frequency in this survey are:

Creative Catalysts. 25%. Design-led. Frequently found in private spheres rather than the public domain. Develop strong symbiotic relationship with a particular client group to build structures ranging from the propositional to permanent that neither species could realise alone. Common.

Masterplan Engagers. 13%. Sociable and tenacious. Interact with multiple communities and government structures in their local urban habitat. Difficult to spot because they leave analytical and propositional trails rather than built. Can display participatory expertise.

Artist Activists. 11%. Design-led. Found on the street in urban areas. Their structures can be difficult to spot, being temporary or ephemeral. Distinctive socio-cultural agenda. Display behaviour often influenced by either activist or contemporary public art practice.

Woodland Creatures. 10%. Technically motivated. Normally found in groups of between 1 and 50 undergraduate or postgraduate students who have temporarily migrated from the city. Enjoy private woodlands and parkland. Most likely to build permanent or semi-permanent structures either in a matter of days or over the course of months. Often display specialist or traditional craft techniques.

Development Explorers. 9%. Socially motivated. Normally a group of 1-50 postgraduate students who have temporarily migrated to a developing country to build a self-funded permanent structure in an urban context in a period of months. Normally form a symbiotic relationship with NGOs and display expert methodologies in development practice.

Fabrication Wizards. 8%. Technically motivated. Prefer Wi-Fi hotspots. May not require contact with end users or work with a social agenda. Employ complex tools to produce structures ranging from the prototypical to the permanent.

Sustainable Champions. 6%. Technically motivated with a global social agenda. May not require contact with end user. Occasionally flock to Solar Decathlon to display high performance sustainable construction techniques.

Grass Roots Engagers. 6%. Sociable. Interact with multiple grass roots groups in a variety of public domains. Structures range from the propositional to the permanent. Can display participatory expertise.

Upstart Startups. 6%. Professionally motivated. Normally found in urban contexts close to the university where they hatched and still derive some source of support there. Build structures that range from the temporary to the permanent. Most likely to be sponsored or client funded. Displays entrepreneurial behaviour.

Pedagogical Pioneers. 2%. Design-led. Unless accompanied by postgraduate students, young pioneers normally remain close to their home university in large undergraduate cohorts of 51 or more. Their structures are temporary or semi-permanent.

Applied Researchers. 2%. Motivation omnivorous. Attached to a university but the more adventurous will migrate globally to realise components of funded research projects that range from the propositional to the permanent.

Rural Activists. 1%. Socially motivated. Normally groups of up to 50 undergraduate or postgraduate students who have temporarily migrated to a rural area or small town. Their structures are mostly permanent or semi-permanent. Endangered.

Professionally Interested. 1%. Professionally motivated. Normally undergraduate or postgraduate students who have migrated from their University for the summer to form a symbiotic relationship with professionals displaying educational behaviour. Their structures range from the analytical to the permanent. Rare.

Provisional Taxonomy

Using the four primary motivations (Technical, Social, Design, Professional) as stepping-off points to group different species of live projects into families, a provisional taxonomy can be expressed. An involvement of both educational and professional organisations in live projects has been identified by the author. All live projects involve an educational organisation. Some professional organisations such as architectural practices or artist-run organisations function temporarily or periodically in an

educational capacity to run live projects with a pedagogical remit. This means that the taxonomy has two roots: pedagogy and practice.

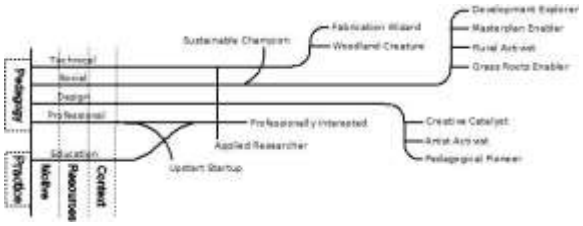

Fig. 3. Taxonomy of Live Projects

In his critique of the live project, Brown identifies an evolution of live projects in education in UK and Ireland that begins with "modern" live projects emphasising "practical, hands-on experience of the design and construction of small projects". Projects described as "from modern to post-modern" "were established with a pragmatic interest in the processes of construction, before evolving towards an expanded and more socially-aware appreciation of the role of the architects." Finally, "The postmodern live project shifts the focus of the students' learning experience from architecture as built product to a wider conception of architecture as process."[14]

The taxonomy and classification in this paper identify several species of technically motivated live projects focussed on the built product. It is of course a legitimate pedagogical strategy to focus a project on excellence in techniques of construction. As long as live project educators are aware of the "complex pedagogies"[15] co-existing in any live project, they will frame the project brief in appropriate terms. For example they will site the project in a context that is appropriate to a construction-led focus. What would not be compatible with the "complex pedagogies" of postmodern live projects would be to ignore or dismiss any socio-political-economic issues that were to be found in that context, such as sustainability. The complexity acknowledged by contributors in their 200-word descriptions on the Live Projects Network tend to suggest that, along with the other case studies analysed here, they are more likely to be "postmodern" rather than "modern". This taxonomy of recent projects therefore does not attempt to explore their evolution over time, simply to record their present-day state, observed to date as thirteen distinct species.

Conclusion

In this study, live project data on resources, product and context from ninety-seven Live Projects Network case studies were analysed quantitatively. This informed a qualitative analysis of motivation data. The trends and patterns established by this analysis were sufficient to enable a correlation to be made between them. All projects were ascribed pedagogical roots as the fundamental connecting feature that allows live projects to be differentiated from professional projects. Four primary motivations were found, forming four distinct families of live projects. Thirteen different live project models or species were identified and described. The findings were synthesised into a provisional taxonomy.

The purpose of this taxonomy is not to freeze or stifle evolution and innovation but to record the current moment in the hope that both available data and live project activity will continue to flourish and diversify. As pointed out by Dodd et al. greater clarity on motivation will also enable a more critical evaluation of whether live projects are successfully achieving their stated aims.[16] By connecting the models to an identification of the resources, products, contexts and motivations that inter-relate to shape them it is hoped that live project practitioners will be better able to explore uncharted territories. It may enable a re-evaluation of what is possible with currently available resources and contexts as well as clarify strategies to harness resources that are needed in order to operate in ways that were previously impossible. It may even stimulate some to challenge the limitations of their existing environment by altering it or defying it.

With thanks to Dr. Paul Smyth for converting database information into graphs and to Colin Priest, co-founder of the Live Projects Network.

References

[1] Jane Anderson and Colin Priest, 2012. *Live Projects Network*. [online] Available at: <http://liveprojectsnetwork.org/> [Accessed 29 July 2014].
[2] *Live Projects. Designing with People*, ed. by Melanie Dodd, Fiona Harrisson and Esther Charlesworth (Melbourne: RMIT University Press, 2012), p. 3.
[3] James Benedict Brown, "A critique of the live project". (unpublished doctoral thesis, Queen's University Belfast, 2012), pp. 31-41. Available at: http://issuu.com/jamesbenedictbrown/docs/brown_james_benedict_-_a_critique_of_the_live_proj/1 [Accessed 29 July 2014].
[4] Brown, p. 275.
[5] Jane Anderson and Colin Priest, "Developing an inclusive definition, typological analysis and online resource for Live Projects", in Architecture Live Projects. Pedagogy into Practice, ed. By Harriet Harriss and Lynnette Widder (Oxford: Routledge, 2014), p. 15-16.
[6] Jane Anderson, "Undercurrent: swimming away from the design studio", *Charrette*, (forthcoming, 2014).
[7] Anderson (forthcoming)
[8] United Nations, "Country Classification", *Statistical annex*, (2012), 133-8 <http://www.un.org/en/development/desa/policy/wesp/wesp_current/2012country_class.pdf> [accessed 16 July 2014]
[9] Department for Environment, Food & Rural Affairs, "Rural Urban Classification", *gov.uk*, (2014) <https://www.gov.uk/government/collections/rural-urban-definition> [accessed 29 July 2014]
[10] Dodd, Harrisson and Charlesworth, p. 250.
[11] Dodd, Harrisson and Charlesworth, p. 3.
[12] Live Projects Colloquium, Queen's University Belfast, 25 March 2011; Live Projects Pedagogy International Symposium, Oxford Brookes University, 24-26 May 2012; AAE Conference, Nottingham Trent University, 4-5 April 2013.
[13] Jane Anderson and Colin Priest, (2014), p. 12.
[14] Brown, p. 31-41.
[15] Brown, p. 155.
[16] Dodd, Harrisson and Charlesworth, p. 251.

A Taxonomy of Live Projects and Ethical Implications of the University as a Creative Host to Architectural Agency – Summary paper

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Abstract

The varied agendas of Universities (manifested in initiatives such as internships, knowledge transfer, outreach, marketing, and community engagement, alongside the continued agendas of research, assessed modules and qualifications) offer a range of different ways in which live projects can flourish. This paper begins to map a taxonomy of the ways in which live projects can work within (and indeed exploit) the range of initiatives that Universities, as institutions with a complex range of agendas, employ. The paper uses UWE Bristol's live project work as an initial set of case studies and maps seven models of live project practice. These are drawn upon to ask whether it is the complexity of agendas itself that allow Live Projects to flourish in this institutional setting or the University's position as a quasi-public agent, one step outside the commercial requirements of practice that allow it space to make unlikely things live. The case studies are analysed to understand the questions of professional ethics that the relationship between pedagogy, practice, university and client/user raised in each type of project. The open-ended taxonomy of live projects will be presented; and it is proposed that this taxonomy is debated and developed within the conference presentation.

Introduction

'Live Projects are situated not as marginal activities that are nice to do, but as central to the reformulation of the values and methods of mainstream architectural education.' Jeremy Till[1]

Live Projects are becoming an established aspect of architectural teaching. Units are being formalised at The Bartlett and Birmingham School of Architecture, joining longer-established practises at Sheffield, Oxford Brookes, Portsmouth and London Metropolitan. This move to legitimate live project work as an aspect of the formal architectural curriculum can be celebrated as an expansion of architectural pedagogy, but one is tempted to look for other reasons why Live Projects might now be so popular.

The University as Creative Host to Architectural Agency?

This paper explores the ways in which live projects can be positioned within the varied agendas of University policies and funded schemes. Initiatives such as internships, knowledge transfer, outreach, marketing, and community engagement, alongside the continued agendas of research, assessed modules and qualification are capitalised upon to test how the live projects might be positioned, and might even flourish, within. Live projects clearly respond to current University agendas of 'research with impact' and 'regional engagement', however this raises the question of whether a Live Project methodology is simply a convenient route by which architectural academia can find validation within the performance measurements prescribed by University administrators. Alternatively the University could be seen as a creative host that creates a bubble of energy feeding off small pockets of resourcing and funding within the University as well as public need and/or interest in order to catalyse possibilities that seemingly cannot otherwise be unlocked within the public realm.

Alongside this debate, it could be argued that the position of live projects is shifting: from an informal adjunct to the architectural curriculum; to an aspect of the legitimate curriculum. This further raises the question of whether a key quality of Live Project work, as something held at arms-length from University requirements, maverick, and 'under the radar' if you will, might be lost in this move toward legitimacy?

This would seem a good moment to try and understand the nature of Live Projects through the construction of a taxonomy which aims to position different types of live project work in relation to current University policies and the educational and critical intent of the projects (for example the relationship to architectural practice, relationship to stakeholders, approach to knowledge, ethical implications and project legacy).

Methodology

Projects from UWE Bristol's live project work are used as case studies from which to generate an open-ended taxonomy of live projects. The taxonomy attempts to classify projects under the following areas:

PROJECTS TYPES – Professional agency; Festival; Advocacy; Knowledge sharing; Feasibility; Competition; Community consultation; Self build…

EDUCATIONAL/CRITICAL IMPLICATION - relationship to architectural practice; relationship to stakeholders; approach to knowledge…

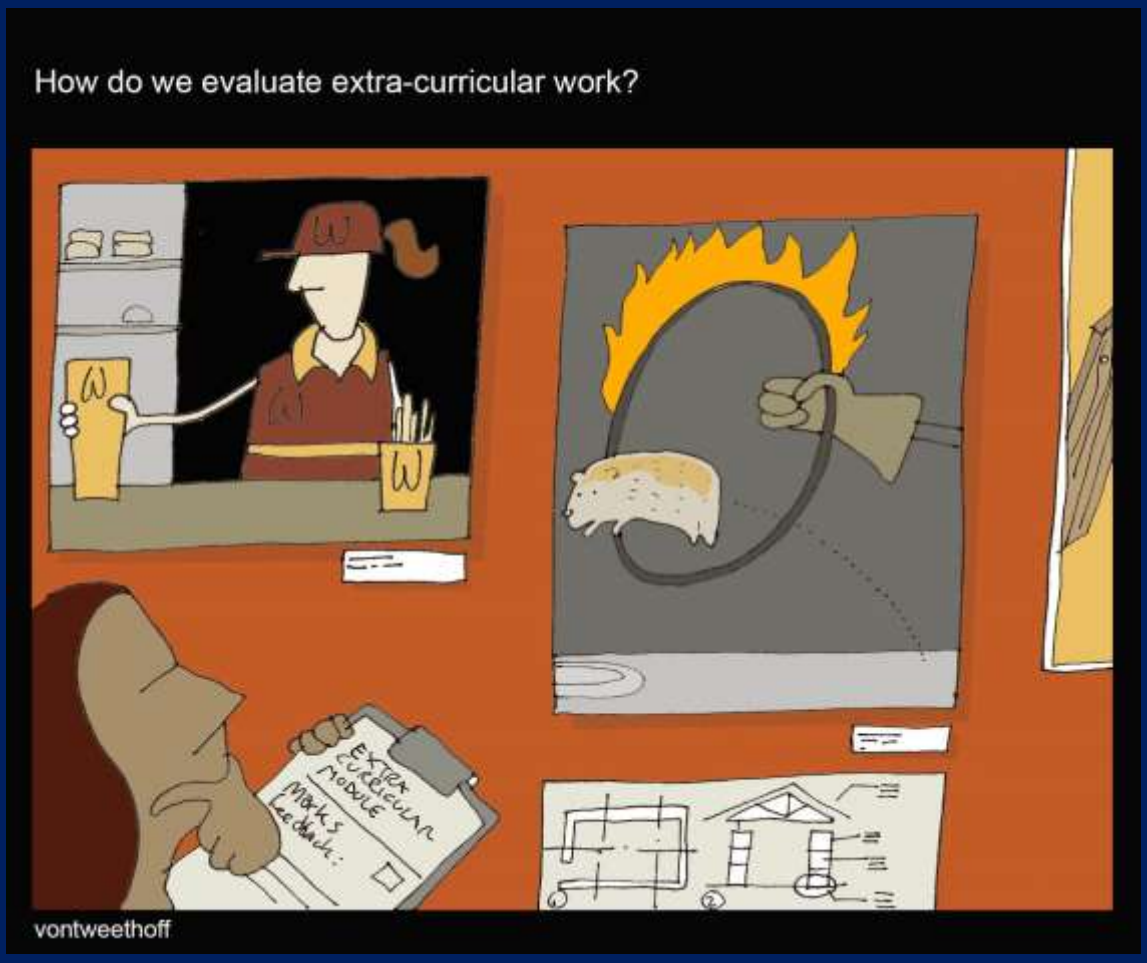
LEGACY – Physical; Cultural; Social; Discursive

