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Editorial

James Benedict Brown and Anna Holder

> *There is only one thing that is certain about Architectural Education and that is its complete uncertainty.*[1]

In October 1952, the Royal Institute of British Architects dispatched a Board of Inspection to the Birmingham School of Architecture. Douglas Jones, head of the Birmingham School from 1951-1962, later wrote eleven pages of comments in response to the board's report (which totalled just ten pages), including the quote above. Three decades later, in a polemic for the *Architectural Review (AR)* that argued "almost everything" was "wrong" with architectural education, the architect and writer Peter Buchanan observed that:

•

> Change of all sorts (for instance in financing and contract management, in technology and in proportion of work that is now fit-out or refurbishment rather than new-build) has been dramatically transforming much of the building industry and its procedures. Yet these and the corresponding changes being faced by and within the architectural profession are quite unrecognized by almost all architectural schools, no matter where.[2]

Perhaps it should come as no surprise that thirteen years later, Buchanan wrote another piece in the *AR* that "we are in the throes of massive epochal change that must profoundly impact architecture."[3] So to Douglas Jones's belief in the certainty of perpetual uncertainty in architectural education, we would like to suggest that there is an additional certainty - that of perpetual change. Those engaged in architectural education are, after all, educating students for techniques, processes, materials, politics and practices that we cannot predict. Or to put it another way, in an appeal to recover our "lost judgement," Jeremy Till wrote in 2005 that

1. Royal Institute of British Architects, 1952. Report of the RIBA Visiting Board upon the School of Architecture, the College of Art and Crafts, Birmingham. London: RIBA

2. Buchanan, P. 1989. 'What's wrong with architectural education? Almost everything.' *Architectural Review*, 19(5), p. 24.

3. Buchanan, P. 2012. 'The Big Rethink: Architectural Education'. *Architectural Review*, 232(1388), p. 92.

> Every week a new edict lands on my desk: new forms of building legislation, new forms of disabled access requirements, new issues of sustainability, new skills needed to cope with the information society – the list is endless. And so every week I feel exhausted on behalf of my students. In each case there is a concomitant demand or inference that these edicts should in some way be reflected in a revised curriculum ... 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 are can no longer educate for a fixity; instead we must educate for moving targets.[4]

The majority of difficulties faced in realising this issue of *Field* on the subject of architectural education through its long gestation have been due to the fact that the ground has continued to shift under our feet. The RIBA validation procedures — by which all British and many international schools of architecture receive their professional validation —were revised in September 2011, introducing a supposedly rationalised set of General Criteria by which students' work must be appraised. Furthermore, this journal was commissioned and its authors invited to submit before the 2012 change in higher education fees in the UK. So like most of our predecessors, we have struggled to make sense of the landscape of architectural education. Changes in education are occurring alongside changes in practice: this year (2013) the RIBA Plan of Work was updated to recognise the shifting terrain of practice, in terms of both the work being undertaken by architects and the contractual frameworks through which it is procured.[5] The RIBA thinkthank 'Building Futures' questioned 'The Future for Architects?' in a report which prophesises the rejection of the status of 'architect' as useful for small practices, which increasingly take on work that was traditionally outside the bounds of the profession, and the challenge for large practices to keep up to date with rapidly changing information technology for collaboration and delivery.[6] Hyde in his collection of interviews with international practitioners[7] draws attention to the 'crisis' of the profession as a long-running recognition of the limitations of the traditional business model of architectural practice, which persists despite 60 years of questioning, and in the face of growing uncertainty and change.

We recognise the global conditions of liquid uncertainty[8] and fast-moving change as the choppy sea in which we are working to teach, to support, and to learn alongside future generations of architects. At the same time we must also recognise the backwaters and still pools of the profession, the

4. Till, J., 2005. Lost Judgement. In: E. Harder, ed, *EAAE Prize 2003-2005 Writings in architectural education*. Copenhagen: European Association for Architectural Education, p. 171.

5. Royal Institute of British Architects. 2013. *RIBA Plan of Work 2013* Overview. London: RIBA.

6. Building Futures. 2011. *The Future for Architects*. London: RIBA.

7. Rory Hyde. 2012. *Future Practice: Conversations from the edge of architecture*. London & New York: Routledge.

8. Zygmunt Bauman. 2007. *Liquid Times: Living in an age of uncertainty*. Cambridge: Polity Press.

traditions that run deep, and practices we, sometimes unthinkingly, repeat that maintain the architectural habitus.[9]

9. Pierre Bourdieu. 2005. *The Logic of Practice*. Cambridge: Polity Press.

In the main section of this journal, we present five papers united in their rigorous and attentive concern for architectural education, written by seven of the most engaged and active pedagogues working in this field today. They are all linked by a concern for change and improvement in architectural education, and through their writing they describe the conditions that can contribute to the education of graduates who are prepared for a lifetime of uncertainty.

In his paper *Survival of the Species*, Alex Wright looks in detail at the implications of the recent changes in Higher Education funding upon architectural education. The paper presents worrying projections about the long-term affordability of architectural education for both its graduates and taxpayers.

In *Seeking Responsive Forms of Pedagogy in Architectural Education*, Ashraf Salama addresses some of the negative tendencies that characterise the way in which knowledge is delivered in architectural education, highlighting the important distinction between mechanistic and systematic pedagogies.

In their paper *From Bourdieu to Freire (by way of Boal)*, Bob Brown & Patrick Clark challenge the normative traditions of the architecture design studio and the patterns of behaviour inherited therein, proposing Augusto Boal's theatre forum as an alternative model for conceptualising the design studio.

In *Fear and Learning in the Architectural Crit,* Rosie Parnell and Rachel Sara present the findings of recent research amongst architecture students and tutors on the use and value of that familiar pedagogical tool, the crit. They ask how a truly critical dialogue can be supported in the crit, presenting powerful ideas for architectural students and academics alike.

In *Marginal Voices*, David McClean, Neil Lamb and Andrew Brown describe a pedagogical project to subvert the tutor-student power dynamic that is so predominant in the design studio.

Finally, in the review section we present perspectives on the health of architectural education from across the UK. From London, we present a dialogue with David Gloster, Director of Education at the RIBA; from Sheffield, a review of 'Common Grounds', a doctoral initiative to explore methodologies of research transferred from training for architectural practice, and from Scotland we present a review of the first few years' work of the Scottish Architecture Students' Assembly (SASA) by Dele Adeyemo.

Returning once more to the 1952 RIBA report on the Birmingham School of Architecture, its head defended a number of the school's pedagogical innovations against somewhat harsh critique, including what were probably the first live projects in architectural education. He concludes his responses to the Board's report with the prescient observation that:

> Two views are held on the subject of Architectural Education. The first of these views is that of the architect who maintains that students on qualifying should make useful assistants and justify their existence by paying their way as soon as they qualify. If the School concentrated entirely on turning out good assistants for Private Offices they could probably succeed but - and this is the other view - it is the duty of the Schools not only to try to train useful assistants but also to train people who will one day make good architects with vision and initiative. Nobody has yet discovered whether these two things are entirely compatible."

Fifty years on, we appear still not to have discovered whether they are compatible, and indeed whether this compatibility is desirable, but as this edition of *Field* demonstrates, architectural education is populated by students and academics who continue to challenge and test its capacity for change.

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Articles

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Seeking Responsive Forms of Pedagogy in Architectural Education

Ashraf M. Salama

Seeking responsive forms of pedagogy in architectural education, this paper responds to some of the negative tendencies that continue to characterize the delivery of knowledge content in lecture-based courses. Such tendencies are identified under the headings of: a) science as a body of knowledge versus science as a method of exploration, and b) learning theories about the phenomena versus getting the feel of the behaviour of the phenomena. The paper underscores the shift from mechanistic pedagogy to systematic pedagogy and the characteristics of each. Building on critical pedagogy and the hidden curriculum concept transformative pedagogy was introduced as a form of pedagogy that can be intertwined into mainstream teaching practices. Translating the premises underlying systemic and transformative pedagogies, inquiry-based, active, and experiential learning were identified as learning mechanisms amenable to work against the two identified negative tendencies. These mechanisms were implemented through a series of exercises in a lecture-based course, I have taught in spring 2010 and 2011: ARCH 313- Community and Neighbourhood Design Workshop, offered as part of the core architecture professional program at Qatar university. The exercises involved a) critical reflection as a form of in-class active learning, b) a walking tour-PLADEW as an experience-based mechanism for learning from the environment, and c) a design game as form of collaborative learning for students' active engagement in a classroom setting. While each exercise has its own contribution, they offer students multiple learning opportunities while fostering their capabilities to shift from passive listeners to active learners, from knowledge consumers to knowledge producers, while engaging in a wide spectrum of mental activities.

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Two critical points in architectural education teaching practices

Architecture students are typically encouraged to engage in site visits and walkthroughs in a city spaces in order to observe different phenomena. Unfortunately however, literature indicates that these visits and exercises are not structured in any form of rigorous investigation or critical inquiry.[1] Moreover, in large classes or studios, the proposition of a site visit is often met with logistical difficulties, and with little opportunity for individual student mentoring. Two major critical points can be envisaged in the context of this critical view based on reviewing the literature on architectural education and professional practice.[2] They continue to characterize teaching practices of lecture based modules in architecture, and can be labelled under the headings of: a) *learning theories about the phenomena versus getting the feel of the behaviour of the phenomena*, and b) *the real versus the hypothetical.*

Learning theories about the phenomena versus getting the feel of the behaviour of the phenomena: When teaching any body of knowledge, there is a tendency to present it as a body of facts and architectural theories and as a process of criticism. The processes that led up to these outcomes are always hidden and internalized. Knowledge is usually presented to students in a retrospective way where abstract and symbolic generalizations used to describe research results do not convey the feel of the behaviour of the phenomena they describe.[3] The term retrospective here means extensive exhibition of the performance of the work of an architect over time.

The real versus the hypothetical: Educators tend to offer students hypothetical experiments in the form of hypothetical design projects where many contextual variables are neglected. In this respect, learning from the actual environment should be introduced. Typically, educators focus on offering students ready-made interpretations about the built environment rather than developing their abilities to explore issues that are associated with the relationship between culture and the built environment. If they do, they place emphasis on one single culture, which is their own.

In the context of discussing the preceding points, it should be noted that recent years have witnessed intensive discussions on the value of introducing real life issues in architectural education. This is based on fact that real life experiences can provide students with opportunities to understand the practical realities and different variables that affect real-life situations.[4] However, while published experiences have debated innovative practices in the studio; little emphasis has been placed upon how structured experiences could be introduced in theory and lecture modules. Seeking new forms of pedagogy in architecture has become a necessity.

1 Ashraf M. Salama, New Trends in Architectural Education: Designing the Design Studio (Raleigh, NC: Tailored Text and Unlimited Potential Publishers, 1995).

2 Tom Fisher, In the Scheme of Things: Alternative Thinking on the Practice of Architecture (Minneapolis, MN: University of Minnesota Press, 2006); Ashraf M.Salama and Nicholas Wilkinson (eds.) Design Studio Pedagogy: Horizons for the Future (Gateshead: Urban International Press, 2007); Martin Symes, J. Eley, and Andrew Seidel, Architects and Their Practices: A Changing Profession (Oxford: Butterworth, 1995).

3 Donald A. Schon, 'Toward a Marriage of Artistry and Applied Sciences in the Architectural Design Studio', Journal of Architectural Education, 41(4) (1988): 16-24.

4 Ruth Morrow, 'Creative Transformations: The Extent and Potential of a Pedagogical Event', in A. M. Salama and W. Wilkinson (eds.), Design Studio Pedagogy: Horizons for the Future (Gateshead: Urban International Press, 2007), pp. 269-284; Ombretta Romice and David Uzzell, 'Community Design Studio: A Collaboration of Architects and Psychologists', CEBE Transactions – Journal of the Centre for Education in the Built Environment, 2(2) (2005): 73-88; Henry Sanoff, Democratic Design: Participation Case Studies in Urban and Small Town Environments (Düsseldorf :VDM Verlag Dr. Müller, 2010).

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Shifting from mechanistic to systemic pedagogies

There is strong evidence that a shift in architectural education does exist.[5] Such a shift is best expressed from 'mechanistic' to 'systemic' pedagogy. Following the mechanistic mode, the process of educating future professionals is reduced to a large number of disconnected components. Education in architecture is decomposed into schools, curricula, design studios, grades, subjects, modules, courses, lectures, lessons, and exercises. In this respect, I argue that formal education in architecture has not been treated as a whole, nor has it been appropriately conceptualized as part of a process much of which takes place within society; a characteristic of the systemic pedagogy.

The mechanistic orientation of pedagogy results in the treatment of students as if they were machines with the combined properties and characteristics of recorders, cameras, DVD players, and computers. The student is evaluated with respect to his/ her ability to reproduce what he/ she has been told or shown. In turn, examinations are tests of the ability to reproduce material previously presented to the examined. They are designed to serve the system's purposes rather than the students' needs. In the mechanistic mode, educators make little effort to relate the pieces of information they dispense. In most cases, a course or module in one subject does not refer to the content of another. This reinforces the notion that knowledge is made up of many unrelated parts, and thereby emphasis is placed on hypothetical assignments rather than real-life issues. Contrariwise, the systemic mode focuses on grasping the relationships between different parts of bodies of knowledge.

In systemic pedagogy alternative concepts are introduced and can be exemplified as follows:

- some subjects are best learned by teaching them to oneself,
- some subjects are best learned by teaching them to others,
- some skills are best learned through demonstration and instruction, and
- some fundamentals are attained in seminar discussions guided by one specialized in the relevant area.

While mechanistic pedagogy is based for the most part upon showing-telling modes of communication, the systemic pedagogy places emphasis on learning by experience, learning by exploring and doing. I argue that while the mechanistic mode still prevails in most higher education institutions worldwide, current discussions reveal that there are strong moves toward adopting systemic pedagogy.[6] Yet, the objective here is not to replace the mainstream modes of knowledge transmission and knowledge construction, but complement them in an effective manner.

[5] David Nicol and Simon Pilling (eds.), Changing Architectural Education: Towards a New Professionalism (London: Spon Press, 2000); Ernest L. Boyer, Lee D. Mitgang, Building Community: A New Future for Architectural Education and Practice (Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1996).

[6] Ashraf M. Salama, Transformative Pedagogy in Architecture and Urbanism (Solingen: Umbau-Verlag, 2009).

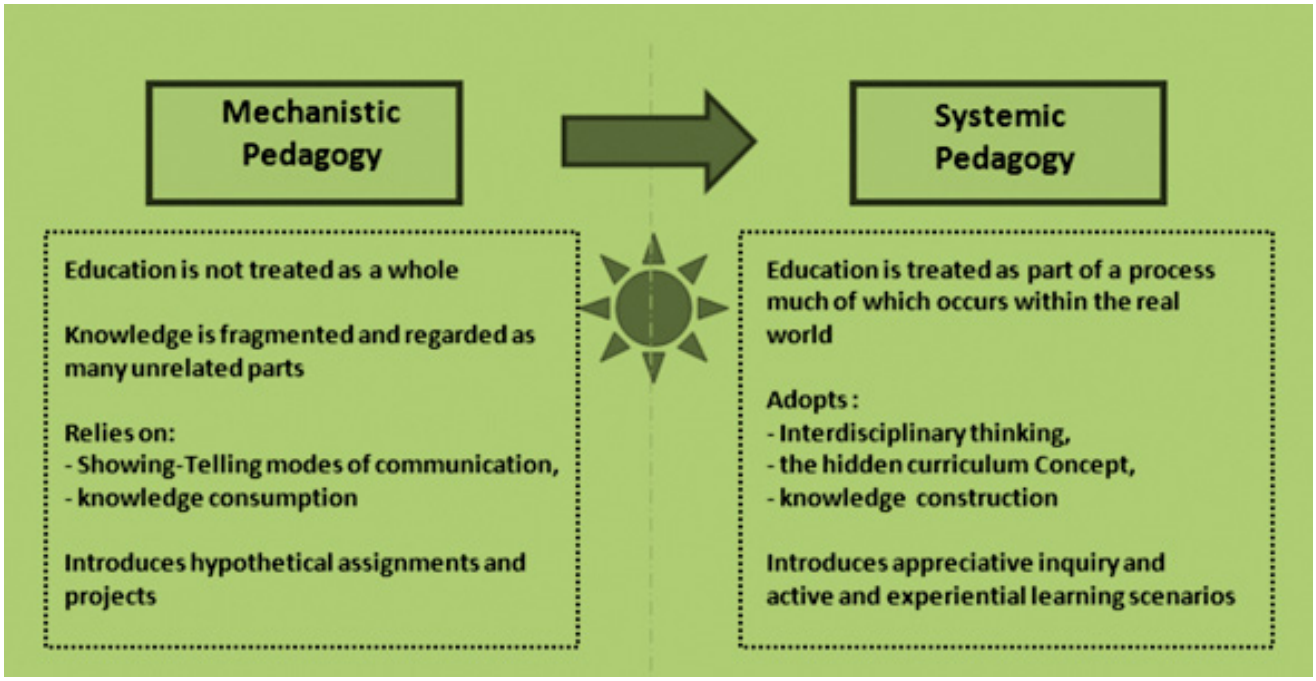

Fig. 1. Characteristics of mechanistic and systemic pedagogies (based on Salama, 2005).