ETHICAL IMPLICATIONS – exploitation of students/University host/tutors; 'stealing' work from practice; misleading communities; minimised opportunities for risk taking; quality of work left behind…

Conclusions

The paper concludes that even in a neo-liberal market approach to Higher Education small pockets of money, resourcing & time (which is expressed financially by the University) can be found to fund activities outside the University. The taxonomy highlights the fact that the utilization of these pockets of support does however tend to imply certain educational and critical positions. These can be seen on a continuum, from a mimicry model of learning from practice to models of parallel practice; from affirmation of accepted modes of practice to challenging practice with an alternative form of agency; from applying existing knowledge to generating new knowledge. The projects can also be understood as having differing forms of legacy. These might be physical (permanent or temporary); cultural (A small part in a longer-term relationship or project or a single stand-alone moment); Discursive (establishing a place in an ongoing public conversation); Social (creating new connections between individuals, groups, students and tutors).

The taxonomy implies a hierarchy in the educational and critical implications of the projects clearly highlights the inherent implications in engaging in different aspects of 'live-ness'. It begins to suggest the different motivations for 'liveness' and how they might most appropriately operate and different stages of architectural education.



MAGIC MOMENTS

Beyond Research

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Introduction

Why? Was an open question given as the final exam for a group of undergraduate students at Tulane University. The students were perplexed over the question and did not know what to write, some left it blank while others struggled as they wrote philosophical essays. After submitting the papers the students eagerly wanted to know the answer. Was it possible one open question could determine their success or failure in the class? After critical reflection, the only simple, direct, response was staring at them right in the face. Why not? So in retrospect was it a final exam? In fact it transformed quickly into an exploration in critical thinking, a workshop, which saw students engage in debate and discussion. Students may have learned from this experience years later perhaps more so than if it were the real exam. Therefore, sometimes creative learning methods may be necessary to transform students from passive listeners to active learners.

This paper aims to present workshops not only as a tool for conducting research but also as a platform to learn from both facilitator and participant. As a pedagogical tool workshops can be used to bridge the research and teaching divide. The various techniques used in workshops provide opportunities for many discussions and exchange of ideas gaining rich insights into people's perceptions and understandings on a given topic. The paper will also demonstrate how workshops can be employed as an effective tool for education and show how this approach may be used to promote more open-ended thinking and that there is not always one right answer. Finally, a proposed workshop design will be presented that covers a set of topics throughout the semester for UG/March/Masters students.

Why workshops

A workshop is an interactive, participatory group exercise. It may be used for many purposes ranging from education, training, research to public engagement and collaboration. It may introduce something new through a series of training seminars or be a way to enhance professional skills and learning about new developments in the field. According to the University College London's Public Engagement Unit it is a method that can "be used to gauge and compare opinions on a range of different aspects, criteria or qualities of a project or activity". They describe workshops as, "a means of capturing more qualitative information … probing the meanings participants give to their behaviour, ascertaining reasons, motives and intentions"[1]. In summary it provides an interactive way to understand different people's experiences and views and is a good opportunity for discussion and to reach a direction or consensus on a given topic. An interactive workshop has many values that may significantly contribute to a research study. It not only provides an opportunity to gain direct insight into people's many meanings and understandings of the subject but also gives a practical platform to introduce different research methods in a few hours.

However, workshops go beyond research, being an effective pedagogical tool in almost all academic levels and professional development. The teacher's role has moved from lecturing the class to becoming a "facilitator of a conference". The teacher does not remain passive, but rather, helps "direct and mold discussions by posing strategic questions and helping students build on each other's ideas"[2]. Therefore, the workshop becomes an essential tool for teachers to develop innovative instructional approaches and to incorporate active learning strategies as means to encourage critical thinking.

Promotes critical thinking

Although students are learning the basic information in core subject areas, they are not learning to apply their knowledge effectively in thinking and reasoning[3]. Students need to "develop and effectively apply critical thinking skills to their academic studies, to the complex problems that they will face, and to the critical choices they will be forced to make as a result of the information explosion and other rapid technological changes"[4]. The flexibility and often open-ended nature of workshops enables instructors to design specifically to meet student needs while support the development of cross-curricular working to encourage creative thinking. The discussions and exchange of ideas between teacher and student and from student to student allows workshops to not only encourage but enhance critical thinking.

Encourages Creativity

Sounds of jazz welcomed students as they entered one University of Sheffield classroom. Students were pleasantly surprised to hear music, some smiled others continued talking to friends. Five minutes after the scheduled class time the door was closed and music stopped, which signaled the beginning of the workshop. The music had changed the class in some way. It created an upbeat atmosphere and maintained a tone throughout the class that sparked much discussion. Though subtle the method managed to invite students to participate and be more actively involved in the classroom.

Creativity "is the ability to transcend traditional ideas, rules, patterns, relationships, or the like, and to create meaningful new ideas, forms, methods, interpretations"[5]. By employing different and innovative teaching methods in the form of group activities, presentations, and other interactive exercises, teachers are encouraging creative expression from students. Therefore, equally important is the platform in which an exchange of creative expressions may be successfully achieved. One proven method is the workshop. There is something about workshops that makes them exciting. At the same time they provide an intensive educational experience by employing different ways of teaching people in a usually short period of time.

Fosters student participation

Workshops are a form of collective exercises that may breakdown into smaller group activities. They encourage more participation among students, which in turn will develop their communication, teamwork, presentation, creative thinking and problem-solving skills. There are many methods in which instructors may engage students in discussions and exchange of ideas. Moreover, group-learning situations foster critical thinking, as Cooper argues, "In properly structured cooperative learning environments, students perform more of the active, critical thinking with continuous support and feedback from other students and the teacher"[6]. One technique that facilitators may employ to encourage participation is a quick exchange presentation. This is a face-to-face activity that is meant to quickly start conversation usually by students briefly discussing their topics.

To promote more interactive and engaging learning environments some academic institutions have designed their classrooms to allow more flexibility for the workshop experience. One such example is at the University of Minnesota's Active Learning Classroom or ALC[7] (Figure 1). They are student-centered, technology-rich, learning environments that feature large round tables which may seat up to nine students. Although there is no clear front or focal point in the classroom it has been an effective learning environment with high student satisfaction levels.

Figure 1: Active Learning Center model classroom

Workshop issues

Although workshops have many benefits they also have a few disadvantages. Essential for any workshop is its development and preparations from both facilitator and participant, which may take more time than traditional learning environments. Similarly, due to the open nature of workshops, plans do not always go as planned, which may mean wasting time by exploring divergent paths. Finally, the lack of harmony within the group may make it more challenging for the facilitator to direct and engage with the workshop's participants. However, these obstacles may be overcome in time, the more the facilitators experience workshops the more they are able to face the many challenges associated with an open-ended educational environment.

Workshop design for UG/March/Masters students

After highlighting the many added values in using workshops, this section will present how workshops may be used as an effective pedagogical tool in architectural education. Specifically it will propose a study program for sustainability for UG/March/Masters students. The idea is to use workshops as a vehicle to enhance students' learning experience while bringing together topics from other disciplines that relate to sustainability. The structure of the course will be divided into a series of workshops; each workshop series will have a theme that revolves around sustainability in architecture and other disciplines. Using a participatory teaching model, the themes will be generated during student discussions during the first workshop. This strategy will also allow teachers and students to explore topics of interest within sustainability that may go beyond architecture.

The students will be asked to come up with four words that express the concept of sustainability, which in turn will be the themes for the workshops. For the purposes of designing the workshop series the following words have been chosen; resilience, culture, technology, and nature. Each word will be used as a theme for a series of workshops. Each word will also be further explored and divided into sub-themes. The workshop will break up into 5 groups of around 4 students with each group responsible for a sub-theme. For example, if we use culture as a theme for a workshop series, it may be divided into the following categories; vernacular design, social sustainability, policy, traditional, and modernity. Each group will be assigned a theme and is responsible to research and present assignments that will be later presented to the entire workshop.

Furthermore, each series of workshops will use different methods and approaches during their investigation. The most common approach is to give each group research projects that may result in submitting papers, displaying posters or giving a presentation. Another series of workshops may include visiting local sustainable initiatives, companies, or buildings. Alternatively, the workshops may be a design competition between student groups to encourage creative sustainable design solutions. For example, it may be in the form of a design and build project for a "sustainable wall". Or they may participate in the design and build of projects that may support sustainable community living such as a neighbourhood garden.

It is the intention that these workshops will provide the course with a platform for not only creative teaching but also a way to stimulate students to think creatively. These strategies aim to develop students' communication, teamwork, presentation, creative thinking, and problem-solving skills. At the same time it will enable the class to cover a wide range of subjects and disciplines using different methods in a short amount of time.

Proposed Sustainability Workshop Series

The following is a proposed outline for the sustainability workshop series. Each workshop will be sub-divided into a series of around 5 workshops that will build on one another while examining each theme in detail.

Workshop 1: Introduction to Sustainability: the built environment and beyond. The opening session will cover selection of the workshop themes and designation of student groups. Duration: 1 two-hour session.

Workshop 2: Resilience: The workshop will include a series of sub-workshops and themes, which will employ various group activities, presentations, and discussion. Duration: 5 two-hour sessions.

Workshop 3: Culture: The workshop will include a series of sub-workshops and themes, which will employ various group activities, presentations, and discussion. Duration: 5 two-hour sessions.

Workshop 4: Nature: The main workshop will include a series of sub-workshops and themes, which will use various field activities and site visits. Duration: 3 two-hour site visits.

Workshop 5: Technology: The main workshop will include a series of sub-workshops and themes to design and build a given project. Duration: 5 two-hour sessions.

Conclusion

Research workshops provide a platform where "findings from the different elements of a mixed method study are best combined like pieces of a jigsaw puzzle with the aim of gaining a more complex understanding of the social world"[8]. Similarly, educational workshops bring together elements from various learning techniques with the aim of enhancing understandings and knowledge on any given subject. The present paper highlighted the potential of workshops to be effective tools in education and provided a proposed design for UG/March/Masters students. The proposed programme is only one approach that employs workshops in architectural education, however, the possibilities may be endless for creating different interactive learning experiences.

It is the hope that teachers, students and institutions may work together to elevate the quality of education, which in turn will provide the building blocks of a productive and healthy society. Education is like a jewel, and the more effective the methods to promote creative expression and knowledge, the more it will grow into a treasure for generations to come.

References

[1] Public Engagement Unit- University College London. Retrieved on April, 6,2013 from http://www.ucl.ac.uk/ publicengagement/research/toolkits/Methods.

[2] Underwood, M. K., & Wald, R. L. "Conference-style learning: A method for fostering critical thinking with heart". "Teaching Psychology".Vol.22(1),p 17-21.1995

[33] Applebee, A.N., Langer, J.A., & Mullis, I.V. "Crossroads in American education: A summary of findings". "Educational Testing Service". Princeton, NJ.1989

[4] Oliver, H. & Utermohlen, R. "An innovative teaching strategy: Using critical thinking to give students a guide to the future". (Eric Document Reproduction Services No. 389 702).1995

[5] Creativity, From "Dictionary" retrieved on July,15,2014 from http://.www.Dictionary.refeence.com

[6] Cooper, J. "Cooperative learning and critical thinking" "Teaching of Psychology".Vol.22(1),p. 7-8.1995

[7] Center for Teaching and Learning. "Active Learning Centers". University of Minnesota. Retrieved on July.14.2014 from http://www1.umn.edu/ohr/teachLearn /alc/index.html

[8] Brannen,J. "Mixing Methods: Qualitative and Quantitative Research". Aldershot:Ashgate.1992

Self-organising networks and decentralised knowledge exchange: How UK Architecture students are 30 years ahead the 'Occupy Movement'

Christopher Maloney

ReForm Architects

Introduction

The European Architecture Students Assembly (EASA) is a self-organising network that annually brings together more than 400 students to collaborate in workshops, debates, and lectures. EASA was founded in the name of knowledge and cultural exchange, and in the spirit of learning-by-doing. It is completely independent and entirely studentrun, from the logistics of hosting the event, to tutoring the workshops.

I was active in EASA from 2005 to 2012, as a participant, national contact, tutor, and organiser. This talk will cover the learning experiences offered by the assemblies. I will also touch on the history of EASA and its roots in the UK Winter Schools. I will discuss the reasons why EASA persists today when the Winter Schools withered in the span of 20 years. Finally I'll talk about the lessons of the 2010 assembly in Manchester and how to construct successful decentralised networks.

Early Years

EASA can trace its roots to the 1960s work of Cedric Price, who is credited with stating that "a building is not necessarily the best solution to a spatial problem". Price was a big influence on Brian Anson, a key figure in the UK Winter Schools. Anson, along with Richard Murphy, established the UK Winter Schools as a week–long discussion series involving architecture students from different UK schools.

In 1981, as the popularity of the Winter Schools increased, Murphy and Anson and a group of architecture students and educators from the UK extended an open invitation to students of architecture from around Europe. A one–off summer event was held in Liverpool, the participants discussing potential futures for the city's docks. The event was a success and the following November some of the attendees met in Rotterdam to discuss their experiences. They agreed that the 'Winter School' was worth repeating, and the following year the Netherlands would host a similar event, which became the first EASA.

The early years of the assembly were ad-hoc. Organisers of the first assemblies often state that their hardest job was to draw 400 students to the event. Without the internet, communication with students at schools across Europe was not as simple as today. However, currently on it's 33rd year, EASA as both an event and a network has proven its longevity.

Lessons in Durability

The reasons are complex as to why the Winter Schools petered out while EASA persists; but I will discuss several of the more important factors that relate to the structure of the network.

Firstly, EASA has no central body. Each country has two National Contacts (NCs), which are selected by the previous National Contacts. The NCs promote EASA within their country, enlist participants, and are responsible for providing their participants with information. Each November, the NCs convene to discuss the network. However, the agenda is never predetermined. The only requirement being to determine the location of the following EASA.

An essential characteristic of the meetings is that all major decisions are reached through consensus. The group never votes. There is no executive power. This means that the nation hosting the next EASA knows they have full support of the entire network. The closest EASA has to a 'leader' are the organisers of each event. However, they are solely responsible for their event and their influence only extends one or maybe two EASAs. In contrast, the Winter Schools were personality driven. Consequently, as the instigators became less involved, the network began to fragment and it became increasingly difficult to host events. As time between events increased less knowledge was transmitted, resulting in the last event being held in 2000.

The difference in leadership structure between EASA and the Winter Schools may have also had a more profound psychological effect on their networks. In his book *Swarmwise,* Rick Falkvinge discusses the need for volunteers to be free to pursue their own ideas and initiatives within an organisation. He states that voluntary organisations require a specifically strong identity - or goal. However, dictatorial or micromanaging bosses will

soon de-motivate those giving their time for free. The non-hierarchical structure of EASA encourages self-actualisation. Volunteers are able to initiate and drive projects, which results in an increased sense of ownership. From my personal observations, this leads not only to a higher quality product but also a greater sense of fulfilment.

A major strength of the EASA network is that it does not depend on any one particular link. For example, if National Contacts of a country are not replaced, then the following year that country will have no participants. They become a 'lost country'. However, 'lost countries' do not affect the network as a whole and the network actively works to restore connections to those countries. For example, the UK was 'lost' between 2000 to 2005 but went on to host EASA in 2010.

Similarly, EASA doesn't depend on a strict set of rules to govern the behaviour of the network. Each country has its own succession policy for NCs and method of selecting participants. This allows tailored strategies that can be locally adapted. For instance, the UK has 47 architecture schools while Lichtenstein has one; therefore, the network requires different methods of operating within each country. There is, however, an EASA Guide that was developed in the 1990s and is occasionally updated. The guide is a document providing advice for organising summer assemblies, defining size, resources, etc. Crucially, it is merely a guide, not a set of rules. Organisers are free to refer to it, or ignore it. This allows each set of new organisers to redefine the event, if they choose. It also ensures that one unsuccessful event has a minimal impact on the future of the network. Along the same lines, the network is apolitical. It has no prescribed agenda. Agenda, therefore, can move and adapt with the times and the will of the group.

The Structure of the Event: The Assemblies

The central purpose of the network is to perpetuate the summer assemblies; the two weeks in which 400 European architecture students are brought together for knowledge and cultural exchange. Through my experiences as lead organiser of the 2010 EASA in Manchester, I will attempt to elucidate the draw of the summer assemblies. Why do 400 architecture students convene for two weeks every summer to collaborate on projects? Why do they volunteer so much of their time to maintain the network, raise funds, and host events?[1] In conclusion, I will discuss what can be taken from the example of EASA and how it can influence the structure of other networks.

Each assembly is a completely unique organism in both its organisation and execution. Everything depends on the current organisers, from the conception and planning through to the daily activities of the assembly. However, certain consistent elements provide the framework for the assemblies, such as workshops.

The workshops are central to EASA. They are what started it and the key reason people attend. Each participant elects a workshop, which are designed and run by volunteer tutors. The workshops range from building installations, to dance, to entirely theoretical. I originally attended as a workshop participant and then volunteered to tutor three workshops, two of which I will describe. What struck me most about the workshops was the attitude and commitment of the participants. Speculating, this seems to be a result of the feeling of equality generated by the non-hierarchical structure, the international context and perhaps most importantly, the lack of grading or competition.

The EASA workshops are mostly student run. Tutors bring ideas and methods from all corners of the continent (and sometimes beyond) which results in an incredibly varied selection of workshops. Generally they are split between theory and construction, but the content is often in a category unto itself. To name a few, in the 7 years I was involved with EASA there have been workshops on everything from the production of interactive urban exploration websites, feminism in architecture, circus skills, urban performance, and countless pavilion construction workshops. The following examples describe two exceedingly different methods of structuring workshops:

Kraftka: Ireland

In 2008 I tutored a workshop entitled *Kraftka*. Participants designed and built a pavilion inspired by absurdism in ten days. After participants joined the workshop we, the tutors, provided an introduction to absurdity, Franz Kafka, and video production. After this the participants took the lead in producing the design, and constructing the pavilion, including AV components. As tutors we simply provided motivation. Apart from that we were participants too.

Fig. 1. Kraftka under construction

Zerobase: Helsinki

In 2012 I tutored *Zerobase*. As a tutor, I was interested in the architecture students' abilities to employ transdisciplinary knowledge production techniques in the investigation of new office typologies. In the first half of the workshop the participants and I discussed pedagogy, transdisciplinarity, the development of office layouts, and future business trends. In the second half I became an observer. The participants devised exercises, then programmed and led sessions with a cross section of *expert users*, to produce speculations and designs.

Fig. 2. Participants brainstorming during Zerobase

Observations and Conclusions

EASA produces a range of learning outcomes. Design workshops expose participants to exercises and concepts that have developed in other educational backgrounds, which are then discussed and synthesised to produce unexpected results. Construction workshops at the assemblies are often the first experiences many students have of construction, and working with tools and materials. Interacting with students with similar interests from differing backgrounds builds contextual understanding of professional development and education practice on an international scale.

EASA lives within its own context. An absence of both grading work and competition fosters a genuine environment speculation. This is the most obvious difference to structured higher education.

However, there are elements of it that can feed into higher education. EASA breeds a sense of engagement, inclusion and responsibility. This is partly because EASA can be influenced by every member. All those involved have an input on the logistics and the programme. Each attendee, from lead organiser to participant, will have designated duties during the event, from logistics to cleaning. As personal ownership of EASA as a whole or an individual workshop increases, so does the importance of its success (or failure).

One common factor between all the workshops is that they achieve a high level of engagement with participants. There is the freedom to fail, within a context of personal responsibility and available support. In *The Global Achievement Gap*, Tony Wagner discusses research that suggests contemporary students are motivated differently to their predecessors. Rather than seeking individual acclaim, they are more interested in being part of great things, and desire mentorship over instruction. My own observations from both tutoring and leading the organisational team align with Wagner's theories. This approach has influenced my work tutoring, in helping students structure the MSA+, and in establishing the Architecture Students Network (ASN) in the UK.

In establishing the ASN, and defining its structure, it was paramount to reduce structural bureaucracy. Another key element was to limit the requirement for personality. It has been demonstrated that networks overly reliant on strong leadership personalities can falter when the initial leaders decrease or cease their involvement. Additionally, strong leadership can make a network's agenda more difficult to adapt and can inhibit individuals' ability to self-actualise within the network.

The Occupy Movement[2] is a prime example of a decentralised network that lacks a clear definition of its aim. Members of the Occupy Movement share similar motives, however, unlike EASA, there is no guide. A clear set of aims and guidelines which give the organisers of each EASA a solid point of departure. Even if they choose to redefine or disregard the entire guide, there is articulated base for discussion and questioning.

EASA provides many learning experiences for attendees and observers alike, but perhaps the most important is the

simplest and most obvious of all. Each year EASA demonstrates the abilities of students to produce and deliver on self directed work. It is an active learning experience for organisers and an observing learning experience for attendees. As we told participants before applying: You don't go to EASA to do great things, you go to EASA to learn to do great things.

Notes

[1] At EASA Manchester we had a core team of five organisers, which extended to 12 in the months leading up to the assembly. During the event, over 50 volunteers performed daily tasks such as fire watch and event guides. This number doesn't include the workshop tutors, who are all volunteers as well. The participants were also involved with daily duties such as serving meals and cleaning.

[2] The Occupy movement, which came to prominence with demonstrations in New York and London, employs a leaderless, decentralised network structure, like EASA.

References

Falkvinge, R (2013). Swarmwise. North Charleston: Create Space.
Wagner, T (2008). The Global Achievement Gap. New York: Basic Books.

Engage

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Introduction

Social innovation is crucial as a driver for sustainable change. Design for social innovation requires new competences and skills; important among these are co-design tools and skills to critically and successfully engage with a range of stakeholders.

The paper summarises the pedagogy developed by Design Research Studio 07 (DRS07), part of BA (Hons) Interior and Spatial Design at Chelsea College of Arts, over the last couple of years, to enable critical participatory skills. It highlights key student projects and moments within these projects in which disbelief and resistance to the idea and process of 'engagement' transform into comprehension, appreciation and delight.

Background

BA (Hons) Interior and Spatial Design at Chelsea College of Arts is one of the largest and most established interior and spatial design courses in the UK. It is unique as it is rooted in an 'art-school' context of creativity and experimentation and in that it has a strong inter-disciplinary approach to the subject. The course encourages spatial design practice that is contextually and intellectually adventurous, it develops students' skills in designing, creating and conceptualising new spatial situations.

During the second and third year students join a Design Research Studio. These are research-driven teaching and learning environments, consisting of clusters of staff and students working closely on a focused agenda framed by the unit design briefs.

DRS 07 was established in 2012 by Mariana Pestana and Shibboleth Shechter. The studio is concerned with socially involved spatial practice, working in real sites, through live, collaborative projects, asking students to critically engage with site and community. The studio explores spatial design as multi-authorial, a mechanism for joint creativity of designers and users. It encourages on-site participatory investigation through making of spatial interventions that engage diverse user groups and can drive change.

Pedagogy

The journey of our students starts from an initial resistance to the idea of engaging with stakeholders as part of their design process, probably motivated by a general understanding of design as an individually authored practice. Through the process of the studio work, students' disbelief shifts towards comprehension and appreciation. This happens gradually over three key stages.

The choice of the site which the studio is going to investigate is critical. We choose sites where a process of change is taking place, where a need for intervention is identified with local stakeholders, where there is potential for students to explore design as a tool for social innovation. Sites are also chosen for accessibility as students are encouraged to visit regularly and become involved in and part of the local community.

We start by asking students to investigate the site through the identification of a social, environmental, economic or cultural issue and undertake participatory actions (such as designing an interactive tool or game) to engage local stakeholders. Their resistance, at this stage, to this method, has to do with their expectations: Why shouldn't they follow their own interests? Why do they have to listen to others from the beginning? Isn't design the expression of their individuality?

Once the students have identified the issues we group them according to those. Small groups (4-5 students) are formed in which peers collaborate and engage with each other, to construct a 1:1 scale spatial intervention. Each spatial intervention is at once a design proposal and a tool to further gain knowledge about the local context. By presenting their work to the public, observing and documenting their reaction, students further develop participatory research. They usually spend three to four intensive weeks in the workshop, building the intervention which is then installed on site. This is usually the turning point for most students' projects. Students begin realising the value of engaging with the public, and feel proud of seeing their work being used for real.

Experience gained from designing, installing and testing these interventions informs the final individual proposals which begin in the second term. Students are encouraged to design real interventions and continue to develop these

through critical engagement with stakeholders, using innovative participatory, co-design tools.

Projects

Three projects are described. In each, the 'magical moment' following enjoyment provoked by the activation of projects on site, has led to the students choice to not only continue to use design as a tool to critically engage with site and community through their individual projects, but also, to possibly, continue upon graduation to use their skills to envision a different future, and pursue socially involved spatial practice.

Hanna / Where Stories Meet

Hanna's project took place in Meanwhile Gardens, a community garden in Northwest London offering local residents, in one of the most deprived areas of London, a place to enjoy safe, open-air leisure, play, training and education. The gardens started life 36 years ago, when crumbling terraces were being cleared, and a local sculptor imagined the derelict wasteland as a beautiful garden. Jamie McCullough approached the local authority with his vision to 'turn the rubble into a park'. Temporary permission was granted, hence the name, meanwhile. Over the years through the support of volunteers and a dedicated staff team, the gardens have continued to thrive. DRS07 students were asked to explore how the grass-roots spirit of Meanwhile Gardens can be continued and to collaborate with the garden community to imagine possible future garden narratives.

Hannah started her project by creating boxes to collect 'garden stories' from locals and visitors: a memory box, a garden tips box, a gossip box and a fictional crime detecting box (Fig. 1).

Fig. 1. Collecting garden stories in the play-hut

With her group Hannah developed the boxes into a spatial intervention. 'Stories under a Tree' was a space for the local community to meet and share stories both orally, through a series of recording devices hidden in bird houses and visually, using the chalks provided to write on wooden planks suspended from the tree (Fig. 2). The design was simple. It was a response to the DIY aesthetic of existing structures within the garden and it allowed for residents interpretations of its use. The concept for the project, its location within the garden and its design were developed through a series of formal and informal activities with local residents, garden staff and volunteers. The responsiveness of the team to the desires of the community led to the management allowing the structure to become a part of the garden for four months. For the group of students that worked on this project, this was a magical moment, when idea was transformed into reality. They engaged with local stakeholders in the process and were rewarded with the opportunity to observe how "the structure is a forever changing place, where old stories disappear and new ones appear".