Transformative pedagogy: Building on critical pedagogy and the hidden curriculum concept

While architectural educators strive to impart the requisite knowledge necessary for professional practice, the way knowledge is transmitted has significant professional and social implications. Therefore, there is an urgent need to confront issues that pertain to the nature of reality "what" and the way in which knowledge about that reality is conveyed to future professionals 'how.' Transformative pedagogy addresses the potential gaps of 'what' and 'how.' [7]

Transformative pedagogy refers to interactional processes and dialogues between educators and students that invigorate the collaborative creation and distribution of power in the learning setting. As a concept, it is based on the fact that the interaction between educators and students reflects and fosters the broader societal pattern.[8] Transformative pedagogy in architectural education is about harmonizing the act of creating ideas and solutions with the social and environmental responsibilities that should be embedded in this act. While transformative pedagogy is not confined to a static definition, it builds on the perspectives of critical pedagogy and its underlying hidden curriculum concept.

7 Ashraf M.Salama, 'Incorporating Knowledge about Cultural Diversity into Architectural Pedagogy', In William O'Reilly (ed.), Architectural Knowledge and Cultural Diversity. (Lausanne: Comportements, 1999), pp. 135-144.

8 Biren A. Nagda, Patricia Gurin, Gretchen E. Lopez, 'Transformative Pedagogy for Democracy and Social Justice', Race Ethnicity and Education, 6 (2) (2003): 165-191.

Critical pedagogy aims at reconfiguring the traditional student/ teacher relationship, where the teacher is the active agent—the knowledge provider—and the students are the passive recipients of the teacher's knowledge. Grounded on the experiences of both students and teachers new knowledge is produced through the dialogical process of learning. Pauolo Freire, the initiator of the concept, heavily endorses students' ability to think critically about their educational situation; this way of thinking allows them to "*recognize connections between their individual problems and experiences and the social contexts in which they are embedded.*"[9] In essence, critical pedagogy is viewed as an approach to teaching, which attempts to help students question and challenge domination, and the beliefs and practices that dominate.

[9] Paulo Freire, Pedagogy of the Oppressed (New York, NY: Continuum Publishing Co, 1970).

The hidden curriculum concept is thus concerned with questions that pertain to the ideology of knowledge and the social practices that structure the experiences of educators and students. According to Tomas Dutton, the hidden curriculum places emphasis on those unstated values, norms and attitudes which stem tacitly from the social relations of the learning setting in addition to the content of the course.[10] Based on the writings of theorists of education, one would conceive a number of issues imbedded in the hidden curriculum:

- The everyday experiences of the learning setting (classroom, laboratory, studio).
- The structure of the teaching/learning process.
- The modes of producing and reproducing knowledge.
- The routines of students and educators.
- The rules that govern the relationship between students and teachers.

[10] Thomas Dutton (ed.), Voices in Architectural Education: Cultural Politics and Pedagogy (New York, NY: Bergin and Harvey, 1991); Henry Giroux, Pedagogy and the Politics of Hope: Theory, Culture, and Schooling (New York, NY: Westview/Harper Collins, 1997).

Pedagogues assert that these practices are equally as influential as any structured curriculum. Therefore, adopting transformative pedagogy can help educators interpret the relationship between knowledge and power, between themselves and their students. The assumption here is that knowledge in any educational setting always reinforces certain ideologies, values, and assumptions about the real world so as to sustain the interests of some groups and their values at the expense of others.[11] In this respect one must admit that educational settings—whether studios, laboratories, lecture halls, or classrooms—are not neutral sites; they are integral to social, cultural, and political relations that can be found in real life.

[11] Patricia Cranton, Understanding and Promoting Transformative Learning: A Guide for Educators of Adults (San Francisco, CA: Jossey-Bass Publishers, 1994).

The preceding discussion suggests that transformative pedagogy is about understanding how knowledge is produced, what the components of such knowledge are, and what are the learning processes and social practices that can be used to transmit it. Transformative pedagogy is centred on critical inquiry and knowledge acquisition, assimilation, and production

in a manner that encourages students and educators to critically examine traditional assumptions and to encounter social and environmental issues.

Responsive learning mechanisms in architecture

The translation of systemic and transformative pedagogies can be witnessed in a number of learning mechanisms that were generated by education psychologists and tested by many pedagogues in various disciplines. Yet, three responsive learning mechanisms can be introduced as part of the learning process in architecture; these are inquiry-based, active, and experiential learning.

It is argued that education begins with the curiosity of the learner. With inquiry-based learning-IBL, students reach an understanding of concepts by themselves and the responsibility for learning rests with them. The famous dictum of Confucius—said to be stated around 450 BC "*Tell me and I will forget. Show me and I may remember. Involve me and I will understand*" clearly reflects the essence of IBL. Inquiry implies involvement that leads to understanding. In turn, involvement in learning implies acquiring skills and attitudes that permit students to seek resolutions to questions and issues while they construct new knowledge. According to CILASS, IBL[12] is a term used to describe approaches to learning that are based on a process of self-directed inquiry or research. Students conduct small or large-scale inquiries that enable them to engage actively and creatively with the questions and problems of their discipline, often in collaboration with others.

[12] CILASS: Centre for Inquiry-Based Learning in the Arts and Social Sciences http://www.sheffield.ac.uk/cilass/ibl.html (accessed 15 March 2010).

Inquiry based learning can be seen as a research-based teaching strategy that actively involves students in the examination of the content, issues, and questions surrounding a concept, or a curricular area relevant to architecture. Here, activities and assignments in a classroom can be designed such that students work individually, in groups of two, or in larger groups to explore issues both in-class work and fieldwork. Instruction in IBL is a student-centred and a teacher-guided approach that engages students in exploring answers to questions selected from a wide spectrum of theme-based issues.

As an instructional method, inquiry based learning was developed in response to a perceived failure of more traditional forms of instruction, where students were required to simply memorize and reproduce instructional materials. Active and experiential learning can be regarded as sub-forms of inquiry-based learning-IBL, where students progress is assessed by how well they develop experiential, critical thinking, and analytical skills rather than how much knowledge they have acquired. The major characteristic of active learning is that students are engaged in individual or group activities during the class session including reading, discussing, commenting, and exploring. In essence, students must

talk about what they are learning, write about it, and relate it to past experiences. Experiential learning on the other hand, is contrasted with learning in which the learner only reads about, hears about, talks about, writes about these realities but never comes into contact with as part of the learning process.[13]

Contextualizing the integration of learning mechanisms

While I have been continuously endeavouring to introduce and experiment various techniques that translate new forms of pedagogies into learning experiments amenable to achieve transformative learning objectives,[14] the context described here is limited only to my recent teaching at Qatar University. Putting inquiry based, active, and experiential learning into a teaching practice, the course ARCH 313- Community and Neighbourhood Design Workshop offered as part of the core architecture professional program was selected as a context for integration. Learning mechanisms were integrated into the delivery of the course in the spring semesters of 2010 and 2011. The course includes introduction to community design theories and techniques, participatory design; collaborative design processes; community involvement in decision making; understanding community needs and resources; housing types; new understandings on neighbourhood planning and design theories; gated communities; housing design; housing types; community support. This is coupled with a series of exercises that support the delivery of these topics.

In Community and Neighbourhood Design Workshop course, students are introduced to community design as a movement, a discipline, and a design paradigm. As a movement, it has emerged from a growing realization that the mismanagement of the physical environment is a major factor that contributes to the social and economic ills of the world. According to Sanoff (2010), advocates for this movement come from the professions of architecture, landscape architecture, planning, and facility management. As a discipline, it acknowledges the importance of user needs, preferences, cultural behaviours and attitudes.[15] However, it should be noted that community or participatory design does not assume the community ability to design a physical environment or to replace what an architect or a planner does, but the direct input of the participants can simply inform the process. In essence, the designer evaluates the input of those for whom he/she is designing and therefore seeks out appropriate tools to elicit the information required.

The broad objective of this course is to provide a comprehensive understanding of the role of community design/community participation in shaping responsive environments. The underlying objectives of the course include:[16]

[13] Ashraf M.Salama, 'Delivering Theory Courses in Architecture: Inquiry Based, Active, and Experiential Learning Integrated', Archnet-IJAR – International Journal of Architectural Research, 4, (2-3) (2010): 278-295.

[14] See earlier work of the author referred to in this paper. Note that some of the ideas presented here are developed based on a grant received from the Centre for Inquiry-based Learning in the Arts and Social Sciences at the University of Sheffield (CILASS Subject Centre IBL Grant Scheme – 2009-2010).

[15] Henry Sanoff, Democratic Design: Participation Case Studies in Urban and Small Town Environments (Düsseldorf: VDM Verlag Dr. Müller, 2010).

[16] Community and Neighbourhood Design Workshop Course Package, Department of Architecture and Urban Planning, Qatar University (Doha: Qatar University, 2010).

• **To establish** students' sensitivity in understanding community design as a critical approach to architectural practice that goes beyond mainstream approaches, and as an interactive/collaborative process that integrates research into design.

• **To acquaint** students with particular knowledge of a wide spectrum of issues that pertain to community design, including benefits and approaches to community design, lifestyle theories, sense of community, community diversity, user preferences, etc.

• **To enhance** students' understanding of the core concepts, methods, and techniques that pertain to community design as they relate to different phases of the design process (programming, design, post occupancy evaluation), and as they relate to different types of environments.

• **To develop** students' critical thinking abilities about the role of community involvement in different phases of the design process.

While the course involves lectures, readings, discussions, in-class exercises, and a research project, the expectations and learning outcomes were spelled out to the students as illustrated below:

Upon successful completion of this course, you should be able to:

- *Infer the nature architecture as a social service touching every aspect of human activity.*
- *Appraise the role of the architect in the design of the built environment.*
- *Understand the core concepts regarding community design and participation and how these concepts vary and alter with political, cultural and socio-economic variables.*
- *Estimate the importance of involving actual users in the decision making process pertaining to the built environment.*
- *Comprehend the effects and consequences of decisions with respect to all parties involved in the design process.*

Fig.2. List of expectations and learning outcomes of the course: ARCH 313- Community and Neighbourhood Design Workshop offered by the Department of Architecture and Urban Planning, Qatar University (2010, 2011).

Integrating the three learning mechanisms required paying attention to students' capacity in grasping the concepts learned in the lecture and the way in which such concepts can be transformed into course activities and

pedagogical events. A series of exercises was developed by the author to integrate the three learning mechanisms while complementing different types of knowledge offered to students in a typical lecture format. While the course involved a delivery of 10 lecture presentations, it included several exercises and a term research project. All exercises were explained to the students, and how they are linked to the knowledge and experiences they have already gained. While some exercises were performed in groups of two, others were individual exercises based on the nature of each and the type of issues involved. As a standard teaching practice, each exercise was typically followed by a class discussion moderated by the instructor/ author where all students have opportunities to voice their thoughts to the whole class. What follows is a set of three examples selected from a wide variety of examples utilized as responsive learning mechanisms.

Critical reflection as a form of in-class active learning

What do we know about community and participatory design?

As part of the course delivery, this exercise adopts the premise that reflection is a critical part of any teaching/learning practice. In this sense, reflection should underpin all learning activities in architectural education, as it is a vital part of future professional practice. Reflection involves a "looking back" on own experiences and/or those of others so as to learn from them. In essence, it is viewed as a means of constructing knowledge about ones' self and the world. As a process, it includes analysing, reconsidering, and questioning experiences within a wide spectrum of issues relevant to the course materials including community aspirations, social justice, cultural norms, and the role architects and planners should play in these issues.

Following a lecture delivered on concepts and paradigms of community design, a critical reflection exercise was introduced. In this exercise, students were required to carefully watch three video clips relevant to community design, which represent concepts and case studies. These were community design on the front line, Cameron Sinclair's open source architecture, and the refugees of boom and bust (Figure 3).[17] The duration of the clips combined is 35 minutes while the duration of the whole exercise including watching the clips do not exceed 75 minutes. Students were required to write position essays that would not exceed two pages, with a range of 800-1000 words, and to be performed in-class.

[17] Video Clips introduced as part of the Community and Neighbourhood Design Workshop included:

Community Design on the Front Line (8:29), by Kathleen Dorgan and Olivia Stinson, Co-production by Dan Etheridge, Filmed and edited by Soup factory Digital, New Orleans, LA http://www.di.net/videos/community_design_on_front_line/; Cameron Sinclair – Open Source Architecture

http://www.ted.com/talks/cameron_sinclair_on_open_source_architecture.html; Cameron Sinclair – The Refugees of Boom and Bust http://www.ted.com/talks/cameron_sinclair_the_refugees_of_boom_and_bust.html

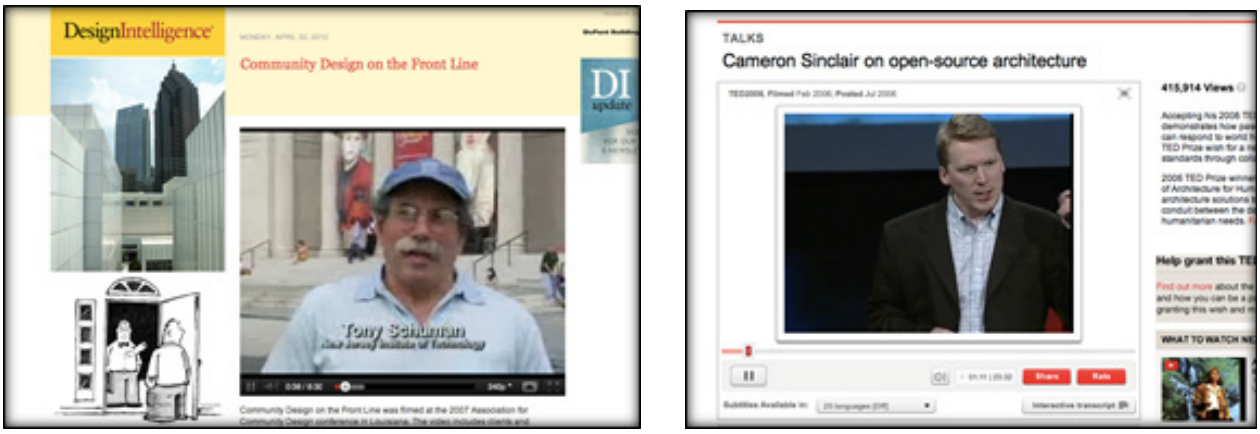

Fig. 3. Covers of video clips introduced to students as part of the critical reflection exercise.

In guiding the students to structure their essays, a number of issues were presented to them, as shown in figure 4.

You are to take notes while watching the three clips and write a critical statement that represents:

- *Your understanding of community design and what it is about?*
- *Who are the community designers and their role?*
- *What are the typical projects/building types that community design addresses?*
- *What are the typical issues addressed in the community design process?*
- *Your position toward community design, do you see it as an alternative way of designing for architecture and communities*

Fig. 4. List of issues utilized as a guidance for students to structure their critical essays.

On students' feedback: In a discussion with students on the value of introducing these types of exercises, they commented that the exercise was a good vehicle that enhanced their understanding of community design and fostered insights into the role of architects in a specific context. As well, some students commented that the exercise extended a deeper insight into the development of personal positions about participatory architecture. Excerpts from one of the student essays reveal the merits of critical reflection and that students can develop personal positions and articulate them (Figure 5).

I believe that the prosperity of any country lies through the empowerment of its citizens. People are the promising devices and in order to activate these devices, they have to be part of a community that takes their decisions and thoughts into consideration. Community design has solved many problems because of the people's involvement in figuring out these problems. Architects are the ones who aid in advocating solutions because they are the professionals. And since the world is getting smaller day by day, this approach is a grass-root movement towards solving problems that shouldn't have generated in the beginning. Advocacy, instigation of ideas along with the community and implementing them summarizes all that has been said. Yet, this approach isn't an alternative to other design approaches.. I believe that it has to work along with other means that are being conducted nowadays. An architect is without a doubt a person who facilitates things, but at some positions and concerning some projects pragmatic decisions should dominate. Either ways this approach shouldn't be questioned for it has been the aid to many issues.

Fig. 5. Excerpts from the essay of student Heba Al-Ghawi on her position on community design and the role of architects (Spring 2010).

The Walking Tour-PLADEW: An experience-based mechanism for learning from the environment

Collaborative Impressionistic Assessment and Understanding a Learning Community

This exercise was introduced to students to offer a structured learning experience while adopting the concept of 'the built environment as an open text book' and as an inquiry based learning (IBL) mechanism. The exercise places emphasis on impressionistic assessment. It focuses on specific features of an environment/building that accommodates a specific community. The environment under investigation in this assessment is the newly designed and built Female Engineering Building at Qatar University Campus. Involving a structured walking tour in the building utilizing checklists and questions under specific factors, students were required to work in groups of two. Among the several factors introduced to students to conduct the assessment, there were four major factors forming an assessment tool: PLADEW: that focuses on the sustainable

design characteristics--Planning and Zoning; Landscaping; Designing; and Energy and Waste.

PLADEW is a tool devised to facilitate a deeper understanding of the built environment and the community associated with it through self-guided tours. Notably, each of the four factors involves checklists and a scoring system and structured in a manner that allows students to take a structured walkthrough in and around the building. The evaluation strategy in this sense is considered to be impressionistic which increases the understanding by focusing on specific factors. Checklists are phrased in the form of questions underlying each factor. Questions are designed in a generic manner that reflects the essence and the issues underlying the factor (Table 1). Numerical scores are assigned to the questions to represent the degree of appropriateness underlying each factor using a five-point scale method. Scores are averaged and an overall score for the building is then computed.