Fig. 2. "We Love Ladbroke Grove", Message written on ' Where Stories Meet'.

In the process of designing the tree house, the 'Meanwhile Gardens' staff insisted that the group designed the tree house in such a way as to 'deter the homeless from using it'. Hannah became interested in this community, the homeless, and how they use the garden. For Hannah, this was the second magical moment, when she realised that she can use design as a tool for social innovation. Hanna's final proposal was a soup cafe, to be designed, built and run by homeless people. A space that would provide a means for storytelling between this neglected community and local residents; built with what can be found in the area and ingredients grown on site, this self-sufficient cafe could become a new social hub, inclusive of those who are usually excluded. Although Hanna's project was speculative, she worked closely with James, the chief gardener, and various local homeless charities to develop the idea. The project was presented as a new chapter in

the book 'Meanwhile Gardens' written by the local sculptor who originally developed the gardens; as a manual and a resource for how such projects could be developed.

Hanna's experience in Meanwhile Gardens helped her decide to pursue a career in working as a designer in developing countries and she is currently completing an MSc in Urban Development Planning. As educators, this is perhaps, the most rewarding of magical moments.

Elliot / Splinters Cafe

Elliot's project took place in the Old Tidemill School in Deptford. Since it ceased to be a school this site has been home to property guardians and artist studios. 'Assembly', a group of artists, gardeners, designers, makers and bakers has recently opened the gates to the public, instigating projects and events to investigate social, cultural and environmental issues.

Elliot's initial intervention on site was a simple poster asking the local community 'what would you like in Deptford High Street?'. Considering the responses he received, Elliot developed an interest for analysing critically the process of gentrification and the role coffee shops play in that process.

With his group, in collaboration with Assembly, Elliot designed a coffee machine from dysfunctional objects bought in the market (Fig. 3). The 'coffee shop' was open for one day, during a Christmas food market event organised by the local council and Greenwich Development Agency. The coffee shop attracted locals to an area of their neighbourhood they had never visited before.

Fig. 3. Elliot's Coffee Machine, Old Tidemill School

Elliot decided to continue investigating coffee and regeneration in his final individual project and designed 'Splinters Cafe', a DIY kit for making local cafes as an alternative to the high street coffee chains, which could be bought and run cheaply and could easily be stored and transported by an individual. Elliot installed Splinters Cafe as part of Deptford Free Film Festival (Fig. 4).

Fig. 4. 'Splinters Cafe'

His project subverted the gentrification process and interrogated the economic forces that form it. As an alternative to the brands that usually initiate gentrification processes, such as, Costa or Starbucks, Elliot proposed that local residents get there first and build their own cafe. Besides making a 1:1 prototype, Elliot built a website with an open source guide to all the necessary information for anyone interested in opening a cafe: from building instructions to information about licenses, marketing, social media, sourcing of milk, coffee, etc. For Elliot the magic moment was to see people using his cafe but particularly when Assembly decided to keep his 'Splinters Cafe' in the Old Tidemill School. Since then, Elliot has had other approaches for possible coffee shop collaborations.

Celia / DF Mobile Workshop

Celia's project took place in Deptford Market, a food, antique and bric-a-brac market in South London. The area is currently undergoing a process of regeneration and the market, which has been in the same location for centuries and was until recently a thriving thrice weekly market, is in decline and under threat from new shops and facilities.

Celia was inspired by a local artist working with recycled objects and started her project by buying a broken alarm clock, a chipped coffee cup and a broken light bulb. She asked visitors, locals and traders to draw: "into what would you transform this broken object?"

With her group Celia developed the concept of transforming 'dysfunctional into functional'. They designed, installed and operated a one day cafe, made entirely from dysfunctional objects bought in the market. Celia's contribution was a 'sound trolly' that travelled through the market, inviting the public to follow the procession towards the cafe (Fig. 5).

Fig. 5. Sound trolley in Deptford Market

Fig. 6. DF Mobile Workshop

For Celia the magic moment was the positive public response to the 'fun' atmosphere the sound trolly created. This prompted Celia to continue working with the local community, on a real, live project. Her final project, DF Mobile Workshop, is a mobile artist workshop on which artists and visitors to Deptford Market can collaborate to transform broken, 'dead' objects into something new. The workshop consists of two parts: a 'shopping trolley' that can be taken around the market to buy objects and a mobile workbench, into which the trolley slots (Fig. 6).

Following a successful day with of DF Mobile Workshop in the market, Celia has been invited to participate in 'Deptford X' art festival and has been offered full funding by the University of Arts London.

Questions

Spatial design is a fundamentally social practice; it exists in the relationship it establishes with and between people. To engage students in the process of acting in real sites and presenting their work to be used by real people seems a relatively obvious thing to do. Yet it is not. Students still arrive at higher education thinking of design as the creation of one illuminated individual, and it is only through the experience of making and presenting that they are convinced otherwise. We believe that it is important to introduce them to methods of city-making that are collaborative, shared and discussed between different agents. When they realise the joy that is seeing their work in action, the satisfaction of sharing their work with others, of challenging their beliefs and in the end celebrating its success together with local people, then we have our magical moment.

We are interested to further explore the reasons behind the initial disengagement of students with participatory design, to explore whether this is a shared experience in other educational contexts and to explore different pedagogical approaches to overcome this resistance.

Architecture as Pedagogy: Alive and Kicking

George Lovett; Ruth Morrow; David McClean

integratEd workshop; Queen's University, Belfast; Robert Gordon University, Aberdeen.

This workshop draws on an emerging collaborative body of research by Lovett, Morrow and McClean that aims to understand architecture and its processes as a form of pedagogical practice: a civic pedagogy.

Architectural education can be valued not only as a process that delivers architecture-specific skills and knowledges, but also as a process that transforms people into critically active contributors to society. We are keen to examine how and where those skills are developed in architectural education and trace their existence and/or application within practice. We intend to examine whether some architectural and spatial practices are intrinsically pedagogical in their nature and how the level of involvement of clients, users and communities can mimic the project-based learning of architectural education – in particularly in the context of 'live project learning'

1. This workshop begins with a brief discussion paper from Morrow that sets out the arguments behind why and how architecture can be understood as pedagogy. It will do so by presenting firstly the relationship between architectural practice and pedagogy, drawing out both contemporary and historical examples of architecture and architects acting pedagogically. It will also consider some other forms of creative practice that explicitly frame themselves pedagogically, and focus on participatory approaches in architectural practice that overlap with inclusive and live pedagogies, concluding with a draft and tentative abstracted pedagogical framework for architectural practice.

2. Lovett will examine practices of architectural operation that have a pedagogical approach, or which recognise within themselves an educational subtext/current. He is most interested in a 'liveness' beyond the 'Architectural Education' of university institutions. The presentation will question the scope for both spatial empowerment / agency and a greater understanding and awareness of the value of good design when operating as architects with participant-clients younger than 18, older than 25 or across varied parts of society. Positing that the learning might be greatest when there are no prescribed 'Learning Outcomes' and that such work might depend on risk-taking and playfulness, the presentation will be a curated showcase drawing on his own ongoing work.

Fig. 1. participants of a briefing, design + construction project, Spain, integratEd workshop

A round table discussion will form the culmination and focus of the workshop following the brief presentations. This hopes to draw on participants views and experiences to enrich the research process. The intention is that the overall workshop will lead to a call for contributors and respondents to a forthcoming publication on 'Architecture as Pedagogy'.

Civic Fabrication: Urban Futures

Alex MacLaren, RIBA and 2014 MA Architecture students, presented with Rebecca Goodson, MA RIAS award 2014

Edinburgh College of Art, University of Edinburgh

Introduction

'Civic Fabrication' is a project that tells stories about hypothetical futures of Dalmarnock, Glasgow- an area neglected for years and now in receipt of enormous catalytic regeneration funding as host of the Athletes' Village for the XX Commonwealth Games. These stories are shared with the local community with the aim of fostering a proactive optimism for the future.

Content

These stories are fabricated by architecture students, who have studied the various scenes, scripts, actors and plot twists (sites, policy, stakeholders and economy), and have developed their stories on this basis. Stories were informed, formed and then reviewed by local residents, explaining to the students their community's concerns. Some might call these stories 'Masterplans', but that gives the impression they are set in stone, which is, we know from past experience, just silly.

The most difficult part of this exercise has been effectively sharing these fabrications with the wider local population. Student work was beautifully drawn, expertly modelled, inspirational, and unpredictable. Community leaders- our contacts in the council, public developer and local architects- found the information exciting and wanted to share these positive forecasts. The value was seen to be especially high as the area has been depressed since its 1950s industrial heyday, and this can impact the general mindset of residents into either apathy or a misplaced longing for the past. Positive ideas for the future are valuable. We had some to share.

But we had concerns. Our ideas were just that- with no clear chance of realisation. How could we make that clear without seeming irrelevant? The last thing we wanted to do was incite mis-placed understanding of development promises; this community has been let down too many times before. We also had to make the work both approachable for the general population and interesting to those engaged- to neither alienate nor patronise. And finally, the remaining local community is tight-knit, with an understandable mistrust of energetic people from 'outside', too many of whom have come and gone with

Fig. 1. Street Frontage of Student-Designed Exhibition, Dalmarnock Road, Glasgow

either no effect or worse, damage and broken promises. How to gain trust, when in practice our graduating students were also about to leave for the next stage of their lives?

The conference presentation will discuss the student-led efforts that resulted in a 6-week permanent streetside exhibition hosting 4 weekend 'live' events, on site, during the Commonwealth Games, and appealing to local residents. As part of this exercise students also built permanent play equipment for the local adventure playground, and hosted casual drop-in events eating cake and drinking tea/coffee over our huge 2m x 4m model of future scenarios.

Pedagogy

The pedagogic model of this exercise seeks to connect students directly to the area and its citizens. Students are exposed to ambiguity and conflict, and asked to professionally navigate their role between these stakeholders. The tutor enables this communication but does not to pre-empt or impose direction. Students develop their views on the role of the architect.

The project has a long-term social aim in this deprived community. It is hoped this may encourage future engagement in Higher Education and also in public debate surrounding the future of the area.

Can this project succeed in communicating value to both the academe and to local residents/developers? The presentation will reflect on the 'magic moments' of success, but also on the failures within the project and navigating the risks, academic and social, of undertaking such a project.

Fig. 2. Images from one exhibition weekend, including children drawing over the masterplan model; commonwealth athlete cyclists, and a water slide in the adventure playpark.

Fig. 3. Construction of the sandpit at Baltic Street Adventure Play

A key partner in this project was Baltic Street Adventure Play

[1], an initiative led by playworker Robert Kennedy and supported by landscaping and architectural engagement by Assemble[2]. Robert's methodology of working with children to design and giving them ultimate power over the transformation of their playpark space was shocking and inspirational for all of us.

Summary

The points below are key observations and conclusions drawn from our experience during this project. It is hoped that in offering these for discussion and critique this may assist future schools in arranging similar activities.

Briefing

• The academic brief must be re-framed for community participation. Definition should be open enough to allow unforseen input by user-experts: do no presuppose user requirements or perceptions in the brief.

• Recognise the pedagogic value of input from inexperienced non-architects: ambiguity and contradiction and even friction in disagreement are valuable. Students' self-awareness and confidence as a designer was ultimately improved by offering them divergent critique, but initially the direct and non-conformist input was a shock, and required tutor support. The learning experience was enhanced but the immediate product suffered. This experience was mirrored by the 'live build' part of the project where students designed and built a sandpit collaboratively with playworkers, assemble and local children.

• Clearly define the scope of engagement: what can realistically be achieved, and how that outcome is understood by all involved. A successful student outcome is not a successful community outcome. Poor achievement in an academic forum can be catastrophic for a student, but failure to deliver a promised outcome to a vulnerable user-expert can be extremely damaging to trust and

welfare. This was the most important and also the most difficult point to manage.

Practical considerations

• The physical safety of participants was addressed through routine risk assessments, but the mental impact of this experience on students and on user-experts was more of a concern than had been anticipated. Some students found the local environment to the site unnerving, and found communication difficult. One of the user-experts was similarly uncomfortable and intimidated by their initial visit to the university.

* Site experience showed that physical thresholds were more powerful than had been anticipated. Part of the exhibition could be viewed by passers-by directly next to a narrow footpath: infact this was he most successful area in engaging people. The covered area, set back from the road but frames with balloons and 'welcome' banners, proved to be a powerful threshold that required courage to cross and clearly deterred some potential visitors. Plans to break down the threshold through removing hoarding panels and adding fore- and back-ground balloons as visual links were of limited success.

Communication between students and 'user-experts'

• Consciously managing space for communication between students and user-experts, and specifically allocating time for non-confrontational communication, and orchestrating this, prior to any direct review of work, was essential. Facile as it may sound, sharing Food was incredibly successful in achieving this.

• In this example, the students and visitors to the exhibition had very little in common in the way of shared cultural or life experiences. Casual communication, as was encouraged when discussing the work, was difficult as a result. The students were briefed and encouraged to consider how they approached people, to be open and to use simple non-specialist language. Some found this especially difficult. The student group supported each other extremely effectively in this situation.

• Developing a common language takes time and is best achieved by shared experiences. Repeat visits provided by far our most successful conversations. Documents and photographs brought by visitors on their return provided a more balanced relationship of 'show and tell'.

• The use of a model and of perspective views were invaluable in communicating design ideas to community members where orthogonal drawings failed to engage.

Deliverables and 'measuring success'

• The biggest challenge throughout was articulating to community visitors the reason for our exhibition. On hearing that the projects were 'only ideas' and had no formal backing, the common reaction was "well, what's the point then?" We remain convinced of the value of suggesting feasibile and imaginative solutions, and of engaging local children in this dialogue with Higher Education, but that value has not been seen by some visitors.