The overall set of procedures that students were required to perform can be outlined as follows:

- Conducting a self-guided tour, starting by the site and the surrounding context then interior spaces (students may inquire about some technical aspects and get feedback from personnel in charge of the utility system and maintenance)
- Numerical scores from 1 to 5 are assigned to each question underlying the factors (1= highly Inappropriate, 5= very Appropriate)
- Responding to each question underlying each factor
- Analysing the numerical ratings by computation of average scores for each factor, then computation for the overall scores of the building
- Developing concluding comments based on the overall appraisal, while highlighting positive and negative aspects

Factor 3: LANDSCAPING		
Highly Appropriate *1* *2* *3* *4* *5* *Highly Inappropriate*		*Score*
1.	How effectively are the site features kept? (Consider levelling, excavations, and land filling).	_____
2.	Does the landscape design integrate the site with the surrounding environment? (Is the site surrounded by fences, if so, consider the materials used for fence treatments).	_____
3.	How effectively does the design of landscape items avoid the use of synthetic materials? (Consider the materials used for walkways and the asphalt pavements of the parking area)	_____
4.	Does the project introduce soft-scape elements (natural plants and shrubs)? If so, how effective? (Consider their harmony with the existing natural environment).	_____
5.	How effectively are the site furniture items (seats, pergolas, garbage boxes) installed in and distributed within the site? (Consider their location, materials, and manufacturing).	_____
6.	How well are the routes around and within the site marked? Are the markings clear and easily understood? (Consider directional signs, their location, content, and material).	_____
7.	Are there any signs for environmental education purposes? If so, how effectively they convey messages about appropriate behaviour?	_____
8.	Are the pedestrian paths and other hard-scape elements made of natural or recycled materials?	_____
9.	Does the site have a re-used water system (grey water)? If so, How effective? (Consider capturing rain water-if any and re-using it for irrigation, or other purposes)	_____
10.	How effectively does the project introduce native plants that require least amount of watering?	_____
	Average Score (total/10)	_____
Photographs or other forms of illustrations that represent issues underlying sustainable landscape design.	A Summary paragraph should be written describing how well landscape design has sustainability related issues.	

Table 1. Example category utilized in the walking tour as an experience-based mechanism.

On students' feedback: The findings point out that the students were able to make judgments about the built environment and to give reasons for those judgments. Yet, students' analyses revealed shortcomings in their abilities to comment, where a few students could not express their concerns verbally and could not write an understandable reporting statement. Also, a fewer number of students were not able to recognize similarities and differences between the questions. However, they commented that checklists and survey tools for investigating the built environment helped them recognize exactly what to look for in the building, and to understand relationships between different factors, while comprehending the impact of one factor as opposed to others (Figure 6).

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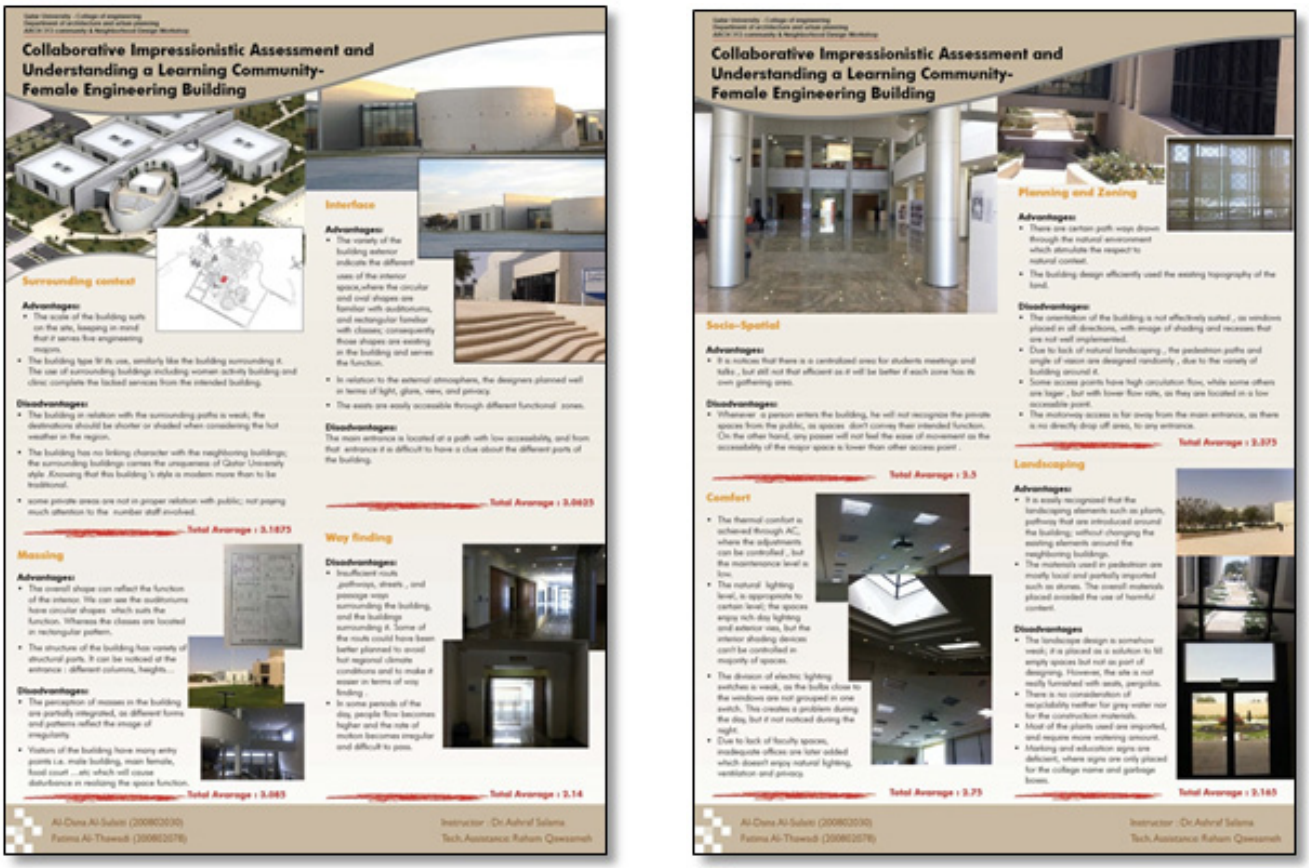


Fig. 6. Examples of posters developed by the students Al-Dana Al-Sulaiti and Fatma Al-Thawadi (Spring 2011) as part of the outcomes of implementing the Walking Tour-PLADEW (Spring 2011).

The Design Game: A collaborative learning mechanism for students' engagement in a classroom setting

Collaborative Design Thinking and Understanding a Learning Community

The design game exercise was introduced as a collaborative active learning mechanism in the classroom. A design game, developed initially to interact with client and user representatives, is utilized for engaging students in a dialogue about learning environments for children, acting as a powerful generator of dialogue among students, and a catalyst for effective communication. Theorists argue, and rightly so, that a game is a simplified slice of reality and in this exercise it is utilized to abstract the essential characteristics of a design situation. Games are of particular value to architecture students. Such a value lies in their ability to encourage full

participation by a group whose members are willing to share their ideas in a situation, which may not be intimidating. Working in groups of four or five students, the procedures of the game are multi-layered as outlined in the following discussion.

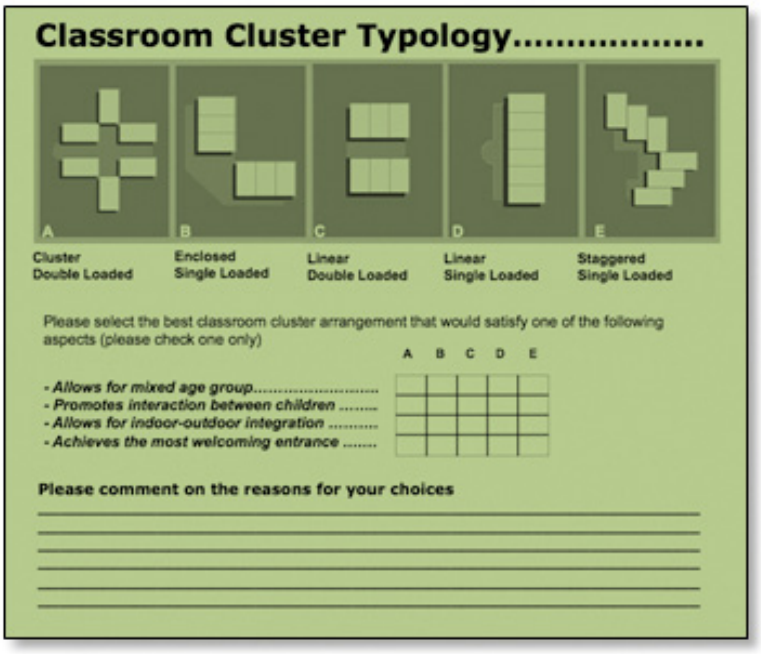
Exploring classroom cluster typologies

As an integral part of the game, students were given a form that includes a list of questions and a number of cluster typologies. Questions combined educational and environmental goals. The images were selected to represent variations of different classroom clusters that support the achievement of these goals. The main objective is to stimulate student thinking about how the cluster types may achieve certain goals. In a group discussion format, students were required to discuss these clusters. Issues related to mixed age groups, promoting interaction between children, opportunities for outdoor play, reflecting a welcoming school building entrance, were among the issues students were required to explore (figure 7-a).

Beauty contest: Debating a school building identity

An important step of the game was to understand identity of a school building. This is based on the notion that building images can have different meanings that depend on our ways of looking at objects. The meaning of school building image goes beyond its function. In many cases, we can identify who uses the building and what happens inside. We often feel emotionally triggered by a building image.[18] Our first impression is to either like it or dislike it, but if we look more carefully we may find relations between present feelings and past experiences. Issues of visual qualities, conveying an inviting feeling, and school identity were among the issues students were required to explore (figure 7-b).

[18] Henry Sanoff, Visual Research Methods in Design (New York, NY: Van Nostrand Reinhold, 1991).



Left: Fig. 7-a. Classroom cluster typology worksheet.
Right: Fig. 7-b. Beauty contest worksheet.

Understanding objectives and activities

- This step is based on the assumption that objectives generate activities and in turn activities generate spaces and places.
- Students are involved in a process of identifying the objectives of the learning environment. The result of this step is a list of objectives developed by the students.
- The second step involves defining different types of activities that might occur. Again, a list of activities is developed to achieve the objectives.
- Students are involved in a process of listing all the possible spaces that may accommodate the activities.
- The groups are asked to choose a number of activities that support each objective they have chosen in the previous step. The group members are given the opportunity to add activities that are not in the list.
- Once they reach consensus about the objectives and activities, they are asked to fill in the record sheet, and mark the spaces that they think appropriate for the selected activities.

Developing spatial layout diagrams

- Students are involved in a process of developing graphic symbols that represent all the activities of the building to be designed. In this case, it is a learning environment for children.
- Students draw game boards that include grids. The size of a grid should correspond with the size of activities symbols.
- Working in groups students are involved in a process of exploring design issues. Each activity symbol should be placed in a vacant grid. Rules included that activity symbols should not overlap and that they should be located on the basis of their requirements for privacy or accessibility to each other.
- After going through this planning process, students gained a better understanding of the problems related to the learning environment and on this basis, they were requested to develop an adjacency diagram. The diagrams resulting from this process represent alternative design concepts that provide a knowledge base before starting the task of design.

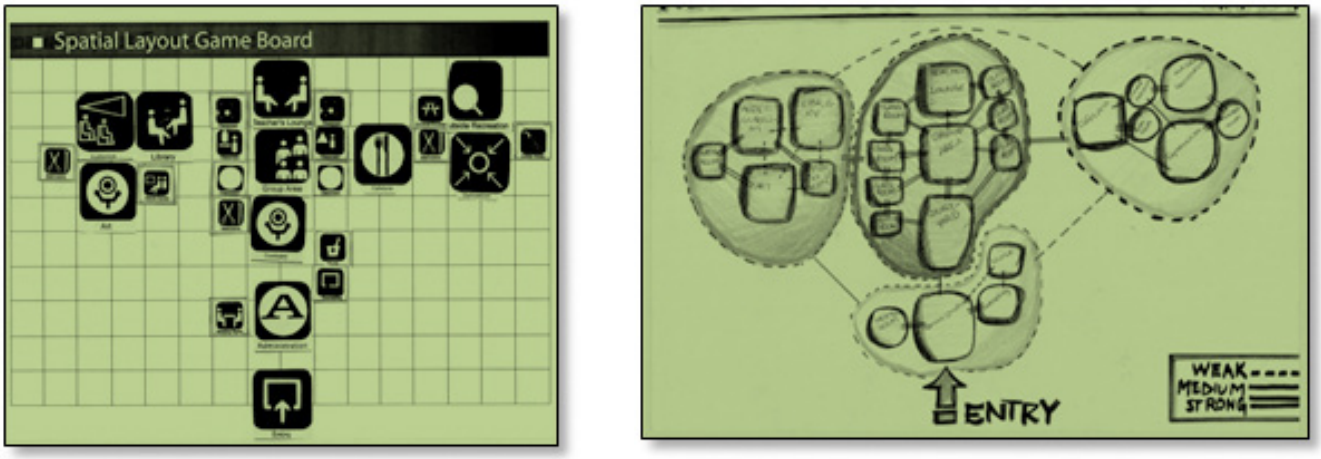


Fig. 8. Example of utilization of graphic symbols to explore design issues of learning environments and the resulting spatial layout diagram (Spring 2011).

Students Feedback

The game was very interesting and thought simulating, as is recalls our past experiences as we were users of the intended space in the past. By providing multiple choices our analyzing skill was motivated to look at different aspects of the given problem and to link them to approach the most suitable choice or solution. The stages of the game directed and strengthened our decision by the process that we went through. The game required successful time management, task division, and individual and group effort as each player discussed his opinion and way f thinking and then, as a team the group agrees on the same choice or set of choices.

Al-Dana Al-Sulaiti, Spring 2011

At the end, group work has its positives and negatives. Discussing many points of views, arguing and cooperating within the group, can come out with a product different and better –usually- than an individual work. Making decisions is usually a hard thing to achieve individually, so what if it was in group? it will be an achievement. The School Design Game, helped in taking into consideration others' views and expressing the personal opinion and trying to convince others about it. Observing and analyzing pictures, helped to think differently while designing any project, also to think wider, to create and not to be only a follower.

Rana Jamous, Spring 2011

Fig. 9. Selected students' feedback statements on the design game (Spring 2011).

Critique: Towards a new form of architectural pedagogy

This paper offered a stance toward seeking new forms of pedagogy in architectural education with a focus on lecture-based modules. While outlining two critical issues that represent some of the ills that characterize contemporary teaching practices in architecture, the paper underlined the shift from mechanistic pedagogy to systematic pedagogy and the characteristics of each. Building on critical pedagogy and the hidden curriculum concept transformative pedagogy was introduced as a form of pedagogy that can be intertwined into mainstream teaching practices.

Translating the premises underlying systemic and transformative pedagogies, inquiry-based, active, and experiential learning were identified as responsive learning mechanisms amenable to work against some

of the negative tendencies in teaching practices in architecture. These mechanisms were implemented as a series of exercises in a lecture-based course, I have taught in spring 2010 and 2011: ARCH 313- Community and Neighbourhood Design Workshop, offered as part of the core architecture professional program at Qatar university. The exercises involved a) critical reflection as a form of in-class active learning, b) a walking tour-PLADEW introduced as an experience-based mechanism for learning from the environment, and c) a design game introduced as form of collaborative learning for students' engagement in a classroom setting.

It should be noted that the results of implementing the three exercises are not exclusive. They nevertheless assert the value of introducing structured interactive learning mechanisms in lecture-based courses while utilizing the built environment as an educational medium. The two widely held conceptions of the built environment; the conceptual/subjective and the physical/objective, are embedded in the exercises.

The first exercise engaged students in questions about the contribution of participatory design in a specific context or community. The essays-as an outcome of this exercise showed that students were able to 'look back' at the experiences they have seen in the clips about community design. By and large, the exercise encouraged students to reflect on issues that go beyond the physical form, including socio-cultural aspirations of a community, justice and equity and the multiple roles architects can play in a community. In essence, these issues differ dramatically from those adopted in traditional teaching. In fact, for many traditional educators they do not qualify as part of architectural topics in conventional pedagogical practices. I argue that exploring such issues in this exercise contributed to shifting students from passive listeners to active learners and thinkers.

Utilizing the built environment as an open textbook, the walking tour exercise while aimed at introducing structured experiential learning through some form of assessment research, it does not provide comprehensive panacea to the misconceptions that characterize conventional teaching, nor it addresses the complexity of the physical environment. Yet, it helped students focus on specific aspects of the built environment that pertain to a specific knowledge content while bridging the gaps between 'what' and 'how' types of knowledge. In essence, it fostered students understanding of how the qualitative aspects of the built environment could be translated into quantifiable measures. I argue that this exercise and the information gathered by students, which was brought to the entire class for discussion contributed to shifting students from knowledge consumers to knowledge producers.

Implementing a design game in the class that involved group work, reflection and debate, and reaching consensus and decision making

contributes to understanding needs and wants of a specific user group or a community while simulating the interaction with clients and users. Observing students while conducting the game and investigating their feedback statements suggest that the exercise offered students sufficient opportunity to attain several abilities that include the ability to transform verbal and behavioural information into space adjacency diagrams, the ability to work effectively in a group, to listen, to observe, and to ask good questions, the ability of knowing when to raise issues and how to manage discussions, and the ability to respond to conflicting design constraints and preferences. I argue that this exercise contributed to the creation of excitement in the classroom while engaging students actively in a wide spectrum of mental activities.

A considerable portion of students' education in architecture and design is based on 'experience', 'making' and 'active engagement.' Students are typically encouraged to study the existing built environment and attempt to explain it through theories or typologies, always looking at outstanding examples. However, underlying these theories, there are assumptions about the built environment and the people associated with it, and usually these assumptions remain hidden. It is in this relationship lies the 'lesson' to be learnt. Whether people associated with the environment were the actual users of it or were students acting as observers and users at the same time, the incorporation of exercises similar to the ones introduced in this paper would foster the establishment of links between the existing dynamic environments, the concepts and theories that supposedly explain them, and the resulting learning outcomes. Consequently, the contribution of inquiry-based, active, and experiential learning to architectural education lies in the fact that the inherent, subjective, and hard to verify conceptual understanding of the built environment is harmonised by the structured, documented interpretation that is performed in a systematic manner in a learning setting amenable to invigorate critical thinking and reflection.

The built environment is variant, diverse, and complex. Buildings and spaces are major components of this environment: planned, designed, analysed, represented, built, lived in and occupied. They are also experienced, perceived, and studied. They should be re-defined as objects for learning and need to be transformed into academic or scientific objects. In this respect, one should emphasize that in order for an object to be taught and learned, its components should be adapted to specific pedagogic and cognitive orientation that introduces issues about specific bodies of knowledge.

It is the position of this author that seeking new forms of pedagogy and the incorporation of responsive learning mechanisms into architectural education represent a new edge and a learning paradigm in architecture

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that integrates the real and the hypothetical, the process and the product, the objective and the subjective, and ultimately the behaviour and the dynamics of the phenomena future architects are exposed to in their education. In this respect, it is firmly believed that introducing and implementing tools that utilize the built environment, buildings, and spaces as a teaching tool and as open textbooks foster the capabilities of students to be critical thinkers, active learners, and eventually responsive professionals.

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From Bourdieu to Friere (by way of Boal): Facilitating Creative Thinking through Play

Robert Brown and Patrick Clark

The context of architectural practice today is in a state of enormous flux, with the profession facing considerable challenges, including: increased competition; shifting working contexts; an increasingly complex urban environment; growing environmental concerns; and emerging opportunities outside the profession's traditional boundaries of practice. We need practitioners who are able to think creatively in response to a multiplicity of opportunities and problems. Intrinsic to this demand is a parallel necessity to break out of our inherited modes of behaviour and thinking, and an ability to formulate and implement new forms of practice in response to a highly fluid context. Architectural education has concurrently been called upon to equip future practitioners with the capacity to respond to future challenges and emerging opportunities.

In response we will draw upon Bourdieu's construct of *habitus* to consider how inherited paradigms of design studio education inculcate students into received ways of working and thinking. In opposition, we will posit Boal's theatre forum as a reference for our own conceptualisation of the design studio as a space of play in which creative thinking can be explored and developed. While such pedagogy carries its own risks, play affords a sense of autonomy and efficacy that Friere argues is vital for enabling and pursuing creative thinking in the face of current and emerging challenges.

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Introduction

> 'The instruments of knowledge of the social world... contribute to the reproduction of the social world by producing immediate adherence to the world, seen as self-evident and undisputed. [1]

> 'Playful activity, engaged in for its own sake ("intrinsic motivation"), is perhaps the purest case of agenthood: creating interesting effects, testing possibilities, measuring one's own growing skills, all protected by the spirit of "as-if."' [2]

The context of architectural practice today is in a state of enormous flux: competition has developed with disciplines that were previously partners in the design process; shifting eco-political contexts affect not only where we might find work but also present alternative attitudes, methodologies and technologies; an increasing interrelated complexity in an ever-urbanising world; a growing sense of urgency to address ecological concerns; and a heightened awareness of the opportunity to utilise the knowledge and skills of the architect outside traditional disciplinary boundaries. What is called for is professional aptitude and capability to contend with change. Such calls are paralleled by an expectation that architectural education[3] will re-examine the fundamental nature of its praxis, in order to prepare architects for this potentially rich, though challenging, environment.[4] This is nothing new. Over 35 years ago Hans Harms observed a questioning of established values and work methods.[5] In 1999, Sir Colin Stansfield Smith identified the need of education to prepare future practitioners able to respond to a changed field of practice.[6] Twelve years on we hear the same rallying cry, the latest in the Building Futures report 'The Future for Architects? [7]

The imperative to develop creative thinkers is intrinsic to any discussion of both education and practice today; the frequency to which it is referred within current discourse is illustrative of this.[8] Yet this prevalent usage runs the risk of rendering the term creative thinking useless, unless its meaning(s), the process by which such thinking is attained within education, and the implications of its implementation are critically considered. While discourse may have moved on from Jeffrey Ochsner's critique of the 'almost complete silence on...the precise nature of the creative processes in which students are asked to engage in design studio',[9] the primary focus of discussion on the design studio today is more upon the product produced (and the nature of this product's cultural meaning). This is perhaps most clearly evidenced in the turn taken in recent years by the Journal of Architectural Education away from an examination of

1 Pierre Bourdieu, Outline of a Theory of Practice, trans. Richard Nice (Cambridge: Cambridge University Press, 1977) p. 164.

2 Brewster Smith, 'Foreward', in Mary Reilly (ed.), Plan as Exploratory Learning – Studies of Curiosity Behaviour (Beverly Hills: Sage, 1974) p. 7.

3 Reference to architectural education is shortened to education within the text.

4 Claire Jamieson, 'Forward Thinking', in RIBAJOURNAL.COM (2011) at http://www.ribajournal.com/index/php/feature/article/forward_thinking/ [Accessed 18.03.11]

5 Hans Harms, 'The Dilemma of the Architect', Research, Vol. 4 No. 1 (1974), p. 9.

6 Sir Colin Stansfield Smith, et. al., 'Architectural Education for the 21st Century' (London: Royal Institute of British Architects, 1999).

7 The Future for Architects: (2011) http://www.buildingfutures.org.uk/projects/building-futures/the-future-for-architects/ [accessed 30 March 2011]. The report also makes particular reference to strategic thinking, something which we would argue needs to be employed concurrent with creative thinking; within the context of our discussion we have however focused our discussion solely on the latter.

8 The Peter and Muriel Melvin Debate on architectural education held in 2011 at the RIBA is but one example; Peter and Muriel Melvin Debate Education in Architecture: Global Difference (September, Royal Institute of British Architects, London, 2011).

9 Jeffrey Ochsner¸'Behind the Mask: A Psychoanalytical Perspective on Interaction in the Design Studio', Journal of Architectural Education, May 53/5 (2000) p. 194.

architectural pedagogy, and more towards discourse on architecture as cultural artefact.

Underpinning our discussion is a conception of a type of creative thought which enables and reinforces an ability to adapt to the changing demands and opportunities of contemporary and future practice. Inherent in this understanding is a questioning of our received forms of praxis. This assessment is echoed by those within practice and outside it. Architect Stan Allen has called for new ways of working that can deal with urban contexts 'where visible and invisible streams of information, capital and subjects interact in complex formations,'[10] while sociologist Rob Shields has noted the need to construct new methodologies that can cope with parallel and often conflicting conditions.[11] To this we add Dana Cuff's and Robert Gutman's observations on the multiplicity inherent in the nature of contemporary practice; e.g., the wide range of processes and contributors involved in the delivery of buildings.[12]

Practitioners will need to develop new approaches that can deal with these challenges. However, our concern here is how the necessary creative thinking might be fostered within education. Although continuous practice is vital in cultivating any form of sensibility and skill, creative thinking is unlikely to arise only from assimilation through the reiteration of tasks. Rather, this could be enabled through a specific pedagogy: the conception of creative thinking as a praxis of play.[13] This pedagogy of play is distinct from prevailing teaching practices, which inculcate students into a habitus of received ways of working and thinking. With Augusto Boal's forum theatre as a reference, we will explore how students can engage with play as a formative tool within the design process. We will delineate play as capable of fostering a sense of autonomy and efficacy. This argument is grounded in Paolo Friere's proposition that such freedom and self-belief are vital for enabling and pursuing creative thinking in the face of current and emerging challenges.

The Current Context of Creativity in the Design Studio

Transforming existing practice

Defining creative thought is a somewhat quixotic endeavour. As John Habraken has observed, 'one of the most difficult aspects of understanding designing has always been the multitude of divergent acts which occur simultaneously, defying simple descriptions.'[14] Bryan Lawson echoes this, noting that the various modes of thought that occur in the design process often become blurred.[15] This ambiguity extends into education, where definitions of design can be equally plentiful and just as elusive.[16] However, defining the act of creation lies outside the scope and aim of this text. Instead we will focus on the nature of the environment and an approach

[10] Stan Allen, Practice – Architecture, Technique and Representation (Amsterdam: G & B Arts International, 2000).

[11] Rob Shields, 'A Guide to Urban Representations and What to Do About It', in Anthony King (ed.), Re-Presenting the City – Ethnicity, Capital and Culture in the 21st Century Metropolis (New York: New York: New York University Press, 1996), pp. 227 – 252.

[12] Dana Cuff, The Story of Practice (Cambridge: MIT Press, 1998, 6th ed. [1991]); Robert Gutman, Architectural Practice – A Critical View (New York: Princeton Architectural Press, 1988).

[13] We conceptualise the design process as one particular approach to creative thinking.

[14] John Habraken, cited in Bryan Lawson, How Designers Think (London: The Architectural Press, 1997 [3rd ed.])

[15] Lawson (1997).

[16] Joseph Press, 'Soul Searching: Reflections from the Ivory Tower', Journal of Architectural Education, May 51/4 (1998), p. 235; Wendy Potts, 'The design studio as a vehicle for change – the "Portsmouth Model"', in David Nicol and Simon Pilling (eds.), Changing Architectural Education, (London: E & F Spon, 2000), p. 241.

to thinking which we believe can enable an ability to adapt in the face of a shifting context.

We each carry with us a worldview, built up through our experience, acquisition of knowledge and assimilation of beliefs and values. This worldview, drawing on Pierre Bourdieu's conception of habitus, both produces and is produced by practices that form part of 'a system of lasting, transposable dispositions, which integrating past experiences, functions at every moment as *a matrix of perceptions, appreciations, and actions.*'[17] These dispositions are 'structuring structures, that is, as principles which generate and organise practices.'[18] This *habitus*, and the dispositions and practice which are intrinsic to it, are both individual and shared. As John Friedman notes, 'though inscribed in the individual body, it is a collective phenomenon in the sense that a certain *habitus* is and, indeed, must be shared, or at least, implicitly understood and accepted by all the players in the game.'[19] Reference to a shared habitus within a group is most commonly allied to discussions of distinct socio-cultural groups, or society as a whole. We apply it to the architectural profession, recognising it as a distinct socio-cultural (and economical-political) subgroup, as identified by Dana Cuff, Amos Rapoport and Sharon Sutton.[20]

Reference to the group is critical to our discussion of changing practice. We understand *habitus* as something embedded within us, implicitly assimilated and upon which we do not, typically, reflect. Yet, while it is not merely causal, its manipulation generally is limited owing to deeply-seated and assimilated meaning perspectives, habits and ritualized behaviour. As Bourdieu argues, our *habitus* is informed by hegemonic practices which objectify authorized language and practices.[21] While this condition is not permanently fixed, 'because the field is subject to multiple influences, both from within and outside itself, it inevitably undergoes a slow process of change.'[22] Thus, 'the tendency is for the collective habitus to be preserved over relatively long periods of time.'[23] However, it is possible to implement a more immediate transformation through explicit action carried out by a specific agent, revealing to other individuals and/or the group an awareness of the dispositions which inform our practices. This action can 'awaken' schemes of perception, and appreciation of these, in others.[24]

Jack Mezirow has written that 'perspective transformation is the process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand, and feel about our world.'[25] However, it is not just about becoming aware; it is about acting on that awareness; as Mezirow notes, transformation entails 'reformulating these assumptions to permit a more inclusive, discriminating, permeable, and integrative perspective; and of making decisions or otherwise acting upon these new understandings.'[26] The challenge for education is how to put in place a pedagogy that might support students in engaging with such a process.

17 Bourdieu (1977), pp. 82 – 83.

18 Bourdieu (1977), p72.

19 John Friedman, 'Place-making as Project? Habitus and Migration in Transnational Cities', in Jean Hillier and Emma Rooksby (eds.), Habitus: A Sense of Place (Aldershot: Ashgate, 2005), p. 317.

20 Cuff, Dana, (1998); Amos Rapoport, 'A Different View of Design', The University of Tennessee Journal of Architecture, Vol. 11 (1989); Sharon Sutton, 'Reinventing Professional Privilege as Inclusivity: A Proposal for an Enriched Mission of Architecture', in Julia Williams Robinson and Andrzej Piotrowski (eds.), The Discipline of Architecture (Minneapolis: University of Minnesota, 2001), pp. 173 – 207.

21 Bourdieu (1977).

22 Friedman (2005), p. 317.

23 Ibid.

24 Bourdieu (1977).

25 Jack Mezirow, 1990. 'How Critical Reflection Triggers Transformative Learning', in Jack Mezirow, et. al. (ed.), Fostering Critical Reflection in Adulthood (San Francisco: Jossey-Bass, 1990), p. 14.

26 Ibid.

27 Donald Schon, The Reflective Practitioner: How Professionals Think in Action (New York: Basic Books, 1983); Donald Schon, The Design Studio: An Exploration of Its Traditions and Potential (London: RIBA Publications, 1985); Donald Schon, Educating the Reflective Practitioner (San Francisco: Jossey Bass, 1987); See also Ernest Boyer and Lee Mitgang, Building Community: A New Future for Architecture Education and Practice (Princeton: Carnegie Foundation, 1996).

28 Laura Willenbrock, 'An Undergraduate Voice in Architectural Education', in Thomas Dutton (ed.), Voices in Architectural Education (New York: Bergin and Garvey, 1991), p. 98.

29 Kazys Varnelis,'The Education of the Innocent Eye', Journal of Architectural Education, May 51/4 (1998), pp. 212 – 223.

Structuring practices (and not creativity) within the existing paradigm

Advocates and practitioners of the design studio argue that it already achieves perspective transformation, that criticality and a reformulation of thinking are intrinsic to studio praxis. Donald Schon's seminal writings on the reflective practitioner and design studio teaching, echoed in discourse on education ever since, are a prime example.[27] Yet examination of studio practice since Schon has highlighted that thinking for oneself is subject to attack from the very beginning of education. Laura Willenbrock has commented that students are '...asked to forget most things in (their) past, to come to the studio "naked."'[28] This observation is echoed by Kazys Varnelis' critique of the design studio, who suggests that students are encouraged to abandon any preconceptions of architecture they may have.[29] Despite whatever gains may have been made in architectural education over the last 20 years to address these issues, continuing criticisms from students (e.g., in student forums run by the RIBA) are evidence that the conditions that have prompted these comments have yet to disappear.

So, just as students are asked to begin working with the design process as a way of creative thinking, they are told to abandon any existing knowledge and ways of working. Concurrently, they are placed on unknown ground where they are uncertain of how to proceed, what they are supposed to learn or even where to start; it is then suggested that they plunge into the act of designing, as only by doing this can they 'begin to understand what the studio master says and does.'[30] In effect, this new way of thinking and working is presented as 'a riddle to be decoded.'[31] Faced by this seemingly indeterminate condition, students turn to the tutor, whose role is to be their 'guide into the mysteries of design.'[32] This runs in parallel with their being asked to abandon their existing beliefs, and work with a new set of beliefs communicated by their tutor; the transmission of values that results is seen by some as central to education.[33] Delivered tacitly, rather than as an explicit part of the formal teaching, these values have been referred to as 'the hidden curriculum'.[34] These values are presented as self-evident and irrefutable.[35] The extent of students' acquiescence to this indoctrination is reflected in their own admission that, 'that is what we are supposed to think here.'[36] Simultaneously, the elevated status of these values is reinforced through practices (e.g., architecture as an endurance test, including long hours and confrontational assessment formats such as the traditional jury system), which Cuff suggests involve 'the intense indoctrination characteristic of an initiation rite.'[37]

While the values and ways of working which are demarcated are contestable, of primary concern here is how students are encouraged to conform to normative values, generating and reinforcing an 'uninformed consent to the dominant culture.'[38] Within this educational milieu, authorised schemes of thought and perception generate their own reified

30 Schon (1984), p. 6.

31 Stanton (2001), p. 31.

32 Cuff (1991), p. 121.

33 Included within these values is a prioritisation of the geometric space of architects over lived space; See Kim Dovey, 'Putting Geometry in its Place: Toward a Phenomenology of the Design Process', in David Seamon (ed.), Dwelling Seeing and Designing – Toward a Phenomenological Ecology (Albany: State University of New York, 1993), pp. 247 – 269. Simultaneously, values reflecting alternative cultural, political, professional, social and theoretical perspectives (e.g., environment-behaviour studies) outside of the discipline's prevailing values are marginalised or negated; See for example, Sherry Ahrentzen and Linda Groat, 'Rethinking Architectural Education: Patriarchal Conventions & Alternative Visions from the Perspectives of Women Faculty', Journal of Architectural Education, September 47/1 (1992), pp. 95 – 111; Boyer and Mitgang (1996); Press (1998); Rapoport, (1989); Sutton, (2001); or Anthony Ward and Wong Lei Sheung, 'Equity, Education and Design in New Zealand: The Whare Wananga Project', Journal of Architectural Education, February 49/3 (1996), pp. 136 – 155.