* The public community-facing part of this project was conducted outside of semester by volunteers and had no bearing on student assessment. The uncertainty of what could be achieved, of the public reception or popularity of the project, would provide a very high degree of unmanageable risk when trying to articulate any formal assessment criteria. Despite offering an extremely valuable learning experience, as evidenced by feedback from the students themselves, incorporating this type of activity in any assessed curriculum would be very difficult.

• Finally, the requirements of the academe and of the community were generally divergent. At points throughout the semester, students produced work relevant to either one of the other but seldom managing to excel in both criteria. The lack of clear academic acknowledgement for the community-related successes were particularly galling, especially in communication. Ultimately however, projects from this unit were successful in city-wide and national awards, indicating we hope a movement amongst the architectural profession to place more value in community engagement and social sustainability.

Conclusion

This project enjoyed positive press coverage, received good student feedback and positive reactions from key members of the community. However the author is left feeling there is much to be learned for next time- and extremely glad of the chance (and promise to local partners) to returns to the area in 2015 and 2016 with different student cohorts, reinvigorating existing community relationships and perhaps crystalising our role. ESALA's position in this is unique- as authors of hypothetical projects we can engage both developer and residents (new and old) and try to develop a shared language in a non-threatening way. We can, I hope, support the local community in understanding what can happen and why, and in somehow taking ownership of that, rather than being lost in the feeling that it's all happening over their heads. Arts projects in the community can be difficult and can at worst, be damaging, if the students make empty promises then pack up and go

Fig. 4. Visitors to the exhibition and engaging allcomers on the street. Children were invited to add to the urban model

Notes

[1] http://www.balticstreetadventureplay.co.uk/

[2] http://assemblestudio.co.uk/

project twitter account: https://twitter.com/ESALADalmarnock

project pinterest account:
http://www.pinterest.com/edalmarnock/pins/

local media interview:
http://www.citizen2014.net/2014/07/31/video-destination-dalmarnock-rebuilding-a-community-after-the-games/

Visual Tools as Enhancers to a Creative Building Process with the Community- A New Visual Live Architectural Education Approach

Eman Mohamed Ismail Abdellatif

Creative Architect Designer/ Lecture/Visual Socio/physical developer and consultant. Free Lancer



All photos in this paper are taken by the author

Aim:

This process aims to *decrease the gaps* between the students and themselves / students and educators/ and students and community and make them capable of reaching creative thinking in synergetic form towards their own community. It aims to make the students drop their ego and see the value of synergy in creativity that magnifies the value of the resulting product. It aims to make them see how such a free visual process can result in more visually stimulating creative sustainable socio/physical environments that meet the real needs of the community and help promote the abilities of both the community and the students..[i] .

Process Description:

Through a set of visual exercises to promote creative abilities based on diverse theories, research and explorations on creativity and visualization, the architecture students have their visual and creative abilities boosted, using simple low-tech visual techniques. Using a similar set of exercises, the students are to explore boosting the visual and creative abilities of a core group from a community in an informal settlement. This helps them to share common visual understandings and language. Together, they are to perform a visual small renovation or design-build project, based on the community's visualized ideas through a hands-on process, where the community is to play the main role and the students act as partners and motivators.

Phases of the Process:

The process passes through two main phases as shown in figure 1;

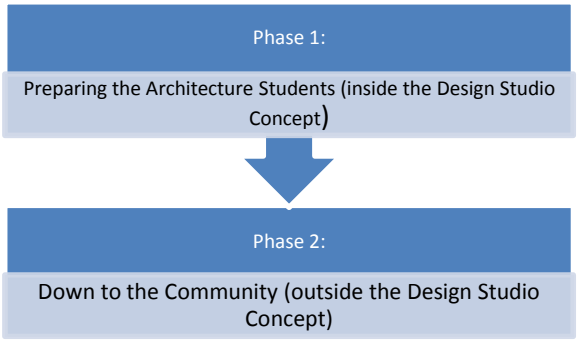


Figure 1: Two main phases of the process

Phase 1:

Through a set of visual exercises to promote creative abilities the architecture students have their visual and creative abilities boosted, using varied flexible, free visual tools. The exercises rely to an extent on visual techniques of *psychoanalysis of **each** character*, to be able to reach their internal soul and inner eye and release their personal subconscious reticular system. Exercises provoke abstract, free, flexible thinking based on scientific theories and personal explorations, passing gradually through the different needs of the different stages of creativity (preparation, incubation, illumination and finalisation). These exercises integrate all sensors, external socio/physical environment, emotions and memory, all at the right time of the process. The idea of making abstract models and making the design process a 3d visual hands/on process enhances the sense of the 'unknown' and 'involvement, provoking diverse thinking.

This phase includes visual lectures that clarify the impact of space on promoting abilities and behaviours in the different cognitive stages of child development and shaping societies through its physical details (like shapes, colours, material, orientation, design, etc in relation to the magnetic fields it emits) to motivate a sense of obligation and responsibility towards their socio/physical environment. It also includes lectures on

creativity as a totalistic approach, the impact of different external and internal factors and visual tools in the process.

The phase ends with a project to test their final creative abilities, in relation to different assessments during the course to measure *not* how creative they are, but rather the positive change towards becoming a creative person, each on an individual level. The more positive the change, the higher the grade. The assessment is explained in detail below. The phase passes through the four main stages of creativity; preparation, incubation, illumination and finalisation, over eight classes and final assessment, as shown in figure 2.

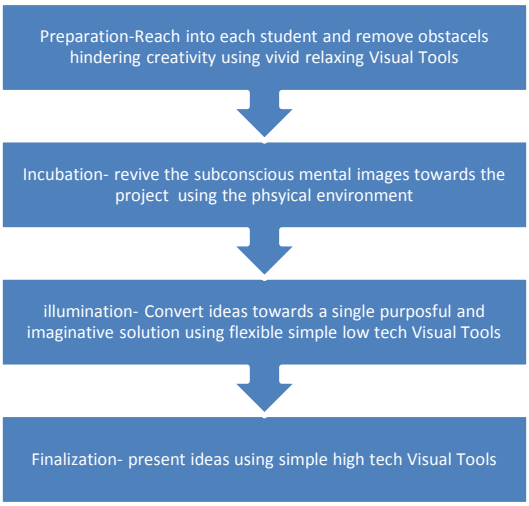


Figure 2, stages of phase 1 built on the stages of the creative process and how different visual stimulations should be integrated in the process.

Phase assessment:

The final grade will be divided between the work throughout the year, measuring the change in each student towards becoming a creative visual thinker, in addition to the final project. This project focuses on a space they conceptually and abstractly design for an innovative area they see as essential to solving problems they see as essential to youth and helps boost their creative energy, helping them to find and utilize their potential.

a- The change throughout the phase: this will be measured verbally and visually through
- a questionnaire paper at the start and end of the course, progress in several abstract paintings they produce (measuring vividness in colours, diversity, freedom in flow of colours, confidence while using the brush, and novelty)
- change in character that shows the ability to take confident fast and divergent decisions that are purposeful and of value, more confident in defending and arguing their ideas, more daring (this may be seen in the way they dress, or select their topics to tackle), etc.

b- Final Project: space that helps solve youth/or their personal problems, boost their creativity, and help them realize and enhance their personal potential: this project consists of a visual outcome accompanied by a verbal/visual presentation. The visual outcome may consist of an abstract model (life size/large scale or small scale) of their ideas and concepts, free sketches, movies, a play, songs and dances. Each student is to select the technique most appropriate in delivering their concepts.

The presentation of their work must demonstrate the problem they see facing youth (or personally themselves) and how this space or creation may conceptually solve such problems. They are to be able to defend their topic and verbally/visually present their solutions.

Assessment of the project is focused on the *originality* of the problem and the conceptual solution, *appropriateness* of the solution discussed in relation to the problem discussed, *vividness* both visual and verbal in presenting the problem, *storytelling*, *complexity*, *purposefulness* of spaces designed, their *imaginativeness* and their *value* to the problem. Their discussions should show an ability to reach, present the problem, analyze it and confidently defend the conceptual solution.

Figures 3-5 describe the four different phases of the course conceptually.

Figure 3: Preparation stage (reaching into each individual, removing obstacles and stimulating personal talents), shows how the lecturer should be 'simple' and break the gaps between him/her and the students. It also shows the abstract process of painting that helps liberate free, creative thinking and which I use to psychoanalyse each student separately through a repetitive pattern I have reached that describes the character and how to deal with it. It also shows how in creative thinking I make them use abstract modelling with flexible material to help trigger divergent creative thinking - out of the box.

Figure 4. Incubation stage (using the physical space as a visual tool for inspiration).

Every line, colour, form, material in the physical space may be used to stimulate certain mental and psychological abilities. In reference to this and the different stages, the physical environment is constantly used as a strong visual tool to provoke certain needs in their abilities. Incubation is a very important stage, in which they reach their inner mind and the divergent ideas convert to form a single feasible idea. Openness, pitched roofs, greenery and flowers were found magically positive in this stage.

Figure 5. Illumination and finalization stage- reaching divergent solutions and converting them into a single appropriate-imaginative-purposeful and of value conceptual solution to the problem at hand.

The flexible conceptual models are converted to more detailed, yet flexible models using clay, watercolours, and computers. Using photography, free sketching and computer aided programs, each student presents their ideas and work in the visual manner they choose. No architectural drawings are required (plans or elevations are made according to each personal ability and scaling as relevant - the focus is on the ability to think creatively. Rigidity at this stage will block creative thinking.) This stage must not lose the 'fun' that helps maintain the creative thinking flow.

Phase 2:

Similarly the students are to promote the creative abilities of a core group from the local community, made up mainly of children, some women and youth. They are to use a similar visual process and visual tools that have been introduced to them to enhance their creativity within the design studio.

The next step in this phase is to collaboratively design/build educational and cultural nodes in the informal settlement streets and schools through a hands-on process. The steps taken in this phase are explained in figure 6.

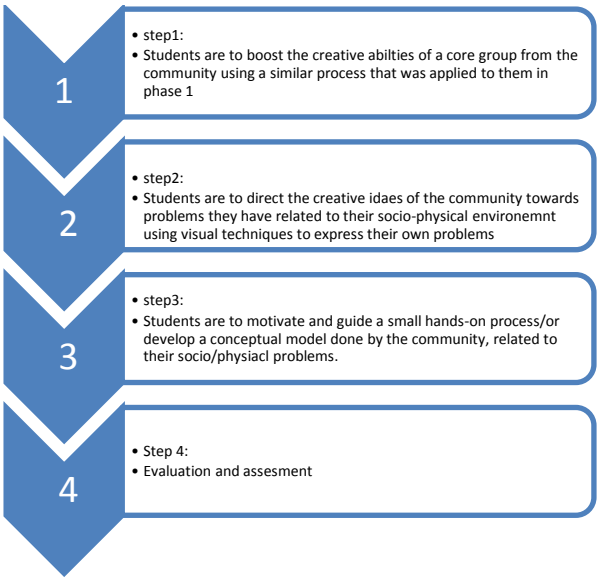


Figure 6. steps taken in phase 2

The photos in figure 7 help visualize steps in this Phase.

Step 1: Enhance creativity of a core group from the community using similar abstract flexible art therapy based on psychoanalysis, visual stimulation and motivation. This is done by the students.

Step 2: Direct diverse ideas and creative thinking of the community towards problems they face in their socio/physical environment using simple visual techniques in expressing their needs, using flexible abstract models and free paintings. This is done by the community themselves motivated by the students.

Step 3: Motivate small hands-on projects and/or conceptual visions for the community's own visions for improving their socio/physical environment

Figure 7: Steps of phase 2.

Step 4: Assessment**:** This assesses the students on a *personal* and collaborative level throughout phase 2 and in relation to phase 1

- Capability to boost creative abilities of the community and communicate visually with others, measured through difference between the community's first and final visual drawings and abstracts. (15%)
-Synchronizes all different ideas fluently – measured through the resulting product in terms of being homogenous and the amount of ideas from different entities integrated fluently and the controlled process of doing. (10%)
- Originality of the product, *complexity,* and its real value in relation to the community. (50%)
- Change in character of the students to become more sensitive, cheerful, open-minded, risk takers, diverse, and self-confident, in relation to the beginning of phase 1, and synchronize their personal creativity with others. (shows in their abstract drawings, and everyday life).). (25% of the score).[ii]

Notes

[i] The visual exercises have been built on the previously explained explorations and integrating research in several fields related to creativity, neurology, color therapy, cognitive psychology, built environmental psychology, fengshui, etc.

[ii] Positive references that may be used:

-Averill,J. R.(2005).Emotions as mediators and as products of creative activity. In Kaufman& J. Baer(Eds.), *Creativity across domains: Faces of the muse*. P. 225-243.

-Brown, S. (2005). *Feng Shui Bible*: *The definite guide to improving your life, home, health and finance*. London

-Buzan, T. (2005).*The ultimate book of Mind Maps.* London: Harper Collins publishers.

Gordon, William and Poze,Tonyy, (1981) . "Conscious/Subconcious Interaction n a Creative Act", In Journal of Creative Behaviour, 1981, Vol15 p1-10

-Hyerle, David(2009).*Visual Tools for Transforming Information into Knowledge*. Corwin Press USA.

-Levine, Linda J. (1997). Reconstructing Memory for Emotions. *Journal of Experiments Psychology; General. 1997. Vol. 126,No. 2, 165-177.*

-Osho.(1999*).Creativity; Unleashing the forces within*. St.Martin'sPress. New York.

A Student Perspective on Self-Initiating Design-Build

Fabian Danker

Northumbria University

Introduction

A Masters of Architecture design thesis project developing a collaborative practice in architecture, art and sound. A pavilion is designed for the VAMOS! Festival to create an experiential micro-climate, in which lighting and sound installations reflect Latin American culture.

The project began with nothing. Between October 2013 and June 2014 a client was found; the brief and design developed; sites and transportation procured; artists, musicians, engineers and other collaborations explored. Local businesses were approached and agreed sponsorship-in-kind of materials or to manufacture components.