34 Thomas Dutton, 'Design and Studio Pedagogy', Journal of Architectural Education, Fall 41/1 (1987), pp. 16 – 25.

35 Robert Brown, 'The Social Environment of Learning', in Allan Davis (ed.), Enhancing Curricula (London: University of the Arts, 2004), pp. 217 – 236.

36 Robert Brown and Denitza Moreau, 'Finding Your Way in the Dark', [Online] Available at: http://78.158.56.101/archive/palantine/palantine/shared-visions-paper/index.html [accessed 28.04.12].

37 Cuff (1991), p. 118.

38 Thomas Dutton, 'The Hidden Curriculum and the Design Studio: Toward a Critical Studio Pedagogy', in Thomas Dutton (ed.), Voices in Architectural Education (New York: Bergin and Garvey, 1991), p. 174.

objectivity, 'thereby founding immediate adherence, in the doxic mode, to the world of tradition experienced as a "natural world" and taken for granted.'[39] Coming to be seen as self-evident by both students and tutors, they thus remain unquestioned. As Bourdieu posits, these objective structures are internalized; acting in convergence, they provide "the illusion of immediate understanding…which at the same time excludes from that experience any inquiry as to its own conditions of possibility.'[40]

In this paradigm, students' existing values are denigrated while those of the educational establishment are reified, and thus existing patterns of thinking are reinforced and perpetuated. Moreover, the students' sense of autonomy and efficacy is undermined, which concurrently fosters a sense of dependency upon the tutor.[41] This dependency is evinced both in students conforming to normative values and their relinquishment of a sense of authorship of their work to the tutor. These consequences contrast negatively with the much-recognised need for creative thinkers proactively responsive to change. The pedagogic practices set out above do not foster such a capacity, but rather impede its development.

Creativity – a risky proposition

We need new pedagogies that will enable students to critically reassess, or step outside, received forms of practice and thinking to explore and cultivate new processes. Yet this agenda exposes students to, what is for many, a threatening proposition. It asks them to engage in a critical scrutiny of established values and ways of working, not only of the discipline but equally their own, which to date may have offered considerable support and security. That this intention echoes in some way inherited teaching paradigms is not unrecognised; the distinction is however that while the latter does so without offering insight into why, and instead only negates them, our proffered pedagogy opens up to why such a critical questioning of established norms and working practices is both viable and necessary in order to drive creativity.

Still, this poses a sense of risk and, together with their embedded thinking, may elicit a confrontation with any attempt to engage them in a process of critical re-examination. Educator Bell Hooks' comments reflect this struggle noting, "For reasons I cannot explain [the classroom] was also full of 'resisting' students who did not want to learn new pedagogical processes, who did not want to be in a classroom that differed in any way from the norm. To these students, transgressing boundaries was frightening."[42]

A key challenge is that none of us hold an objective viewpoint of reality; rather, our understanding of the world is informed by personal, subjective preconceptions and prejudices as much as it is by any absolute truth. We see what we want to see through selective 'codes by which we

[39] Bourdieu (1977), p. 164.

[40] Pierre Bourdieu, The Logic of Practice, trans. Richard Nice (Cambridge: Polity Press, 1990) p. 20.

[41] Dutton (1991); Jeffrey Ochsner (2000).

[42] Bell Hooks, Teaching to Transgress: Education as the Practice of Freedom (London: Routledge), p. 9.

delineate, symbolize and classify the world around us.'[43] This condition is exacerbated by an unwillingness to change; we want to hang on to our existing world view, what Jerome Blumenthal refers to as 'tendentious apperception.'[44] Rather than discarding our prejudices and being receptive to new ways of looking at things, we are predisposed to fall back on that which is familiar and safe.

Another significant obstacle is the transition of students from pre-university education to higher level education. All too often the former is based more upon Paolo Friere's notion of the 'banking system', in which students are the passive recipients of knowledge transmitted to them for direct assimilation without critical discussion or reflection.[45] The emphasis is upon students obtaining knowledge, or being able to apply this knowledge within pre-determined problem-solving exercises, and not upon working with this knowledge creatively in response to open-ended questions. As Friere notes, the 'tradition however, has not been to exchange ideas, but to dictate them...imposing an order to which [the student] has had to accommodate. By giving the student formulas to receive and store, we have not offered [the student] the means for authentic thought.[46]

Students in university education, although they may desire freedom of thought, can find it hard to imagine, much less act upon it, as they have scarcely experienced it within their previous education. As Freire and Danaldo Macedo argued, creativity involves risk taking.[47] Yet this risk-taking is not something that, as passive recipients of authorised knowledge and values, they were previously urged to pursue. Much of the pre-university system is risk-adverse, aimed at a bottom line of results as measured in test results and league tables.[48] Students are not prompted to question things, nor are they supported in engaging in or developing creative thinking, Instead, they are tacitly encouraged to remain passive, 'immersed in a culture of silence.'[49]

This condition both reflects and impacts on why many students fear creativity. It represents an unknown path, and it is the inherent fear of the unknown that brings about an entrenchment within existing patterns of thinking. This aversion to risk is illustrated in students' desire to 'get it right', and their lack of engagement in open-ended inquiry. Rather than trying to question and reveal new possibilities, they try to identify a short cut to a 'right answer'. In the design studio this can be reflected in students' trying to do what they think the tutor will like, which only reinforces the previously noted sense of dependency on the tutor. Not yet willing to make the step needed for transformative critical thought, students struggle with the challenges before them and find the whole process uncomfortable and unsettling.

43 David Lowenthal, The Past is a Foreign Country (Cambridge: Cambridge University Press, 1985).

44 Erik Blumenthal, Way to Inner Freedom: A Practical Guide to Personal Development (Rockport: Oneworld Publications, 1997), p. 84.

45 Paolo Friere, Pedagogy of the Oppressed (London: Penguin Books, 1996).

46 Paolo Friere, Education for Critical Consciousness (Bucks: Hazell Watson & Viney, 1974).

47 Paolo Friere and Danaldo Macedo, Literacy: Reading the Word and the World (Westport: Bergin & Garvey, 1987).

48 This certainly seems to be the status quo in the UK.

49 Friere (1996), p. 48.

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A transformative-based approach to education also poses risk for the tutor. Students must trust the tutor to support them in taking risks, holding faith that this will lead to enhanced understanding and a capacity for creative thinking. Such an endeavour carries risk for the tutor, as the tutor must deliver the support necessary to enable the student to achieve that goal, and justify the students' faith in their teaching.[50] The open-endedness of this form of enquiry also exposes them to various criticisms, ranging from accusations that the tutor 'is not teaching the students', to questions on the clarity of the teaching agenda.

[50] Brown (2004)

Fostering Creative Thought through Play

Play as a course of action

Jeffrey Ochsner has posited the design process as analogous to 'inventive play.'[51] Ochsner further notes,

[51] Ochsner (2000)

> [the kind of] 'experience we wish our students to discover was identified...as belonging to the realm of play in children, and is found at the root of creativity and imagination in adults. It is this experience that allows us to see the external world as we rationally know it, but also allows us simultaneously to imagine the world as it might otherwise be.' [52]

[52] Ochsner (2000), p. 196.

We can all recall moments of such play in our own lives, perhaps most easily from our childhood. One notable point of reference is the experience of kindergarten. In this setting the intention is not to transmit specific knowledge; rather, children are encouraged and supported to explore. However, a pedagogy based on this experience is not limited to children. An engagement with play in adults can fundamentally change our outlook and force us to look again at seemingly self-evident conditions, and by this act, enable us to control our own creativity. David Winnicott takes this further, suggesting that 'it is in playing and only in playing that the individual child or adult is able to be creative.'[53]

[53] David Winnicott, Playing and Reality (London: Routledge, 1971), p. 73.

[54] Ken Robinson, Out of Our Minds – Learning to be Creative (Chichester: Capstone, 2001) p. 1.

[55] See for example: Andrea Kahn, 'Imaging New York', in Peter Madsen and Richard Plunz (eds.), The Urban Lifeworld – Formation, Perception, Representation (London: Routledge, 2002), pp. 237 – 251; Anna Minton, Ground Control – Fear and Happiness in the Twenty-First Century City (London: Penguin Books).

Unfortunately, by the time most of us reach adulthood we have effectively surrendered a sense of efficacy in our own creative capacities. As Ken Robinson sadly reminds us, 'most children think they're highly creative; most adults think they're not.'[54] We go through an education system that encourages us to fall in line with prevailing thought, and not to question or step outside its boundaries. Wider society reinforces this, illustrated for example through its acquiescence to the socio-economic controls put in place in the public realm by privileged interests, whereby the sense of the public good has been replaced by economic interests.[55] We have, in

effect, *learned* not to be creative but to comply instead with the limitations imposed upon us, even our own self-limitations. Yet, while dormant, our capacity for play, and hence creativity, is not lost; we can take inspiration from children, who in their curiosity re-imagine the world as they explore and seek to understand it. Theirs is a world unbounded by mental limits.

Reference to play is, like design, a somewhat quixotic endeavour. Brian Sutton-Smith suggests that play is rather ambiguous and that, 'we cannot trust most of our contemporary psychological definitions of play.'[56] Mary Reilly further notes that while universal it is a construct that eludes classification.[57] Within the context of this paper articulating a precise definition may not be critical however; more important to understand here is what play does. Reilly identifies a number of descriptions, including play as: a carrier of learning; a way to engage with a diversity of experiences and interests; and play as imagination (or imagination as play).[58] Play is also suggested to be a curiosity-based phenomenon that allows us to explore an outer reality through interaction with it, and through this enabling a mastering of both specific skills and social rules.[59] This mastery can provide us with a sense of mental well-being through the sense of accomplishment we can feel, notably when that play involves overcoming a degree of challenge and risk. Of further note is that play can be pleasurable, offering stimulation and a sense of physical well-being.

Winnicott suggests that a special feature of [creative] play is that it 'depends for its existence on living experiences, not inherited tendencies.'[60] Creative play provides an opportunity to test out new ideas and possibilities, rather than to follow a predetermined course of action within normative conventions. One of its main advantages is the richness that it can reveal; all ideas are open to exploration as there are no explicit or implicit agendas and there is an opportunity to be broad and discursive in the exploration that takes place. It is, in effect, a game of *what if,* in which participants are free to examine alternatives and explore their meaning and implications. The movement from a narrowed direction of thinking, to one that is open to multiple possibilities can be liberating. 'Play...provides opportunities for imaginative leaps to occur, encouraging inventive ways of handling materials beyond the constraints of convention.'[61] As Angela Brew suggests, 'extending the range of what we consider relevant to any given situation opens us open to new insights.'[62] Edward de Bono takes this thought even further, suggesting merit in looking at 'the least obvious approaches rather than the most likely ones.'[63] Equally formative is the opportunity to break out of existing patterns by making connections between seemingly unconnected things. 'Play provides an excellent opportunity to try combinations of behaviour that wouldn't be tried under functional pressure.'[64] Such notions are reflected in de Bono's views on lateral thinking, through which known information and phenomenon can be seen with a new perspective, and is particularly useful 'as a way to restructure existing patterns of thinking and provoke new ways' and

56 Brian Sutton-Smith, 'Evolving a Consilience of Play Definitions: Playfully', in Stuart Reifel (ed.), Play & Culture Studies Volume 2 – Play Contexts Revisited (Stamford: Ablex, 1999), p. 239.

57 Mary Reilly, 'Defining a Cobweb', in Mary Reilly (ed.), Play as Exploratory Learning – Studies of Curiosity Behaviour (Beverly Hills: Sage, 1974b).

58 Ibid.

59 Mary Reilly, 'Introduction', in Mary Reilly (ed.), Play as Exploratory Learning – Studies of Curiosity Behaviour (Beverly Hills: Sage, 1974a).

60 Winnicott (1971), p. 146.

61 Roy Prentice, 'Experiential Learning in Play and Art', in Janet Moyles (ed.), The Excellence of Play (Buckingham: Open University Press, 1994), p. 127.

62 Angela Brew, 'Unlearning Through Experience', in D. Boud, R. Cohen and D. Walker (eds.), Using Experience for Learning (Buckingham: The Society for Research in to Higher Education and Open University Press, 1993), pp. 87 – 98.

63 Edward De Bono, Lateral Thinking (London: Penguin Books, 1970) pp. 9 – 10.

64 Jerome Bruner, Functions of Play (London: Grant McIntyre, 1972), p. 82.

raise awareness of alternatives.[65] Play, and with it creative thinking, can be deliberately discursive and chaotic. The challenge is to encourage students to take the seldom trodden path in an open-ended search for the previously unanswerable, unobtainable and unthinkable.

It is an understanding of creative thought that informs our own approach to the design studio. Our conception of play understands it as to operate 'in a speculative manner.'[66] Intrinsic to this definition is that play has a sense of agency; it is a way of testing and constructing our own, and sometimes comprehending others', sense of the world.[67] In this sense, play can serve as a 'strategy to apprehend the unknown.'[68] This strategy is not however merely about reviewing the past or reflecting on the present, but equally that it provides 'a constructive expression of curiosity that enables "players" to prepare for future challenges and opportunities.'[69]

It is, however, essential to clarify that a pedagogy of play is neither about a case of anything goes, nor is it about asking students to (figuratively) wander off aimlessly in the vain hope that they will find a way forward. It requires structure. This structure is not about setting boundaries, but about providing a platform from which to start and venture outwards. Those in creative industries, from architects to writers, are all familiar with the challenge of working in a 'blank site'; it is the site which, at first glance, imposes the most restrictions that is often the one that provides the most inspiration. These apparent limitations provide us with something to work with, or against. In the absence of such a platform there is the potential for students to drift unproductively. Within an educational environment this platform might be a carefully worded question or challenge which provides a prompt for discursive action. In a related sense, play needs a clearly delineated place and time in which to operate. This provides room for the participant to manoeuvre, uninhibited by external distractions or impediments. It is also about providing a space in which to do; while playing involves dreaming, thinking and reflecting (echoing Schon's discussion of the reflective practitioner), play is particularly about actively searching and (re)inventing.

While play is both accessible and familiar, for some it can be threatening. Having been en-cultured into a prior education system which is risk (and play) adverse, the introduction of play into the learning environment has the potential to be inhibiting. Starting the act of creative play without knowing where it is going is risky; this fear of not knowing (which runs contrary to the knowing-based education to which students have been conditioned) can prompt a hesitancy to start playing. Yet as Friere advises, 'for us, to learn is to construct, to reconstruct, to observe with a view to changing – none of which can be done without being open to risk.'[70] What is needed is an open environment which supports the taking of risks and engagement in creative play. A key aspect of this environment, though not the focus of our discussion here, is the social relationships that exist

[65] De Bono (1970), p. 11.

[66] Merriam-Webster: (2009) http://www.merriam-webster.com/dictionary/play?show=1&t=1317419191 [accessed 15 March 2009].

[67] Note: while these thoughts are the author's own, the authors wish to acknowledge inspiration for this wording from: Andrea Kahn, 'Defining Urban Sites, in Carol Burns and Andrea Kahn (eds.), Site Matters, - Design Concepts, Histories, and Strategies (New York: Routledge, 2005).

[68] Reilly (1974a), p. 15.

[69] Albert Solnit, 'From Play to Playfulness in Children and Adults', in Albert Solnit, David Cohen and Peter .Neubauer (eds.), The Many Meanings of Play – A Psychoanalytic Perspective (New Haven: Yale University, 1993) p. 30.

[70] Paolo Friere, Pedagogy of Freedom (Maryland: Rowman & Littlefield, 1988), p. 67.

between students, and between students and the tutor. The significance of these social relationships on learning cannot be underestimated.[71] More central to our argument is the recognition of students' existing attitudes and thoughts, and fostering a setting in which these beliefs and knowledge can be shared and constructively examined.

Central to this social environment is something we would define as 'beginning with where students are at'.[72] One aspect of this is to understand the students' motivations and concerns. It is important to recognise the sense of trepidation students feel in taking on risk and it has been suggested that alerting students to the risks involved is an ethical obligation.[73] This *beginning with where they are at* is also about building upon students past experiences and their existing knowledge, understanding and values which come out of that experience. This allows the student to begin with what they are already familiar, and hence is more accessible and non-threatening. They are able to build upon their existing *habitus*, while simultaneously having opportunity to explore new ideas and ways of working. This allows not only their existing thinking and practices to serve as a frame of reference to consider new approaches, but equally for the latter to expose their existing thinking and practices to interrogation. This enables them to work with and reflect upon how the two relate, which enables a deeper understanding to be developed.[74] This approach is reflective of Friere's construct of 'generative themes'; it encourages students to reveal to themselves what they already know, providing a space from which they might emerge and intervene with the world.[75]

Beginning with where the students are at also affirms their sense of self-worth, and so encourages more active participation by the students.[76] To further build the students' sense of confidence they must be able to venture forward uninhibited by fear. Crucial to this is providing an environment which is receptive to all ideas, where these ideas are not subjected to judgements of right or wrong. Tutors should question students, but only to reveal opportunities or test potential. If the questioning implies criticism instead of exploration, the students' defences will be engaged.[77] Angela Anning observes, "For the adult and child, a 'play' context allows the learner the freedom to experiment without the fear of expensive or potentially embarrassing error." [78] The students need to feel that they have some ownership of this process, and that its control does not lie solely with the tutor (although the tutor will maintain some aspect of control in order to provide the necessary support and leadership). This sense of ownership further reduces the fear that students may feel, and reinforces their sense of freedom and autonomy.