As the first design-build project undertaken at Northumbria University, it applies principles of collaboration, networking, management, law, logistics and feasibility to teaching and learning.

What's Your Problem?

The traditional design project at Northumbria University Masters is divided into two parts; problem setting and problem solving. These two parts are derived through site investigation of environment, demographics, context, ecology, economy, religion, history and concept. During this stage, students create a large body of research which can then be refined to underpin current problems of the site. Through research of precedent studies, drawing, model making and iterative design, an architecture is developed and proposed to "fix" these identified problems.

Student-initiated problem setting

Campus:Live is a pioneering design-build project at Northumbria University. The first semester was orientated around "problem-setting"; this would be developed in order to create an architecture from it. As the project was fully student-initiated, a client had to be found to create a starting point.

A number of routes were explored to find a client including an international break dance choreographer; director of circuscompany; performance artist and director of a Latin Festival. The student and client had to match diary schedules for the year to be able to commit time to each other as well working to enable the project to benefit the community.

During this period media-packs were sent out to a number of companies to gain materials or sponsorships. CAD and CNC technologies were also explored and developed to investigate current capabilities of construction. The concept of making a structural modular framework was developed. This would be a system of components which could create a number of forms, expandable, quick and easy to assemble and made of sustainable materials.

By the end of semester 1, a meeting with the director of the Vamos Festival created a focus for the project. Identifying a need for a pavilion for the Vamos Festival created the brief which was divided into three parts. A small pavilion for the Vamos festival 2013, a 100 person pavilion using the principles from the small pavilion and a business enterprise creating temporary structures. Interested in the structural framework proposed, the director of the Vamos Festival wanted a document to illustrate the pavilion's principles to present to his funding partners in order to secure funding for a future pavilion.

Learning Through Making

Design-build projects allow students to develop an understanding of the link between drawing and making. Addressing the limitations and challenges which develop from making decisions and overcoming them is a large portion of Campus:Live.

Materials

Manufacturer of Sterling OSB, Norbord agreed to donate materials at an early stage in the project. Willmott Dixon agreed to donate plywood, plastic sheet covering, DPC, piping insulation. A local builders' merchants, Max Fixings donated nuts, bolts and washers. BAM contributed towards the manufacturing costs. Grants were also procured through the RIBA.

Facilities

Limitations in facilities able to create large-scale and mass production projects created further problems. It was identified by the start of Semester 2 that outsourcing the manufacturing process would be the only method of delivering a project in time for the Vamos festival in June.

Fig. 1. CNC cut component from plywood

Fig. 2. Site to Decor Panel during manufacturing

Decor Panel was the most suited to CNC manufacturing, with the majority of jobs based on mass production of kitchen cupboards.

Journal Extract

"Today I have experienced the lowest point within the project. When arriving at Decor Panel, I noticed that all the pieces had been cut wrongly. The emotional attachment to the project became apparent and can only be described as "stomach churning". After trying my hardest to maintain composure and calmly explaining the mistake to the technician, I had to run to the toilet to vomit. Arriving back to the studio, it took a few hours to regroup my thoughts and carry on working."

Monday 28th April 2014.

Structure

Building a 1:1 scale section of the pavilion identified 3 major problems with the design when made from OSB. 1) Slow to assemble. 2) Weak material when used in this method. 3) Structurally unsafe during and after assembly.

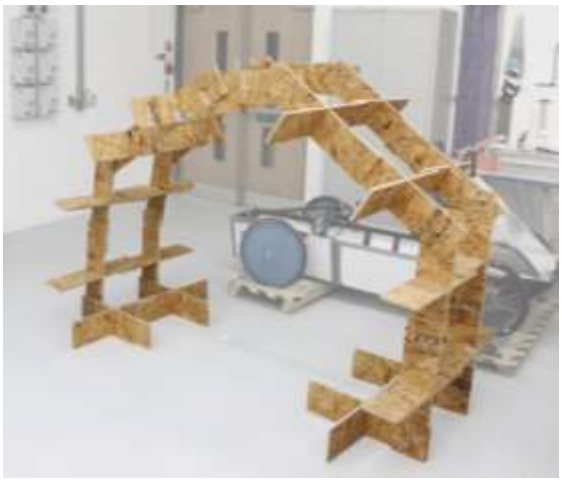


Fig. 3. 1:1 Scale section model

Shed structural engineers agreed to collaborate on the project to ensure that the structure would be safe for public use. It became apparent that the project would branch in two directions after this point. The first part to deliver a pavilion for the Vamos Festival and the second to fulfil the structural framework developed previously without limitations of low budget and short time scale to deliver a full scale project.

Legal advice, insurance and liabilities

Legal advice was sought through one-off free legal service through Bell Hoare Bell Solicitors. Advice on public liability were discussed. Further advice was given by Locus+, an artist management group specialising in outdoor art performances who went into further details of hazards and liabilities.

As the pavilion would be exhibited on public and university property, liability had to be addressed. Sites on campus were carefully chosen to make sure that it would be available to public viewing, had CCTV surveillance, was covered by university insurance and that the land was not owned by the council.

A number of staff at Northumbria University were approached from Health and Safety officers, security, facilities management, head of facilities, insurance

advisors and risk assessment to ensure that the project was conducted to university standards.

Logistics

Through negotiations of the technicians at the university, space was allocated for assembling the pavilion. Timescales of the workshop had to be taken into account as well as external health and safety visits.

Transport was organised through Northumbria University. Liaising with the head of the department and drivers was key to ensuring that the transportation of pavilion components was in-keeping with the driver's working unions to ensure their working hours were not too long before their next job.

Fig. 4. Delivery of floor with on-site Northumbria University porters

Social media marketing for volunteers

The scale of the project was ambitious for one student to assemble and within the timescale, was only possible with a small team of volunteers.

Creating a campaign through Facebook, posters and emails, a number of volunteers from the architecture school expressed their interest. The Facebook group proved to be highly successful for recruiting volunteers. During construction, time lapse videos were taken and uploaded daily to keep members of the group up-to-date with progress.

Fig. 5. Campus:Live Facebook group

Fig. 6. Student volunteers assembling the pavilion in workshop

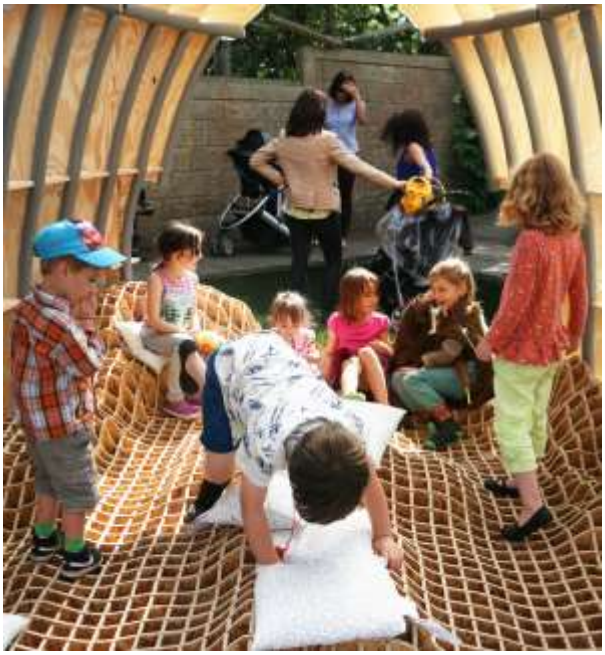


Fig. 7. Children within the pavilion during the Vamos Festival

Latin interactive art installation

Working with James Armstrong (Slowclinic) a digital music producer and digital media artist Lalya Gaye, from Attaya Projects, the space could be further developed to fit within the Vamos festival. Through continuous conversations, a narrative was developed for the project, a track list of music was produced with various Latin artists to encapsulate various Latin cultures of South America. Lalya created a circuitry of LED strip lights connected to sound sensors, as the music changed tempo and tone, the lights would interact and animate with the music.

Unnoted benefits of design-build

Children enjoyed the pavilion, some called it "The Waffle House". A parent reported that "Because its an unusual object, children are more interested in exploring it."

The volunteers for the project were interested in the ambition of the project, seeing a real benefit in group collaboration and learning through making.

Willmott Dixons have created contacts with Northumbria University for site visits and are getting involved with more community projects.

Conclusion

Although undertaking a design-build project single-handedly required a large amount of time, not just in building, but also in the preparation work to ensure the project was legal and safe, I have learnt and experienced a huge amount this year which would not have been possible with a traditional design project.

Architecture as an industry is incredibly fragile, I believe that's partly due to the education – we're educated to be great designers, which is vital. However, entrepreneurship, networking and collaboration are essential skills needed to sustain the industry during times of recession.

Authenticity + Engagement in Architectural Education

Benjamin Elliott, Kelly MacKinnon, Stephen Roberts

Northumbria University

Community Engagement and Live Projects

The Architecture courses at Northumbria have developed a series of projects which lend authenticity to the process of architectural education.

Through engaging with 'live' clients and communities students develop skills and awareness of the interactions necessary when entering professional life, whilst highlighting the often overlooked social aspect of the subject.

Through this short workshop, we intend to discuss these issues through a series of illustrated case studies, widening the debate about the nature of aunthenticity in architectural education.

The structure of the workshop will consist of a presentation describing a range of collaborative live projects occuring at Northumbria; the variety of narratives and context within the projects briefs and how they develop from early undergraduate years through to final degree year, postgraduate masters and beyond. A discussion will then be held talking about 'people focussed architecture', regional engagement and how problem based learning reflects the way people learn in real life.

A creative task will then be issued to the group and the work pinned up for reflection.

Case Studies: Northumbria Architecture

Fig. 1. Engagement with local communities

Fig. 2. YR2 'Ha Ha Project' Investigations around Seaton Delaval hall

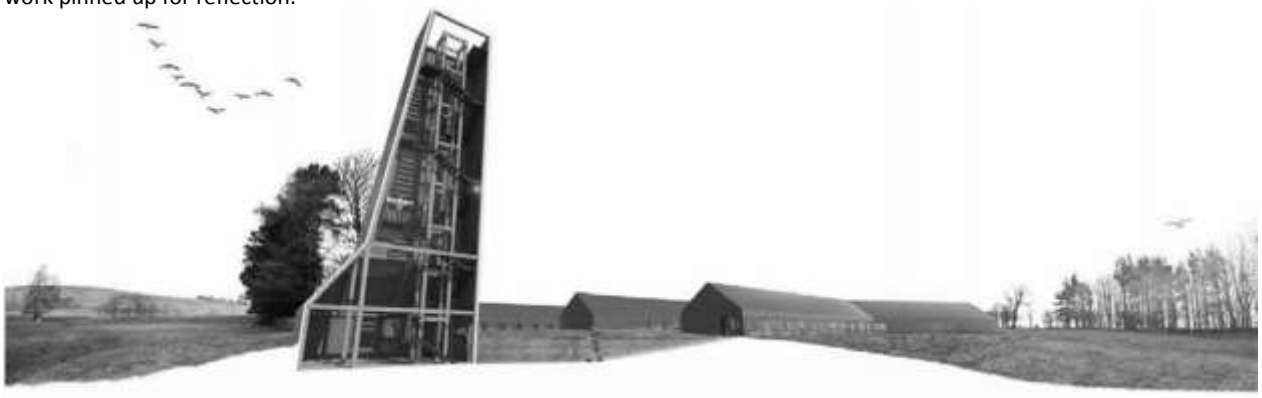


Fig. 3. YR3 'The Sill' Visitor Centre, Live Project with the Northumberland National Park

SA to the Power 3: Khomotso Créche, South Africa

John Ramsay

University of Nottingham

The University of Nottingham Department of Architecture and Built Environment has been building pre-school facilities in South Africa since 2009. This year student architects designed and built the final phase of the Khomotso Creche in Calais Village, in rural South Africa. This facility provides a vital step-up for the children of the village aged from babies up to seven years, when they attend primary school. They learn numeracy, language and play skills. With these live projects we are also helping the women who teach, feed, sing and play with them. It is a huge boost for the children greatly enhancing their chances of progressing further through the education system, perhaps to higher education. The project gives undergraduates an “experience of a lifetime” in a very different culture from the one they experience in Nottingham. They also for the first time see their designs turn into functioning buildings, created with their own hands – a rare experience in UK architectural education. A community uses these buildings on a daily basis, and a social agenda is at the core of the project philosophy. Undergraduates on these projects have a demonstrably higher than average performance in their degree year, and in seeking post-graduate employment.

Reflections on… Reflections on Architectural Education

George Lovett

integratEd workshop/University of Sheffield

This curated discussion group session in part describes the Reflections on Architectural Education module established at Sheffield University School of Architecture 10 years ago by Rosie Parnell and Jeremy Till as an option for postgraduate students on RIBA part 2 and taught masters programmes. The session will primarily demonstrate the content of the module through shared 'innovations' devised and here presented by students within the unit which have sought, with often surprising successes and outcomes, to develop new teaching and learning practices. The module can be viewed as a live project in itself in that students learn by doing (an understanding of the term 'live' in relation to pedagogy, operating specifically at this point in architectural education where the students can reflect to inform new models for learning). Prior knowledge is valued and the course format seeks to erode the distinction between student and teacher as the theoretical basis for 'the teaching'.

Real' 'Live' Architectural Projects at the University of Portsmouth

Martin Andrews, Tod Wakefield, David Goodman, Emma Travers, Amy Walker

University of Portsmouth/ The Project Office

'Core Curriculum', 'Extracurricular', 'Quasi Live', 'Non-hypothetical', 'Real'; with so many terms being used to describe 'Live' projects situated within the context of architectural education, what makes a 'Live' project truly 'Live'? The Case Study: The Project Office 'Field Trip' 2009 to 2014. Many (if not all) Schools of Architecture advocate the educational benefits to students of travelling, whether internationally or within the United Kingdom. In addition to the usual 'Field Trips' offered by the Portsmouth School of Architecture, the Project Office invites students from across the School to engage with a 5-day 'Live' project working with a 'Real' Client located within Portsmouth or Hampshire. Judged by the Client, prizes are awarded at the end of the week to the best design projects. Year-on-year, what attracts students to this type of 'Field Trip'? Why choose a 'Field Trip' that requires hard work, tight time constraints, group working and presenting to a lay-client?

Baby steps. Architecture without Stabilisers

Victoria Farrow

Nottingham Trent University

This paper will explore the practice of risk taking in design studio from both the perspective of the tutor and the student. For both parties must opt into the agreement to practice risk within a project to succeed in producing an aspired outcome.
Whatever that may be.

- *How can we work with risk within the design studio in a positive way to broaden creativity and build on the hidden potential students may have in order to develop as individuals beyond the scope that we as academics may set in more predetermined briefs?*
- *How can we as academics practice safe risk taking within the studio brief?*
- *How can risk taking be achieved or supported while remaining within predefined and standardised learnt outcomes?*

In this paper, the authors will discover and discuss three projects engaging with the notion of risk in this context. Analysing and evaluating in particular projects involving three tools for architectural communication; model making, digital media and 2d drawing. The authors will describe projects, which from the outset embrace the risk and the outcomes that came about both throughout the "soft play" of the inquiry and the final product. Evidencing performance can be enhanced though the encouragement of autonomous learning; the results of each project set the context for further employment of ''risk taking'' within the learning curriculum embedded in the design studio. Empowering the student through knowledge base and awareness and reducing concern over failed performance.


Hi, we're architecture students doing a project on a new park in your area – can I ask you some questions?
Shouldn't you be doing this in a more performance-based manner to test different models of engagement love?
vontweethoff

ART PIECE

The Neighbourhoods University – Programme, Action and Form as reciprocally dynamic process of an educational urban 1:1 Model.

Christopher Dell, Bernd Kniess*, Tabea Michaelis and Ben Pohl

Faculty of Urban Design at HafenCity University Hamburg. * Project contact

Fig. 1. The experimental building site of the UdN "Hotel?"

With the above title we propose a lecture performance with four intermingling and related subsets. The performance will be structured as a randonnée in a series of takes.

SUBSET#1: Bernd Kniess

Build it! Run it! Give it away!
The "Neighbourhoods University" (UdN) and its "Hotel?" as a method.

Over a period of five years the "Neighbourhoods University" (UdN) is taking an exploratory approach to develop and test contemporary forms of education at the intersection between culture, knowledge and urban development (Fig.2). Launched in the Hamburg district of Wilhelmsburg in 2008 as an experimental set up by the Urban Design faculty of HafenCity University Hamburg in cooperation with the IBA Hamburg, the project puts questions around the fields of education, urban research and design into an iterative practice. A disused building has been brought to life again using a low budget, 1:1 scale on the basis of its programmatic usage and relation to the neighbourhood. This allowed examination of the process of transformation in terms of the existing architectural, social, cultural and economic fabric of the European city.

The final phase of the project merged its academic approaches with that of "hotel operations" (Fig. 1, 3).

The "Hotel?" therefore asks a methodical question and figures as a metaphor for the superimposition of functions, acting as a vehicle to maximize the overlapping hybrid networks of students, scholars, neighbours, local activists, guests and municipal officials to open the UdN as a discursive space for the negotiation of current, site-specific and global issues of urban development and transformation processes.

Fig. 2. Students at work. Building the kitchen-foyer.

Fig. 3. Intercultural Hotel Kitchen

SUBSET#2: Tabea Michaelis

Showtime Wilhelmsburg.
An Artistic Research Approach to the Programmatic Space of Possibilities in Wilhelmsburg

"Spaces for possibilities" arouses varying fantasies and yet retains an abstract quality. It is precisely because the object of my research is an extremely dynamic structure that I believe the appropriate research approach is a situational one. This involves re-combining different theories and analytical methods. Following Bruno Latour and Actor-Network Theory and drawing on Michel Serres and the "Randonnée" approach, I track down spatial work nets and associative sequences. For their evaluation, I immerse myself in the cyclical coding processes of Strauss/Glaser's Grounded Theory. The "Randonnée" stretches out like an Ariadne's thread through the different measures, modes and times. It takes the "path of extravagance" (Serres) and improvises. I communicate with human and non-human actors by following the sunflower seed-eating inhabitants or the tattooed cars (Fig. 4) in my research field. The "Randonnée" provides me with a previously undreamt way of reading relational space, one that is poetic and at the same time analytical. It presents every day life as it is experienced through the pictures and symbols which accompany it, the space of the 'inhabitants', of the 'users'... (Lefèbvre) in new dimensions. "L'espace vécu" (ebd.) of the Elbe Island is conceptualized through various codes, such as "Tarrying - Platforms" (Fig. 5), "Window messages", "Balcony - use methods". Randonnez!

Fig. 4. Tattooed Cars

Fig. 5. Showtime Wilhelmsburg

SUBSET#3: Ben Pohl

Working Worlds – Exploring Wilhelmsburg.
A performative videographic approach.

Some of the most urgent issues of inter- and transdisciplinary attempts are communication, trust, mutual respect and recognition. Hence a common language and shared meanings between the "experts of the everyday" and among the various disciplines, related to urban planning, design and architecture is both demanding and a demand. The talk will focus on experimental performative methods of a radically inverted understanding of participation and its potential to produce shared meanings, trust, respect and a common language of practice in the inter- and transdisciplinary context of the Neighbourhoods University and the UD Master's Programme. We will rely on the case study of "Working Worlds" (Fig. 6) – a one-week videographic inquiry exploring the worlds of work and labour of Hamburg-Wilhelmsburg – and reflect on our practical experiences in relation to N.K. Denzin's theoretical thinking around "Performative Ethnography". The explorations resulted in reflexive expressions and made worlds of work visible and audible to an audience of neighbours, municipal officials and academics alike. The micro-cyclical process also helped our students to develop skills and self-confidence in the field of qualitative research practices, as well as to establish live personal relations, trust and mutual respect within the neighbourhood.

Fig. 6. Working Worlds. The Kismet bakery

SUBSET#4: Christopher Dell

Knowledge forms of Enabling.
Live Diagrammatics and an improvisational perspective

The project "Neighbourhoods University" (UdN) contains many layers of research. One specific layer is concentrated on the project's own meta-structure or grammar. How is the project's relationality structured and what parameter and methods are central to its specific mode of organising? How is it possible to organise knowledge in such a way that it enables the actors to produce knowledge while being engaged "live" in performative processes? Evidently, it has long since become standard repertoire to speak of a 'logic of space-producing actions' in the context of knowledge creation and formulation and to consider urban practices and their representations as a means to a conceptual understanding. However, how to describe the specific forms of knowledge production of such practices and their representations still remains a challenge.

Not only does this affect the reading of epistemic structures of space production. Moreover we ask: what definition of action is connected to this diagrammatic reorganisation of knowledge? In this respect the interdisciplinary set-up of the UdN can be read as an exercise to introduce improvisational thought into the analysis of the urban as a performative process (Fig. 7).

Fig. 7. Wilhelmsburg Orchestra

Keywords: neighbourhood, dwelling, interim use, local embedded economy, performative ethnography, interculturality, participation, everyday practices, artistic research, randonnée, l'espace vécu, grounded theory, actor network theory, ANT, videography, working worlds, education, diagrammatics, relationality, improvisation technology, curriculum research, performative research, representation, epistemic structures, knowledge-forms

Team UdN at HCU-Hamburg: Prof. Bernd Kniess (Programme Director), Dipl.-Ing., M.Arch. Benjamin Becker (Programme Development and Construction Management), Dipl.-Ing., M.Sc. Stefanie Gernert (Project Coordination), M.Sc. Ben Pohl (Research Associate)

Research partner: Interreg IVB North Sea Region Programme SEEDS (Stimulating Enterprising Environments for Development and Sustainability)

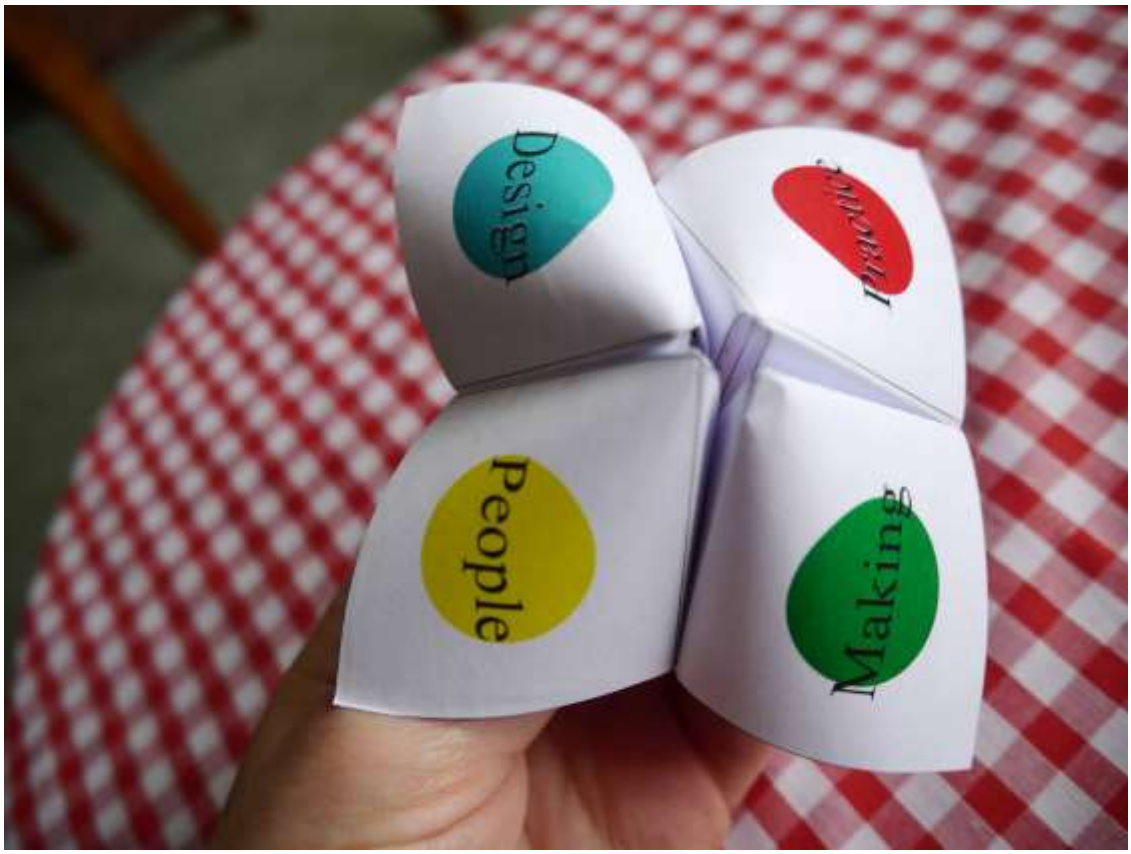
Project duration SEEDS: 01/2012 – 06/2015

Project duration UdN: 2008 – 2013

Live Fortune Telling

Jane Anderson

Oxford Brookes University



Madame Rosina will read your live project fortune using various magical artefacts.

Madame Rosina can describe your live project using her powers of empirical research. How long is your live line? She can show you how you are connected to others you may never have met, through her taxonomy of live projects.

Are you shy and retiring? Do you enjoy spending your time in the country, making things? Perhaps you are a Woodland Creature.

Or perhaps you are outspoken and gregarious. At home out on the street drawing attention to issues that your neighbours prefer to ignore? You might be an Artist Activist.

5 ways to say your prayers

Ruth Morrow

Queens University Belfast

Morrow will present a section of the exhibition '5 ways to say your prayers' first exhibited at The Shed, Galway, July 2013 and later at DarcSpace Architecture Gallery, Dublin, Sept 2013. This re-curated fragment includes a classroom of 'dirty linen' and several framed images. It presents some public spatial pedagogies of PS^2 and examples of similar work from other engaged spatial practitioners in Ireland ie Robert Bourke, Culturstruction, Blaithin Quinn. PS^2 is a Belfast-based, voluntary arts organisation that initiates projects inside - and outside its project space. It seeks to develop a socio spatial practice that responds to the post-conflict context of Northern Ireland, with particular focus on active intervention and social interaction between local people, creative practitioners, multidisciplinary groups and theorists. Morrow (architect) has collaborated with PS^2 since its inception in 2005, acting as curatorial advisor specifically on the projects that occur outside PS^2. Her involvement is a 'paralleled action' to pedagogical explorations within architectural education.

GOING LIVE/ WORSHOPS

TRADA Workshop – Judging Velocity

Elizabeth Turner

Timber Research and Development Association (TRADA)

TRADA National Student Design Competition – Velocity in British Timber

This year to celebrate its 80th anniversary, TRADA launched a brand new design competition aimed at university schools of the built environment primarily schools of architecture and engineering.

The competition was organised by TRADA's successful University Engagement Programme[1]. The programme aims to educate lecturers and students alike about timber in construction and offers resources and support to mainly UK universities in a number of forms. A series of online written resources are available as well as a dedicated University Liaison Manager who can deliver lectures/workshops to students. In addition, we run a variety of 'in university' competitions some of which benefit from timber industry sponsorship.

The National Student Design Competition was an extension of these competitions but offering an opportunity to all UK undergraduate students to participate.

Developing our brief

TRADA had a desire to offer an infrastructure project to design in timber a large building or structure. We were also keen to use a real site that offered real life challenges for students to address. In addition, a desire to develop a landmark timber building in an urban environment was a goal

We explored a number of options and chose cycling as a theme as it offered a sustainable method of transport and is an issue currently very much on the forefront of planners' minds.