This environment must also be one that is communal; our earlier reference to the kindergarten as a space of creative play is worth briefly returning to here. In kindergarten one not only learns through individual play, but equally through interaction with others. This engagement allows all

71 Brown (2004).

72 This construct originates in previous work carried out by one of the authors. For further reading, see Robert Brown and Denitza Moreau, 'Seeing the World Through Another Person's Eyes', in David Nicol and Simon Piling (eds.) Changing Architectural Education (London: E & FN Spon, 2000) pp. 49 – 57.

73 Steven Brookfield, Developing Critical Thinkers (Milton Keynes: Open University Press, 1987).

74 David Nicol, 'Research on Learning and Higher Education Teaching', UCoSDA Briefing Paper Forty-five (1997).

75 Friere (1974); Friere (1996); Friere (1998).

76 Brookfield (1987); N. Entwistle, 'Motivational Factors in Students' Approach to Learning', in Rod Schmeck (ed.) Learning Strategies and Styles (New York: Plenum Press, 1996); Friere (1998).

77 Ochsner (2000).

78 Angela Anning, 'Play and legislated curriculum', in Janet Moyles (ed.), The Excellence of Play (Buckingham: Open University Press, 1994) p. 70.

participants to reveal personal and shared limits and benefit from others' experience and understanding. Building on arguments from Dutton and from Henri Lefebvre, the space of learning is socially constructed.[79] Within this space, students are exposed to the viewpoints of others. As Dutton, notes, 'what is produced by the students as meaning and knowledge is forged on public terrain where it can be engaged critically, individually and collectively.'[80] The tutor should be equally involved in this site as a fellow participant open to new learning, instilling an atmosphere where all are open to new ideas.[81]

A key benefit arising from this environment is the sense of autonomy and efficacy it engenders within students. Strengthened by this freedom and sense of confidence, they are more likely to question ideas, reinforced by an understanding that knowledge is socially constructed. Instead of seeing the object of learning as a structure imposed by authority, students come to understand that they can take ownership of their learning;[82] the same can be equally said of their comprehension of their own and external practices. It is what Friere terms *conscientização*, a process whereby the student becomes critically aware of their own position.[83] Armed with this meta-cognition, they are able to look further than received paradigms and their existing perspectives, and engage with more abstract, reflective thinking.[84] As de Bono states, such thinking is essential to change and progress.[85]

Putting play into practice – the workshop as an opportunity to transgress

The workshop is a well-known pedagogic device; its use is central to the design studio in architectural education, and equally across other creative-based disciplines. For us, intrinsic to its nature is using it as a space in which students can play with creative thinking, free of any inhibitions of assessment. It gives them room to manoeuvre away from any preconceived ideas and approaches they may have, and to practice what it means to be a creative thinker.

A workshop as a space of play is reminiscent of Freires 'culture circles' and, particularly, Augusto Boal's approach to forum theatre in the context of community cultural development.[86] Boal's method involved creating an environment in which observers are not divided from the actors and instead are able to participate in the performance. Within this environment, actor/spectators and spectator/actors share problems (in this case unresolved political or social problems), which are translated into a performance that acts out potential solutions to all. The 'joker' or the co-ordinator invites all to consider the performance and its proposed resolution, and imagine other ways to proceed. This whole process is then repeated, where the participant's reflections are turned into action to reveal another approach and take the enquiry in a new direction.[87]

79 Dutton (1991); Henri Lefebvre, The Production of Space, trans. Donald Nicholson-Smith (Oxford: Wiley Blackwell, 1991).

80 Dutton (1991), pp. 176 – 177.

81 Carl Rogers, Freedom to Learn for the 80's (Columbus: Charles E. Merrill, 1990).

82 Florence Namulundah, Bell Hooks' Engaged Pedagogy (London: Bergin & Garvey, 1998).

83 Friere (1996). Intrinsic to the term conscientização is a sense of becoming aware of contradictions and understanding one's own position in relation to those contradictions, and taking subsequent action.

84 Brookfield (1987).

85 De Bono (1970).

86 Friere (1974); Arlene Goldbard, New Creative Community: The Art of Cultural Development (Oakland: New Village Press, 2006). See also Augusto Boal, Theatre of the Oppressed (New York: Urizen Books. 1979).

87 Goldbard (2006).

In the design studio, the workshop itself is the performance, the act of reciting what is valued and problematised at the given time. The former is initiated by a prompt which allows the students to start with something with which they are already familiar, though in a slightly different way; this initial gesture acts as a warm-up exercise for the more active play which is to follow. The latter is triggered by the tutor through the framing of questions raised by the nature of the context in which the students are working, or the students' work. These questions are typically not straightforward but rather are intended to provoke lateral thinking. Together with clearly defined parameters of time (e.g., an afternoon, a day, a week, depending on the issues, participants and other circumstances, such as logistics), the provocations provide a platform from which students can begin to explore. The workshop itself often consists of a ceaseless and frenetic activity through which, as described in the example from Boal, the process becomes product.[88] While this process is not without thought, there is a distinct emphasis on *doing* in the workshop, of generating and testing ideas; this recognises that outside the workshop there is time for both a steadier, medium-paced development of ideas, and slower - but incisive - reflection. The tutor acts as an observer and conductor to interject into the process and to critique (i.e., not to assess, but to identify further questions to pursue) the progress of the students' inquiry. The tutor also acts as participant, sharing with the students his/her own (purposefully divergent) response to the same questions posed to the students. In exposing him/herself to the same risk the students are asked to take on, an environment of shared play is reinforced.

[88] Boal (1979).

Further inspiration for the design studio workshop is found in the open-endedness of Boal's forum theatre. Here, a space is provided for both the incongruous and contradictory. Ideas are not rejected as unworthy of attention; instead, when duly considered, they are welcomed for the potential they might reveal. Such constructs echo Clark Abt's oxymoron-learning strategy, or Edward de Bono's lateral thinking.[89] What limits this open-endedness from being fragmentary however is the ownership the participants have over this space and the processes taking place within it. As Reilly suggests, relaxing the normal rules, and allowing participants to take control of the ground in which they are operating, fosters a sense of autonomy.[90]

[89] Clark Abt, Serious Games (Viking Press, 1970); de Bono (1970).

[90] Reilly (1974a).

At the end of the workshop a place and time are provided for peer-dialogue on the workshop activity, notably on the issues raised, the possibilities revealed, and further questions raised by it. This discussion provides opportunity for shared critical reflection to transform the knowledge for further transformation. This idea is similar to how Hans-Georg Gadamer describes interpretation as something which is not definitive but always is in a state of becoming, and thereby impossible from which to derive 'correct' outcomes. He proposes the removal of a singular understanding and the production of a dynamic situation in order to reveal actions.[91]

[91] Hans-Georg Gadamer, Truth and Method (London: Sheed and Ward, 1999 [2nd ed.]).

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The workshop is a framework that can encourage creative thinking, but the design workshop is only as successful as the student's response to the process. Again, by increasing the student's sense of efficacy the tutor can encourage the student to experiment with their own ideas. The preconceptions students bring to the design workshop initially define limits and these preconceptions influence the way they see and the questions they ask themselves and others. The workshop is a catalyst where those preconceptions are opened up to their own (and other's) (re)consideration. The outcomes of the workshop by default are defined by the student's own criteria and although the tutor may have a supportive and co-ordinating role as moderator, the student is aware that they are responsible for the outcomes. Through this recognition of responsibility is engendered a sense of achievement and associated sense of efficacy, setting the scene for further exploration and reflection. For the students, who in the past have been inculcated into thinking that it is not possible to deviate from the status quo, this space of play reassures them that it is acceptable to do so, and encourages them to make time for this in their own design process. The creative play within the workshop therefore forms an act of critical resistance to the hegemony instilled within the student through past educational experiences and any preconceived beliefs, ideas and practices.

While prompted initially by questions posed by the tutor, the workshop provides students with an opportunity to elucidate their own questions and provides a framework within which to pursue these questions. The students thus set the agenda within a live situation and the tutor supports them academically in their own inquiry, thereby 'helping the student to recognise themselves as the architects of their own cognition process.'[92] The generic structure of the workshop prevents any sense of initial panic, and is flexible enough to allow the student to stretch the framework in their own development and 're-cognition.'[93] This approach extends the student's ability to re-think, question, deconstruct and then reconstruct their own knowledge 'heuristically' in the interest of their own emancipation.

This emancipation is evidenced in the change which can occur in students' thinking, not necessarily within any one workshop, but rather from one workshop to the next and during the duration of the design studio across the academic calendar. Initial workshop exercises provide a way of drawing out students' existing attitudes and ways of working; these are increasingly challenged in later workshops as new approaches are introduced. Throughout, communal dialogue acts as a recurrent prompt for critical reflection by the students. The liberatory effects of this pedagogy are illustrated in the participants' reflections on this experience. As one student noted, 'the workshops really helped to progress the initial thoughts that I have at the early stages of my design inception. The sessions prompted me to question the proposal in a group atmosphere and

92 Friere (1998), p. 112.

93 James Corner, 'A Discourse on Theory I: Sounding the Depths – Origins, Theory and Representation', Landscape Journal, Vol. 9 No. 2 (1991), pp. 115 - 133.

through detailed analysis.' A more common refrain from the students is that the 'workshops really opened my eyes to new ways of thinking', and that 'the workshops allowed us to explore new methods of thinking about producing buildings.' Such commentaries remind us of one of the purposes of education; i.e., to enable students to think critically, and creatively, on their own practice.

Conclusion

Perhaps some of this is obvious. We hope (and recognise) that the pedagogy we have posited is something with which other educators are engaging. The nature of still-present discourse however, and continuing critiques from students within architectural education, suggests that problems of the perpetuation of and indoctrination into existing practices and values still exist. Although practice is telling academia that it needs to do a better job, it is encouraging that it is not engaging in worn-out diatribes that architectural education does not prepare students to practice, as evidenced in the combative debate back in the 90s over what the aims and content of education should be. This time around there seems to be a consensus – a need to foster and support the development of creative thinkers who are able to respond to a dramatically and rapidly changing context.

The challenge is to develop mechanisms to make this happen. Within both practice and education we need to acknowledge that our habitus can delimit our capacity to adapt to new conditions, and even to question our existing ways of thinking and learning. In this text we have proposed one way of breaking free from such constraints. Through a pedagogy of play, grounded in an supportive environment in which ideas and ways of working are open to (re)consideration, students are enabled to explore and test both new and their existing ideas, ways of thinking and forms of practice. What we are calling for in education is a figurative space in which a liberatory pedagogy can grow. This must however remain an environment in which all constructs and practice are open to question. It is only within such a ground that students will be able to take on the changing nature and challenges of practice both now and in their future.

> 'I now found I had worked through to some sort of intellectual formulation of what to believe in, in living not a finished statement but a marking out of directions and belief.'[94]

> One may play around with experiments, with models, with notation, with ideas…I am looking but I don't know what I am looking for until I have found it.'[95]

94 Marion Milner, On Not Being Able to Paint, (London: Heinemann Education Books, 1950), p. 126.

95 De Bono (1970) p. 38.

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Dialogue: David Gloster, Royal Institute of British Architects Director of Education

James Benedict Brown

David Gloster was appointed the Director of Education of the Royal Institute of British Architects (RIBA) in September 2006. Prior to his current position, he was a principal lecturer and the postgraduate course leader at the Department of Architecture and Design at London South Bank University, as well as an architect and consultant. As Director of Education, David Gloster is responsible for a variety of programmes that support architecture schools, students and academics. He is also responsible for overseeing the RIBA programme of Validation. The RIBA validates architecture courses at both in the UK and internationally.[1] Validation is a peer-review process that monitors compliance with predetermined minimum standards in architectural education. The culmination of the validation process is the two day Validation Board visit to the school, in which a panel composing of practising architects, academics, architecture students, construction industry co-professionals assess the school's achievement against both the RIBA Validation Criteria and the school's own academic goals. Reports are published online.[2] A heavily revised version of the RIBA Validation Criteria was used by a Validation Board for the first time in September 2011, and will apply to all subsequent validations, which occur on a five year cycle.[3]

In December 2011, David Gloster spoke to James Benedict Brown to discuss the shape of architectural education.

[1] http://www.architecture.com/EducationAndCareers/Validation/Validatedcourses.aspx

[2] http://www.architecture.com/EducationAndCareers/Validation/UKvalidation.aspx

[3] RIBA Education, 2011. RIBA procedures for validation and validation criteria for UK and international courses and examinations in architecture. London: RIBA. [Online]. Available: http://www.architecture.com/Files/RIBAProfessionalServices/Education/Validation/ValidationProcedures2011.pdf [10 December, 2011]

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JBB: We're meeting after the annual awards ceremony of the President's Medals, and it's obviously snapshot of what the Institute regards as the best of the best of the student work. Can you see any themes or patterns emerging in the work that's been chosen by the judges?

DG: Well I don't think it's what the Institute regards as the best, because it's actually judged by external assessors who are invited by the RIBA. So I think that the view that emerges is a view that is the peer group of the profession which we are all part of, whether we're academics or practitioners. If you think about the constituency of the people who were responsible for shortlisting and final judging, you've got a principal in a very well established practice, Oliver Richards who is our Vice-President for Education. You've got Edouard François, who is arguably is doing some of the more interesting work looking at resource efficient design. There's Alison Brooks, whose record as a practitioner in small and medium sized projects speaks for itself, and Jorge Ayala is who a very interesting emerging academic looking at aspects of parametric design and work that goes very much beyond. I think it's a very broad constituency that the judges are chosen from. In terms of themes emerging from the work, if you're looking at two hundred, two hundred and fifty plus entries, which is colossal, I think there's a very very strong sense that the social programme of architecture is re-emerging. That students of architecture at all levels are finding that architecture has got the potential to be a vehicle for, if you like, healing the city, addressing issues of social housing, working at levels that are both modest and actually visionary across a whole range of continents, countries and scales. I, personally, am interested and gratified that students are rediscovering the political programme of architecture, because for me it's always been implicit in the tenets of modernism that this is a social art and that we have a capacity, without wishing to sound pretentious and in the most modest way, to redeem.

JB: You say that a political programme is re-emerging. During your five year tenure as Director of Education and your preceding career as an educator, how have you seen that evolve?

DG: I think an unintended consequence of digital communication is the ease with which an image can zip round the world from Bognor to Bogota. In a sense, this is problematic for global competitions like the President's Medals, because the form of an idea can transmit itself extremely quickly without an understanding of the context, narrative or concept. I worry about that sometimes because we see, year after year, schemes which are a kind of uneasy cloning of something that emerged a year or two before. This isn't a massive trend but it's something that's discernible. I'm not going to say plagiarised because it isn't plagiarised, but it's an adaptation without a full understanding. I think there are different attitudes to drawing emerging. I think there's more of an accent in the better work of understanding the design development

process and documenting that, and I think in some entrants' work there is beginning to be an understanding that the way in which we approach cities strategically is going to need fundamental re-evaluation as we move from these blissfully utopian ideas of Haussmann, Adam or Nash, or for that matter, the post-war new capitals like Chandigrah or Brasilia. I think we're realising that we're moving out of that planned context of cities into a much uneasier and edgier idea of the informal city, and students of architecture are very interested in this because it's a completely different set of rules to which they feel they can contribute to uniquely. Certainly, people of my generation were brought up with the idea that things are orderly. And all the evidence in the world is that they're not. I think this is another thing that one's beginning to see in terms of the projects and the attitudes that students are taking towards them.

JBB: Notwithstanding the Great Recession, as it's now called,[4] that we're deep in, student numbers having been rising year on year for at least a decade.[5] So is the purpose of architectural education still to educate architects? Or has the definition of the architect changed?

DG: I've always regarded the purpose of an education in architecture as multi-dimension and I've never ever seen it as inevitably leading to a relatively narrow definition of being a professional practitioner. I think that one can be a professional practitioner without necessarily involving oneself in professional practice. I think that one has an attitude which is both a professional attitude and a practical attitude, but it's essentially taking the skill set that architectural education develops and applying that to a multitude of things. We don't see an education in English and American History as inevitably leading to a career as a historian of England and America. So I think there have been incredibly narrow expectations of what the results of an architectural education should actually be, either at Part I, Part II or Part III. Yes, the majority of people entering it probably, at the point of entry, have a preconception that they will work in practice, and indeed the majority do. That doesn't mean that that will be what they will do for the rest of their professional career. I think architectural education has always had incredible value as providing a very broad set of intellectual tools that equip you with all sorts of other things in the way that all the best liberal arts courses do. It also has the option for people to pack up that skill set and apply it to the business of building design and production. So the proliferation of students of architecture is of concern if one is having the unreasonable expectation they're all going to end up in professional practice. If one sees it as being an enabling process which makes people intellectually bold, enquiring, sensitive and caring about a wide range of issues and skilled in addressing those issues I think the numbers are not problematic. Not everyone would agree with that.

4 WESSEL, D., 2010. Did 'Great Recession Live Up to the Name? The Wall Street Journal, [Online]. Available: http://online.wsj.com/article/SB10001424052702303591204575169693166352882.html [11/11, 2011]

5 The RIBA publishes annual statistics on UK architectural education, the reports of which may be downloaded from: http://www.architecture.com/EducationAndCareers/Validation/EducationStatistics.aspx

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[6] The Standing Conference of Heads of Schools of Architecture, an organisation to which the Head of every RIBA Validated school of architecture in UK is a member.

JBB: This year we've seen the introduction of the new RIBA Validation Criteria, and their deployment in the first Validation visits to schools of architecture. Could you perhaps reflect on why the process of re-considering the Validation Criteria came about?

DG: There were three aspects to the Delft Declaration made by SCHOSA[6] in 2004. It was really talking about the RIBA and its Validation system. The three legs of the stool were as follows: firstly, that the RIBA shouldn't validate first degrees which we were, unfortunately, unable to concur with. The second point was that there should be a single set of Validation Criteria that should be applicable to Parts I and II, to which we were sympathetic and which we adopted. The third point was that the Validation Criteria should be modelled and have very close adherence to the eleven points of the EU Directive for Architects. Again, we thought this was an entirely sensible and reasonable proposition, and again we adopted that. So the genesis of it was actually a position statement that the schools made at the Delft Conference, the Delft Declaration, of which we accommodated two thirds. If there was disappointment we didn't take the third leg of the stool and produce a stable structure, then I'm unapologetic. There is a value for universities that are developing courses in architecture in having RIBA Validation for first degrees, because everyone has to start somewhere in developing an academic profile.

JBB: There is perhaps an ideological difference between countries such as the USA where the student is assessed in their capabilities personally at the end of their education and countries such as Britain where the education is assessed. Can you see the merits and weakness in the two systems?

DG: Yes, if you're looking at courses which lead inevitably through a series of increments to this kind of big bang near the end, which is graduation, I can understand from the student's point of view that that is - and this isn't to denigrate that approach - a fairly simple system. You know perfectly well that you're requiring snippets of knowledge which go together are then exhibited essentially and significantly once, generally speaking right at the conclusion of a five year course. I think that's fine but I think that what we've developed in the UK is a more testing and searching system where, at every level of the course, there is an expectation that students are rehearsing through the vehicle of the design studio project an integrated understanding of theories, narratives, histories, technologies of architecture, how these fit into the professional context. This is then tested fundamentally at two levels, the Part I and the Part II. But at each term or semester's end, there's essentially a rehearsal for that. It is, to coin the cliché, practice making perfect, I think there's merit in that system. I think it's more demanding of the student. I think it also allows people at the exit point of Part I to say, yes, I've been through a process and I don't necessarily have to follow that with Part II or Part III.

The difficulty, I think, if you're looking at a five year course with a big bang at the end, is that there is no exit point below the big bang, the graduation, where the student can disengage themselves and feel that they've completed a programme of study. I understand completely the merits in both systems but I think that there is implicitly more flexibility in the idea of multiple exit points.

JBB: The new criteria were also intended to give the schools a little more freedom in how they might be interpreted, but ultimately, the way that Validation works is that it's a consideration of both the methods and the outputs of architectural education, because it considers the work the students and the curricula of the schools. Do you feel that there is a balance there in the way that the Validation process examines the methods of education and the outputs of education?

DG: Yes, I think so. I think it's an incredibly intensive and demanding process and, like any mechanism, it can't be perfected but it can be incrementally improved following multiple review. Ultimately, I suppose that we're looking at qualities of outputs and the strategic or methodological means for delivering those outputs. They're not of a lesser concern, but they are the means to the end. The end is the thing. I think that every Validation board is actually sensitive, however, to the students' experience of how those outputs are realised and would raise very properly concerns if the means of delivery, if you like, somehow impaired the students' experience and joy in learning.

JBB: Since the publication of *Tomorrow's Architect* [7] in 2003 and the QA Benchmarking document in 2010,[8] we've reached the point now where it's clearly stated in the RIBA Validation Criteria that "at least fifty per cent of all assessed work at Part I and Part II" must be carried out through the design studio.[9] What do you understand the design studio to mean, and why is it so important that fifty per cent of the curriculum must be delivered that way?

DG: Well I think there's always been extensive criticism of the UK system where's it's claimed that the presentation of design studio projects can be confrontational, adversarial, that it can be difficult for students to negotiate and and that studentscan be incredibly apprehensive about the experience even after they've been through it many many times. I think there are a number reasons that the design studio project is important. Firstly, at it's best, it's integrative for the reasons I've been through before. Secondly, the process of presenting to a peer group is an enormously valuable process, because it's about stating a thesis and defending it. And in the same way that a masters thesis or a doctoral thesis has to be structured, has to have authenticity to the means of research and the conclusions it reaches, so to does the design studio project. Now the reason that it's valuable is that it is, in a microcosm, a rehearsal of the client-

7 RIBA Education, 2003. Tomorrow's Architect. London: RIBA Publishing. (ISBN: 9781859461310)

8 Quality Assurance Agency for Higher Education, 2010. Subject benchmark statement: Architecture. London: QAA. (ISBN: 9781849792011)

9 RIBA Education, 2011, op cit., p. 5.

architect relationship. Now, when I say client-architect relationship, that might be a commissioning client who's looking for building production as the outcome. It might be a publisher who's interrogating a potential writer that treats architecture. So essentially it's a proving ground for legitimacy and authenticity of theses at any kind of level, and that's an enormously valuable preparation for professional life in whichever direction that professional life is determined.

JBB: Would you say that it's important to be able to practice that without a client and outside the commercial architect-client relationship?

DG: That's a big question, because I think the legitimacy of a project's structure may vary enormously. My personal view is that one has to be slightly careful in constructing scenarios that say "dependent on the world changing this project might be a reasonable response to that changed world." You cannot facetiously say that a project is about redesigning France as, for example, a military dictatorship as opposed to a presidential republic. We don't work like that, but I think that if projects are legitimately framed on proper sites where there is an understanding of the political, social, cultural, spatial, architectural parameters that are controlling a design response to that site and to the project themes, the spatial, architectural, formal, narrative considerations that have been set in the studio, I think it has the nearest correlation to a live project that you can reasonably expect. Having said that, I also fundamentally endorse the presence of real clients in schools of architecture. Some of the most successful projects I've personally been involved with in schools of architecture have involved live projects with real clients who had real money and real sites and real concerns about what their building should and shouldn't embrace. I think that students are incredibly stimulated by that exposure. It's like all aspects of architectural education: there are lots and lots of different ways to skin the architectural cat.

JBB: The Validation process looks at how a school of course is resourced, so library, technology, staffing, quality assurance and so forth, all in order to determine whether that course is sustainable. Is it possible to test the pedagogical robustness or sustainability or a course?

DG: I think that in the way that the validation procedures as for an academic position statement from the schools that we are trying to test that pedagogical robustness. I think that this is a challenge for the schools. Schools are very clear about how they do what they do, but they don't always find the means to clearly articulate why they do it and why it's distinctive. To me, the biggest challenge the schools face, and in one sense one almost feels unfair to press them more on this point, is to get to a position where each school is able to stand up and state a position which they are able to aggregate the outputs they make and define this in a clear and coherent way such that students, staff and the university as a

whole understands what it is that they're doing. This isn't some kind of sick aphorism about one-sentence mission statements. It's actually more complex than that. You have to be able to understand that all parts of the school contribute to that distinctive academic position. So pedagogy is, in my opinion, vital. I think we often, in both education and profession, have an attitude towards the production of architecture in schools that is what I've always thought of as the Nike approach: "just do it." I just don't think the subject is as simple as that. I think it's incredibly complex, I think it's multi-layered. I think ultimately that design is a problem-solving activity which requires enormous intellectual effort and agility and I would like to get to a position where schools are better able to define how they communicate that to their students.

JBB: The RIBA doesn't just validate courses in this country and the make up of the awards represents the diversity of students and schools that are recognised here. In your travels and your work internationally, and also looking outside the discipline, what instances of architectural education or education in other disciplines do you think provide possible exemplars that we could learn from?

DG: Well, I'm not going to name institutions, but I think that the really interesting thing is in our consideration of international schools, just how diverse the models are. I'm thinking of schools where the connection to local, national and regional practice is incredibly close. The schools become, effectively, a production engine that supply that. There's actually nothing wrong with that role at all, it's useful, it's practical, it delivers the expectations of practice, and the students are immediately involved in building production. They translate almost everything that they do instantly into a constructional context. There's a very close adjacency about design, thinking about design and the delivery of it. I think that there are also other models where even getting into the school is a massive scholastic, academic and intellectual struggle that starts happening three years before the students might even step over the threshold of the school. It becomes this incredibly engrossing and, academically, very challenging process just to get into the school. But once those students are selected from a massive potential catchment you have a super-heated academic atmosphere because there are these extremely gifted students coming in, day one, week one, year one, and I think they goad each other into excellence. It produces a properly academically traditional atmosphere. That's another model. It's an old fashioned model, a kind of Beaux Arts model, but actually I believe that it's got relevance. You also have the educational models where there's a very strong work-based learning element, where the adjacency between the academic work and practice-based work is very very close and again I think that pays dividends. You have other schools, I'm thinking of some in Latin America where there's very very strong hands-on constructional programmes so that almost everything that the students learn is through an act of actual physical

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making so that they're presenting technology as a driver of thought, the conceptualisation of projects and they're realisation. There's an infinite number of models out there and they're all very rewarding.

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Survival of the Species: the Financial Habitat of, and Evolutionary Pressures on, English Architectural Education.

Alexander Wright

The paper outlines the known and possible effects on English architectural education of some of the recent changes in the funding of Higher Education. The paper examines the previous certainties contained within the framework of architectural education and how these might evolve to suit the new realities facing students and Higher Education Institutions. The paper was written in the summer of 2011 and in some instances the policy framework to which it refers may been revised in the period since.

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Introduction

The period since the Browne Report[1] has been a tumultuous time for English Higher Education (HE). Previous certainties have been overthrown and the entire landscape and financial environment of HE has been rewritten. Some of the important factors are still unknown[2], however we now know enough to understand that the new HE habitat will create winners and losers. Some Higher Education Institutions (HEIs) may thrive, but some are likely to become increasingly vulnerable. Similarly some programmes appear secure, but for others it will be a battle for survival. This paper is concerned with a specific species: English architectural education. The situation in Northern Ireland, Wales and Scotland is particular to those countries, although many of the same concerns still arise. What the future holds for the architectural profession remains an open question and whilst it is related to the way in which the profession is educated it is the prospect for architectural education itself which is the focus of this paper.

Financial context

It appears that all English schools will be setting the fees for their architecture programmes between £8-9k per annum from 2012, with the majority at 9k[3]. This generally represents a 260% increase in fees from those which will apply to the 2011 intake.

Currently architectural students already face a considerable debt burden accumulated during their period of academic study. In a recent survey conducted by the students themselves their findings indicated that currently the full cost of an architectural education is £88,726 [4]. This may be a questionable figure but less questionable are the levels of debt students of architecture are already recording under the current, relatively benign, fee regime. In the spring of 2011, under the Freedom of Information Act, it was revealed that the highest recorded student debt was already £66,150 [5]. Speaking in response to this figure on Radio 4's Money Box programme, Universities Minister David Willetts said the amounts owed were "unusual". He added that if these people were training to become lawyers or doctors they were likely to have substantial earnings later on in life[6]. Architecture is one of those long vocational, professional qualifications to which David Willets was referring. It is often perceived as a relatively well paid job, but are architects actually likely to have substantial earnings later on in life to compensate for the length of their formal education?

In 2011 The Times newspaper published a comparison of the professions as a guide for sixteen and seventeen year olds contemplating their future careers[7]. The article provided figures suggesting Architects with 3-5 years of experience may expect to earn £34-42K, compared to £70k

1 The Browne Report referred to is Lord Browne of Madingley's report entitled, "Securing a Sustainable Future for Higher Education: An Independent Review into Higher Education Funding and Student Finance") Published October 2010 available at http://www.bis.gov.uk/assets/biscore/corporate/docs/s/10-1208-securing-sustainable-higher-education-browne-report.pdf

2 An example of the continuing uncertainty is that at the time of writing it was not known if any of the architecture programmes at Part 1 or Part 2 level would attract continued HEFCE funding as Strategically Important and Vulnerable (SIV) subjects. The paper assumes that this will not be case.

3. Of the twenty Schools of architecture represented at the SCHOSA (Standing Conference of Heads of Schools of Architecture) meeting on 22nd July 2011 none reported a proposed fee of less than £8000, or knowledge of any English School proposing a fee below this level. Various bursaries and fee waivers will apply in certain circumstances but the standard fees appear to be uniformly set at the top end of the available range.

4. The survey was carried out by two recent graduates and was the result of 1300 responses. It was report in the Architects' Journal on 26th May 2011 (page 6) available at http://www.architectsjournal.co.uk/news/daily-news/survey-cost-of-studying-architecture-to-hit-88k/8615263.article

5. This is the figure quoted as the highest UK student loan by the Student Loan Company in the article, "Student loans: 20 biggest debts revealed" by Julia Ross, BBC News website on 19th March 2011 at http://www.bbc.co.uk/news/business-your-money-12794863

6. The remarks by David Willets were also reported in the article, "Student loans: 20 biggest debts revealed" by Julia Ross, BBC News website on 19th March 2011 at http://www.bbc.co.uk/news/business-your-money-12794863

7. The information was presented in an article entitled "Mapping a path

for chartered accountants, £120k for independent GP's and £176k for consultant dentists. The article also provided typical entry requirements which stated those for architecture were higher than those required for any of these other professions. Media perceptions such as this highlight the difficulty architecture may face in competing with other five year courses in an era of far higher fees, but in the context of far lower potential earnings.

Whilst The Times article published what architects might earn in the future, The Office of National Statistics provides reliable data on what architects currently earn. Table (i) provides a summary of median earnings by profession for 2010 [8]. From these statistics it also appears that architects can expect to earn substantially lower sums than those professions which require a similar minimum period of academic study. Interestingly architects also earn less than other less celebrated job titles including: policemen (ranks of sergeant and below), train drivers and coal miners. Although the historical statistics for this relative ranking of the professions are more difficult to ascertain it appears that the comparative ranking of architecture is in long-term decline. The average time taken from the start of architectural education to registration as an architect is now 9.5 years[9]. It appears likely that the relative ranking of architects' earnings in 2021, when current entrants typically qualify, will be lower than the 2010 ranking of 44th.

to your chosen career" in The Times on 28th March 2011 available at http://www.thetimes.co.uk/tto/education/article2963658.ece

8. The summary is taken from the statistics provided by Office of National Statistics for median earnings in 2010 ranked by profession/job title.

9. The average period to registration was provided by Pam Cole during her presentation to the SCHOSA Conference in Cambridge, 14th April 2011. During this presentation she also reported that currently Part 2 students are facing high levels of unemployment, high levels of insecurity, a strong downward trend in salaries and an increasing expectation that they work for free.

10. The £23k starting salary for Part 2 graduates was taken from the lower range for London graduates as provided at http://www.ribaappointments.com/Salary-Guide.aspx

11. These statistics were the result of an Archaos survey of 500 students and architects as reported in Merlin Fulcher's article entitled "Reed warns of storm over student low pay" in the Architects Journal on 14 April, 2011 available at http://www.architectsjournal.co.uk/news/daily-news/reed-warns-of-storm-over-student-low-pay/8613848.article

12. Under current arrangements the student loan system also includes those EU students studying at UK HEI's. Those students from the former Eastern European countries appear even less likely to enjoy careers earnings which will enable their debt to be repaid. The fact that UK taxpayers are likely to be financing the education of European students each accruing debts well in excess of £100k is fact that may act to place additional pressure on Government at some future point.

13. The White Paper suggests HEIs make available information explaining how the fee income is spent. Department for Business Innovation and Skills "Higher Education: Students at the Heart of the System" 2011, page 29 para 2.12 available at http://c561635.r35.cf2.rackcdn.com/11-944-WP-students-at-heart.pdf

14. Prof Paul Blackmore in his presentation to the SCHOSA Conference in Cambridge on 14th April 2011 highlighted this issue commenting, “There would be plenty of money for teaching if the income from teaching in research intensive universities was spent on teaching...it’s a policy choice”.

15. London Metropolitan University has adopted this strategy and where subsidy of other programmes is prioritised this is made explicit by the Institution.

16. These are approximate projections based on UN population forecasts. Some insurance companies have been looking into the consequences of this decline including LV, which issued a press release on 20th April 2011 stating, “Next year's tuition fee increases, coupled with declining numbers of 18-24 year-olds in the general population over the next decade, will see a 14% decline in British higher education student numbers over the next ten years.” http://www.lv.com/media_centre/press_releases/press_release?urltitle=university-ghost-towns

17. In 1999 Tony Blair's 1999 announced, "So today I set a target of 50 per cent of young adults going into higher education.” The Coalition Government has made it clear that there is no longer any Government target for the percentage of young adults going into HE.

18. The 70% figure is approximate based on analysis of the available UCAS data and is supported by the analysis being carried out by James Brown at Queen’s University Belfast http://learningarchitecture.wordpress.com/2011/06/16/statistics-the-numbers-behind-uk-architectural-education/

19. These figures were supplied by the ARB. It is also worth noting that the two Edinburgh schools have merged in this period.