Following research, we were delighted to get in contact with Dan Cook, Education and Training Manager for the Cycle Touring Club (CTC), and based in Sheffield and who suggested a potential site - Parkwood Springs. This is a large, open space that lies on a hill just north of Sheffield city centre providing fantastic views southwards back to the city and looking out to the Peak District National Park to the north and north west. It includes a relatively new mountain bike trail that Dan was instrumental in developing. Adjacent to Parkwood Springs is a now derelict Ski Village and a landfill site due to be filled and returned to the City in 2018. As an area in need of regeneration, the entire area offered an ideal opportunity to develop our brief which was confirmed by a site visit.

TRADA was keen that the brief be the same for all disciplines and we aimed to produce something that would be suitable for inclusion into curricula but also for students to work on alone should they wish.

We deliberately kept the brief fairly open, offering two sites for students to consider and simply asked for a number of aspects to be included in the cycling super-hub. As well as main hub, we required that a smaller structure for the city centre be designed too.

The buildings were to be built in British timber – introducing a sustainable theme for the entire competition – sustainable construction/local transport/local materials.

The brief[2] tasked students with designing a landmark timber building in Sheffield to provide secure parking for up to 1000 cycles plus ancillary facilities such as cycle retail/workshops, changing facilities, a multiuse community space and a café. The city centre hubs needed to house 50 bikes and serve as a visual link back to the main hub building.

Key to the success of the competition was a catchy name - Velocity was very much a play on words - and accompanying logo which we were pleased with.

Fig. 1. Velocity logo

The submissions

Students were able to work in teams of up to 4 and each entry was asked to submit up to 10 N^{o} A3 pages detailing thier project to cover research and design/concept development, plans sections and elevations including the building layout. Detail drawings of various elements were also asked for along with information about the timber species/products used.

Based on the submissions we received, we found that the brief was used in different ways by each of the participating schools - some students completed the project as part of a long module whereas others had only three weeks to complete the work. Most students worked as teams.

We received entries from both architecture and engineering students and although both groups had approached the brief from different angles the design element stood out in the best submissions from both. Typically the engineering students had included the most written information and technical research whereas, unsurprisingly, architecture students produced visual submissions relying more on imagery to fulfill the requirements of the brief.

Judging

Judging took place in two parts. Firstly all the submissions were assessed by a group of TRADA judges to produce a shortlist of 6. We based our decisions on the criteria set out in the brief. Following this, the shortlisted submissions were sent to Wayne Hemingway – one of our guest judges - for comment and teams were invited to a final judging day held in London. Each team was asked to deliver a 15 minute presentation of their scheme to a panel of judges that included members of the TRADA Advisory Committee, Dan Cook of the CTC, Keren Fallwell of the Timber Trades Journal and Johnny Tucker of Blueprint magazine. The students all produced engaging and very professional presentations and one team had made a film. All of the judges were impressed by the standard of the presentations and students' engagement in questions.

Prizes will be awarded at Timber Expo at the NEC on 7th October 2014 when students will be reprising their presentations.

An invitation to the AAE Conference 2014

Although we have completed our judging and know who has won we would like to see if differences lie between how architectural educators assess students' work and the views of TRADA's judging panel.

Therefore, you are invited to 'judge' the entries on day one of the conference to score each entry. Your results will be collated and used to create an AAE shortlist of 6 submissions.

On day two the 'AAE shortlist' and the 'TRADA shortlist' will be exhibited to see if any differences are present.

Introducing Airspeed

The TRADA National Student Design Competition will run again for the 2014/2015 academic year.

We are pleased to be working with the Yorkshire Air Museum and Professor John Edmonds of the University of Nottingham a trustee of the museum to develop a new brief. The brief will be to design in timber both an iconic gateway and a new hangar/visitor centre linking to an existing hangar - watch out for more information soon.

Notes

[1] www.trada.co.uk/academic

[2] www.trada.co.uk/academic/designcompetitions

Inclusive Design - A lasting Paralympic Legacy

Julie Fleck and Victoria Farrow

Olympic and Paralympic Legacy Unit / Office for Disability Issues, Nottingham Trent University

The most accessible games ever

The London 2012 Olympic and Paralympic Games have been hailed as the most accessible Games ever. Indeed, for many disabled people, a visit to the Games was probably unique in the accessible experience the park and venues provided.

The creation of an inclusive environment is now being used to inspire a lasting change in the way built environment professionals are taught about access and inclusion.

The Built Environment Professional Education Project (BEPE) - launched by the Minister of State for Disabled People last year[i] - is a joint Government and Greater London Authority project focusing on education and training. The aim is to help maximise the long term legacy impact of the Paralympic Games.

"The focus of this project on training and education will mean a lasting Paralympic legacy which will inspire future generations of built environment professionals to achieve truly accessible and inclusive environments for everyone." Lord Coe

Fig. 1. The Olympic and Paralympic Park in 2012

Can Inclusive Design become second nature?

Can changing the way we teach and learn about inclusive design help to make social inclusion second nature for all built environment professionals?

Why after more than 40 years of technical access standards and despite the introduction of equality legislation are there still examples of new and recently refurbished buildings that are not as accessible as they could be?

How often do you see people struggling up stairs because they can't find the lift; or trying to negotiate heavy doors; or trying to manoeuvre around spaces that are narrow and awkward with a pushchair, wheelchair, a guide dog or a wheeled shopping basket; or where layouts are confusing and signs illegible; or where poor acoustics result in so much noise that you can't hear yourself think?

The long term aim of the BEPE project is that built environment professionals are equipped from the outset of their education with an understanding of how we all – including disabled and older people and families with small children – perceive, use and experience buildings, places and spaces. A thorough knowledge of the key best practice technical access standards and the relevant legislation is important, but understanding the human element is essential.

How do you teach your students about the principles of inclusive design?

How many architects, planners, surveyors, and engineers finish their formal professional education with a real understanding of how disabled and older people perceive, use and occupy space?

Can changing the way we teach and learn about the principles of inclusive design help to deliver the standard of inclusion we achieved in the Olympic Park[ii] in all design projects?

Initial analytic work for the BEPE project confirmed that currently very little time is spent studying inclusive design, in some cases it is optional, in others non existent, and where it is taught the time taken to teach it is considerably less than that used to study other subjects such as environmental sustainability. The research also identified that students are keen to have more inclusive design training and that they are rarely assessed on their learning in this area.

Fig. 2. Timber Lodge, Queen Elizabeth Olympic Park Civic Trust Inclusive Design Award 2014

Educational resources

There are already numerous resources available to the architect who wants to learn more about how to design inclusively[iii], but these resources are often used to gain planning permission or building control approval, not ones that excite, inspire or lead to innovative or creative thinking.

Why is inclusive design not embedded into our design thinking?

Why do we not automatically consider the diversity of the people were are designing and planning for?

How often are disabled educators and experts directly involved in student teaching?

Why do we generally (and often without realising it) still design to segregate and exclude and only consider these issues when we need to comply with legislation or good practice guidelines?

What educational resources will help to change this so that access and inclusion becomes second nature?

What will help to inspire creative and innovative teaching and learning in this area?

I am keen to listen, engage and discuss these issues and to learn how to take the project forward in conjunction with you, the educators of our future architects.

Victoria will share some initial ideas for taking the project foward, such as an inclusive projects web site where you could upload examples of good practice in inclusive design education. So do please bring along examples of your inclusvie design projects.

Notes

[i] Read the Minister's press release from 3rd December 2013 and the regular BEPE Updates at https://www.gov.uk/government/policies/creating-a-lasting-legacy-from-the-2012-olympic-and-paralympic-games/supporting-pages/paralympic-legacy

[ii] Download the Olympic Delivery Authority Inclusive Design Strategy and Standards at http://learninglegacy.independent.gov.uk/documents/pdfs/equality-inclusion-employment-and-skills/61-inclusive-design-strategy-eies.pdf and the London Legacy Development Corporation's Inclusive Design Strategy and Standards at http://queenelizabetholympicpark.co.uk/our-story/transforming-east-london/accessibility.

[iii] Design Council CABE's Inclusive Design Hub www.designcouncil.org.uk/inclusive.

Build it with your eyes closed

James Benedict Brown

Norwich University of the Arts

In Draw It with Your Eyes Closed: the Art of the Art Assignment, eighty-nine artists and art educators describe the signature pedagogical tool of higher level art education, the assignment. Intended "as an archive and an instigation, a teaching tool and a question mark, a critique and a tribute," the book presents uncritically an array of pedagogical strategies for fine art education. Inspired by this book, build it with your eyes closed (working title) will invite architectural educators and practitioners to describe the best architecture design briefs that they have received as students or given as educators. It will then make the process of blind peer review visible, tangible and social at the heart of the AAE conference. The workshop timeline is proposed as follows:

-Two months before the conference, a call for submissions (max 350 words) will be circulated.

-At the start of the conference, all submissions received will be anonymised, printed, and posted at a visible venue in the conference venue. Conference delegates will be invited at the start of the conference to make their own submissions. Submissions received will be printed and posted as they are received.

-At the end of the first day of the conference, the call will close.

-During the conference, delegates will be invited to register as peer reviewers and review submissions. Peer reviewers will be provided with a limited number of feedback forms that, when completed (by email or on paper), may be attached to a submission (max. 3 reviews per submission).

-At the end of the conference, feedback will be digitised and distributed to authors.

-One month after the conference, the deadline for revisions will close.

-Three to six months after the conference, the book and ebook will be published.

Spotter's Guide to Sheffield's City Centre Architecture

Leo Care, Carolyn Butterworth and Eirini Christofidou

The University of Sheffield

During the AAE conference, Live Works will be based at Union Street, in the City Centre. We aim to offer an event based around a recent research project looking at the cultural value of architecture. There will be an interactive exhibition based on workshops with members of the public looking at how they value architecture. Delegates will also be offered a Spotter's Guide, to go out and explore some key buildings in the city centre and appraise the value of them. We hope this activity will provide an interesting counter-point and fringe event to the conference; providing a city centre orientation station and showcase how SSoA engages the people of Sheffield in its work.

Dear Sheffield: One postcard from Sheffield for each of the Sheffield Society of Architects' 125 years

Sheffield Society of Architects

To mark their 125th anniversary, the Sheffield Society of Architects asked Sheffield residents to send us a postcard with an image of their dearest places in the city and a reason for its selection on the back. The idea was to recover and record a history of everyday Sheffield architecture from the point of view of the people who live in and experience the city, instead of the usual top-down history of landmark, "iconic", or otherwise significant buildings selected by architectural historians such as myself. This way, we hoped to reveal some previously overlooked or unknown places as well as to see the city from a perspective other than our own architecturally trained view. We received a generous response of photographs, sketches, and poems. These included a variety of the usual landmarks, both extant and lost, such as Park Hill or "the Hole in the Road", alongside more personal places that wouldn't traditionally be included in an architectural history, such as back gardens or favourite spots in the city's many green spaces.

Although we posted contributions to the website dearsheffield.tumblr.com, in this digital age of instant communication and immediate recording of everything, it's increasingly rare and delightful to receive a physical postcard with a picture of a place on one side and "wish you were here" message on the reverse.We chose 125 from the nominations received to reproduce in postcard format, and from these, a further 34 to create human scale postcards to form the exhibition. These were curated to describe a cross-section of Sheffield places from the historic to the modern, and from the personal to the iconic.The selection of the nominations was based on three criteria:

First, a great image, perhaps of a familiar place from an unfamiliar perspective, immediately caught my attention and imagination. For example Ashley Mayes' view of the top of the Arts Tower;
Second, a story that linked the person with the place gave the postcard a particular vitality that the image alone couldn't portray. Julia Gash's Ball Street Bridge sketch and tale is one of the most powerful contributions in terms of how meaningful a place can be;

Third, a place that resonates with Sheffield as a city with a proud history. Its post-war architecture, although currently unfashionable, was second only to London's in quality. Places such as Park Hill, Castle Markets, the Hole in the Road (Castle Square), and the recently listed Moore Street Substation, all received multiple nominations. Equally, Henderson's Relish, the University's buildings, the PeaceGardens and Winter Gardens with their balls of steel, the General Cemetery, the Cutting Edge outside the station, the Crucible, and the "Cheesegrater" car park have all become Sheffield institutions in their own right.Of course, as with any collection, there are numerous omissions.I was surprised not to see any mention of Cole Brothers (now John Lewis), or Coles Corner, or indeed either of the football grounds. I was also hoping for submissions of the Manpower Services building at Moorfoot, a building that is difficult to both love and ignore, and for the never occupied NUM building that is so unfashionable it must surely have come back into fashion? Either way, it is still a potent political symbol of Sheffield's past.

As Ian Nairn, the famous architectural writer from the 1960s and '70s, said of Sheffield in 1961, 'it is typical of this exciting, exasperating city that it never seems to assume its true importance.' As the city struggles to re-define and redevelop itself again for the 21st century, this sentiment remains so true. One of the most lovable characteristics of Sheffield is its reluctance to overstate its importance. But as this exhibition demonstrates, we love our city and its places through which we define our lives. The exhibition is designed to be deliberately non- linear and demountable in order to travel around Sheffield and pop up elsewhere in a different configuration. Almost all of the contributions are by non-professional image makers and this is also deliberate. The only narrative I wish to present is the fondness in which Sheffield is held by the people who make it. Dear Sheffield would not have been possible without the help and enthusiasm of many people and sponsors, but The Sheffield Society of Architects would especially like to thank Pinders and Norton Mayfield Architects, without which the exhibition would have been simply impossible.

Thanks also to the SSA's steering group: Dan Brown, Emma England, Simon Gedye, Elizabeth Motley, Alastair Norton, Neil Orpwood, Lucy Plumridge, and to Andy Mayer of Yoome for the initial postcard inspiration, RIBA Yorkshire, and the designers Peter & Paul.

Steve Parnell


When the innovative nature of liveness becomes corporate policy...
I love Noheadz they're totally sick, man!
Live-ness is at the core of everthing we do, indeed it is our key aim!
Hmm... time to revert to theoretical flights of fancy...
GOD! embarrassing comes no where close Dad!
University of Wonga PLC
vontweethoff

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Further Information

See http://aaeconference2014.wordpress.com/
for recorded keynote lectures, conference film, photos, cartoons and more.

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