20. The UCAS statistics for accepted application in 2005 and 2006 for all subjects recorded a 3% drop following the last major rise in the home fee to £3k in 2006. The figures for architecture

Rank	Table (i): Office of National Statistics: Average salaries by profession 2010	Median Salary £
1	Directors and chief executives of major organisations	96,202
2	Corporate Managers and Senior Officials	70,000
3	Medical Practitioners	69,989
4	Police officers (inspectors and above)	55,077
5	Managers in mining and energy	53,403
6	Financial managers and chartered secretaries	51,905
7	Air traffic controllers	51,609
8	Health professionals	49,981
9	Brokers	48,981
10	Research and development managers	47,089
11	Public service and administrative professionals	45,933
12	Information and communication technology managers	45,398
13	Protective service officers	45,345
14	Functional managers	45,327
15	IT strategy and planning professionals	45,303
16	Electrical engineers	45,086
17	Marketing and sales managers	44,242
18	Solicitors and lawyers, judges and coroners	44,034
19	Legal professionals	42,863
20	Electrical engineers	42,570
21	Hospital and health service managers	42,358
22	Purchasing managers	42,217
23	Transport associate professionals	42,217
24	Train drivers	41,179
25	Higher education teaching professionals	41,136
26	Personnel, training and industrial relations managers	41,069
27	Managers in construction	40,920
28	Coal mine operatives	40,248
29	Production managers	40,016
30	Financial institution managers	40,000
31	Production, works and maintenance managers	39,517
32	Physicists, geologists and meteorologists	39,399
33	Senior officers in fire, ambulance, prison and related services	39,052
34	Police officers (sergeant and below)	38,570
35	Management consultants, actuaries, economists, statisticians	38,569
36	Broadcasting associate professionals	38,401
37	Mechanical engineers	37,840
38	Corporate managers	37,700
39	Pharmacy managers	37,613
40	Information and communication technology professionals	37,450
41	Social services managers	37,527
42	Advertising and public relations managers	37,415

actually showed a marginal increase in the number of accepted applications for the same period, contrary to the overall trend.
http://www.ucas.com/about_us/stat_services/stats_online/data_tables/datasummary

21. UCAS statistics
http://www.ucas.com/about_us/stat_services/stats_online/annual_datasets_to_download/

22. The situation in Germany was presented in Steven Spier's presentation to the SCHOSA conference in Cambridge on 14th April 2011

23. The European Union provides extensive information to EU students wishing to study across Europe
http://ec.europa.eu/youreurope/citizens/education/university/fees/index_en.htm?profile=0

24. This information was compelling presented in Elizabeth Hopkirk's article entitled, "Students ditch UK schools to go abroad" which appeared in Building Design Magazine on 22 July 2011 available at
http://www.bdonline.co.uk/news/analysis/students-ditch-uk-schools-to-go-abroad/5021920.article

25. This scenario was outlined by A.Wright during discussions at the third sessions of the 14th meeting of the EAAE/ENHSA in Chania on 3-6 September 2011.

26. One of the first presentations of the advantages of studio learning was offered by Donald Schon The Design Studio: an Exploration of its traditions and Potential (London: RIBA Publications Ltd, 1985)

27. HEFCE currently provides approximately 30% additional teaching grant to those subjects with a studio element (Band C) compared to those subjects which are solely lecture based (Band D). HEFCE, Guide to funding: How HEFCE allocates its funds, (HEFCE: 2010) p.23

28. "Architecture tends to fall outside the norms of modern, research-based universities…its status tends to be low and its standards of accomplishment tend not to be understood…In times of retrenchment in higher education, departments of architecture are

Rank	Table (i): Office of National Statistics: Average salaries by profession 2010	Median Salary £
43	Quantity surveyors	37,059
44	Architects	36,866
45	Engineering professionals n.e.c.	36,846
46	Business and statistical professionals	36,712
47	Paramedics	36,542
48	Quality assurance managers	36,485
49	Science and technology professionals	36,313
50	Software professionals	36,298
51	Architects, town planners, surveyors	36,181
52	Engineering professionals	35,753

At the beginning of 2011, in the knowledge of the proposed fee changes I prepared a series of very simply earnings and debt profiles for an architecture student under various conditions. Some of these are included as tables (ii)-(v). In all of the examples shown the accumulated debt has been based on five years of fees paid at £9k per annum. The figures are based on students utilising the available £5.5k maintenance loan for each year of study and I adopted a common figure for the interest accrued during the course of study of £4,468 (interest is accrued at the rate of RPI plus 3% during the period of study). Using these assumptions the total debt on graduation indicated on the tables is £76,968. For students based in London, where the maintenance loan provision is higher, this figure is likely to be an underestimate.

Table (ii) illustrates the debt profile during the 30 year period of the loan assuming an RPI of 2% and a salary level which starts at the 2010 median earnings level and simply increases with the RPI. These assumptions result in a profile of debt which increases for every year worked until it is written-off after the 30th year. In other words the interest on the debt always exceeds the debt repaid in each year of work.

vulnerable." Donald Schon The Design Studio: an Exploration of its traditions and Potential (London: RIBA Publications Ltd, 1985) p.4

29. The European Commission published its Green Paper entitled "Modernising the Professional Qualifications Directive" in 2011 (available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0367:FIN:en:PDF). Having floated the idea of a move to a five year minimum of academic study as a pre-requisite to registration as an Architect in the EU section 4.6 of the green paper abandoned this change, removing it from the list of possible outcomes.

30. For example the University of Bath is currently seeking approval for an accredited and prescribed one year MArch.

31. At the July 22nd meeting of SCHOSA a policy was unanimously agreed the following:
"SCHOSA will seek the formal recognition by the RIBA and ARB that a student who is awarded a prescribed and accredited Part Two qualification has also demonstrated compliance with the Part 1 criteria. Any student in possession of a prescribed Part 2 qualification should therefore be exempt from the requirement to obtain a Part 1 qualification prior to registration."

32. This may be seen first with the Part 2 programmes as under Annex C of the recent HEFCE consultation document "Teaching funding and student number controls : Consultation on changes to be implemented in 2012-13" all students with a first degree will be deemed to be equivalent to AAB (a qualification which encompasses all Part 2 entrants).

Table (ii): Median salary throughout career (RPI=2%)

Year	Bf debt	Salary	Debt interest	Repayment	Cf debt
1	£76,968	£36,886	£3,373	£1,430	£78,912
2	£78,912	£37,624	£3,546	£1,496	£80,961
3	£80,961	£38,376	£3,729	£1,564	£83,127
4	£83,127	£39,144	£3,925	£1,633	£85,419
5	£85,419	£39,927	£4,133	£1,703	£87,849
6	£87,849	£40,725	£4,356	£1,775	£90,430
7	£90,430	£41,540	£4,522	£1,849	£93,103
8	£93,103	£42,370	£4,655	£1,923	£95,835
9	£95,835	£43,218	£4,792	£2,000	£98,627
10	£98,627	£44,082	£4,931	£2,077	£101,481
11	£101,481	£44,964	£5,074	£2,157	£104,398
12	£104,398	£45,863	£5,220	£2,238	£107,380
13	£107,380	£46,780	£5,369	£2,320	£110,429
14	£110,429	£47,716	£5,521	£2,404	£113,546
15	£113,546	£48,670	£5,677	£2,490	£116,733
16	£116,733	£49,644	£5,837	£2,578	£119,992
17	£119,992	£50,637	£6,000	£2,667	£123,324
18	£123,324	£51,649	£6,166	£2,758	£126,732
19	£126,732	£52,682	£6,337	£2,851	£130,217
20	£130,217	£53,736	£6,511	£2,946	£133,782
21	£133,782	£54,811	£6,689	£3,043	£137,428
22	£137,428	£55,907	£6,871	£3,142	£141,158
23	£141,158	£57,025	£7,058	£3,242	£144,973
24	£144,973	£58,166	£7,249	£3,345	£148,877
25	£148,877	£59,329	£7,444	£3,450	£152,871
26	£152,871	£60,515	£7,644	£3,556	£156,959
27	£156,959	£61,726	£7,848	£3,665	£161,141
28	£161,141	£62,960	£8,057	£3,776	£165,422
29	£165,422	£64,219	£8,271	£3,890	£169,803
30	£169,803	£65,504	£8,490	£4,005	£174,288

The first earning profile is obviously unlikely in as much as students will rarely start their professional lives earning the average salary. Table (iii) assumes the average starting salary for a Part 2 graduate[10] and an annual increase of 5% for every year of work. Even under this rate of annual pay increase the debt repayment never exceeds the interest accrued.

Table (iii): Starting salary £23k rising 5% per year (RPI=2%)					
Year	**Bf debt**	**Salary**	**Debt interest**	**Repayment**	**Cf debt**
1	£76,968	£23,000	£1,770	£180	£78,558
2	£78,558	£24,150	£1,942	£284	£80,217
3	£80,217	£25,358	£3,729	£392	£81,953
4	£81,953	£26,625	£4,156	£506	£83,778
5	£83,778	£27,957	£4,283	£626	£85,701
6	£85,701	£29,354	£4,411	£752	£87,737
7	£87,737	£30,822	£4,543	£884	£89,901
8	£89,901	£32,363	£4,678	£1.023	£92,901
9	£92,901	£33,981	£4,816	£1,168	£94,209
10	£94,209	£35,681	£4,957	£1,321	£97,337
11	£97,337	£37,465	£5,101	£1,482	£100,206
12	£100,206	£39,338	£5,248	£1,650	£103,316
13	£103,316	£41,305	£5,398	£1,827	£106,654
14	£106,654	£43,370	£5,552	£2,013	£109,974
15	£109,974	£45,538	£5,710	£2,208	£113,264
16	£113,264	£47,815	£5,870	£2,413	£116,514
17	£116,514	£50,206	£6,035	£2,629	£119,711
18	£119,711	£52,716	£6,203	£2,854	£122,842
19	£122,842	£55,352	£6,376	£3,092	£125,893
20	£125,893	£58,120	£6,552	£3,341	£128,846
21	£128,846	£61,026	£6,732	£3,602	£131,686
22	£131,686	£64,077	£6,917	£3,877	£134,394
23	£134,394	£67,281	£7,105	£4,165	£136,948
24	£136,948	£70,645	£7,299	£4,468	£139,327
25	£139,327	£74,177	£7,496	£4,786	£141,508
26	£141,508	£77,886	£7,699	£5,120	£143,464
27	£143,464	£81,780	£7,906	£5,470	£145,166
28	£145,166	£85,869	£8,118	£5,838	£146,587
29	£146,587	£90,163	£8,335	£6,225	£147,691
30	£147,691	£94,671	£8,557	£6,630	£148,445

These first two profiles are unlikely as they assume an RPI at the Government target rate of 2%. The past forty years suggest that a sustained 2% RPI for thirty years is unprecedented and that an RPI of 3.5% is a more realistic projection. Table (iv) repeats the scenario of table (iii) but with this revised RPI assumption. It thus illustrates the impact of the RPI, which in table (iv) leads to a debt after 30 years of £274k.

Table (iv): Starting salary £23k rising 5% per year (RPI=3.5%)					
Year	**Bf debt**	**Salary**	**Debt interest**	**Repayment**	**Cf debt**
1	£76,968	£23,000	£2,925	£180	£79,713
2	£79,713	£24,150	£3,167	£284	£82,596
3	£82,596	£25,358	£3,431	£392	£85,634
4	£85,634	£26,625	£3,720	£506	£88,848
5	£88,848	£27,957	£4,037	£626	£92,259
6	£92,259	£29,354	£4,385	£752	£95,892
7	£95,892	£30,822	£4,769	£884	£99,777
8	£99,777	£32,363	£5,193	£1.023	£103,947
9	£103,947	£33,981	£5,662	£1,168	£108,441
10	£108,441	£35,681	£6,183	£1,321	£113,303
11	£113,303	£37,465	£6,764	£1,482	£118,585
12	£118,585	£39,338	£7,412	£1,650	£124,347
13	£124,347	£41,305	£8,083	£1,827	£130,078
14	£130,078	£43,370	£8,489	£2,013	£137,078
15	£137,078	£45,538	£8,910	£2,208	£143,780
16	£143,780	£47,815	£9,346	£2,413	£150,712
17	£150,712	£50,206	£9,796	£2,629	£157,880
18	£157,880	£52,716	£10,262	£2,854	£165,288
19	£165,288	£55,352	£10,744	£3,092	£172,940
20	£172,940	£58,120	£11,241	£3,341	£180,840
21	£180,840	£61,026	£11,755	£3,602	£188,992
22	£188,992	£64,077	£12,284	£3,877	£197,400
23	£197,400	£67,281	£12,831	£4,165	£206,065
24	£206,065	£70,645	£13,394	£4,468	£214,992
25	£214,992	£74,177	£13,974	£4,786	£224,180
26	£224,180	£77,886	£14,572	£5,120	£233,632
27	£233,632	£81,780	£15,186	£5,470	£243,348
28	£243,348	£85,869	£15,818	£5,838	£253,327
29	£253,327	£90,163	£16,466	£6,225	£263,569
30	£263,569	£94,671	£17,132	£6,630	£274,070

The question arises as to what earnings would be required in order to pay off the debt associated with a five year architectural education under the new fee regime? Table (v) illustrates an answer to this and reveals that an annual pay increase of 10% would be required every year for thirty years. Even in this scenario the debt would only begin to decrease after 21 years of employment and the repayments would total £268,286 for a £76,968 debt at graduation.

The relative poverty of architectural pay is even more pronounced prior to registration. The RIBA President Ruth Reed expressed her concern about an impending "perfect storm" effecting architecture students in 2011 following a survey that found that a third of Part 1 graduates earned below minimum wage[11].

Table (v): Average starting salary and rising 10% per year (RPI=3.5%)					
Year	**Bf debt**	**Salary**	**Debt interest**	**Repayment**	**Cf debt**
1	£76,968	£23,000	£2,925	£180	£79,713
2	£79,713	£25,300	£3,304	£387	£82,630
3	£82,630	£27,830	£3,739	£615	£85,754
4	£85,754	£30,613	£4,238	£865	£89,127
5	£89,127	£33,674	£4,814	£1,141	£92,800
6	£92,800	£37,042	£5,481	£1,444	£96,837
7	£96,837	£40,746	£6,257	£1,777	£101,317
8	£101,317	£44,820	£6,586	£2,144	£105,759
9	£105,759	£49,303	£6,874	£2,547	£110,086
10	£110,086	£54,233	£7,156	£2,991	£114,251
11	£114,251	£59,656	£7,426	£3,479	£118,198
12	£118,198	£65,622	£7,683	£4,016	£121,865
13	£121,865	£72,184	£7,921	£4,607	£125,180
14	£125,180	£79,402	£8,137	£5,256	£128,060
15	£128,060	£87,342	£8,324	£5,971	£130,413
16	£130,413	£96,077	£8,477	£6,757	£132.133
17	£132.133	£105,684	£8,589	£7,622	£133,100
18	£133,100	£116,253	£8,652	£8,573	£133,179
19	£133,179	£127,878	£8,657	£9,619	£132,217
20	£132,217	£140,666	£8.594	£10,770	£130,041
21	£130,041	£154,732	£8,543	£12,036	£126,457
22	£126,457	£170,206	£8,220	£13,429	£121,249
23	£121,249	£187,226	£7,881	£14,960	£114,169
24	£114,169	£205,949	£7,421	£16,645	£104,945
25	£104,945	£226,544	£6,821	£18,499	£93,268
26	£93,268	£249,198	£6,062	£20,538	£78,792
27	£78,792	£274,118	£5,121	£22,781	£61,133
28	£61,133	£301,530	£3,974	£25,248	£39,859
29	£39,859	£331,683	£2,591	£27,961	£14,488
30	£14,488	£364,851	£942	£15,430	£0

Certain consequences of this arithmetic are clear. In reality the loan system is, for architecture students, more realistically thought of as a graduate tax. Given the potential write off value after 30 years, how secure should an 18 year old feel that the marginal tax rate of 9% on all earnings above 21k might not be increased future years? Given the high proportion of debt accrued in the course of an architectural education, which it would appear the tax payer will never recoup, the question also arises as to what additional steps a future Government may take in order to minimise the cost of this written off debt? [12]

Given the increase in student fees HEIs will increasingly be expected to account for how their income is spent[13]. For a fairly typical Part 1 programme with 75 home/EU students and 25 overseas students this

income would be c £3 million per year. The financial statements produced by HEIs already make certain expenditure patterns publicly available. From these it can be seen that typically half of the undergraduate income is spent on institution-wide student services, premises and central administration. The details of the expenditure of the other half is more difficult to ascertain. Within HEIs the adoption of detailed workload models make it relatively simply for the direct costs associated with any programme to be identified within departments. HEIs are understandably reluctant to make these figures available. Nevertheless the popularity of the main architectural undergraduate programmes in architecture within HEIs in recent years is in some part due to the fact that they generate a surplus which an institution is able to use to cross-subsidise other programmes or activities.

Within research intensive universities the main beneficiaries of this cross-subsidy are typically research activities. The accepted culture within research intensive universities is that teaching income is appropriately used to help support the research base. Under the existing fee regime the HEFCE Block Teaching Grant has largely obscured this subsidy from the viewpoint of the students. With the removal of this grant the nature and extent of the subsidy is likely to become more transparent. Although the figures for individual programmes are very varied, in general at the most prestigious institutions the pressure on teaching resources is partly a consequence of this subsidy. The pressure on teaching resources would be greatly relieved if the income raised by teaching was spent on teaching[14]. In the future students may expect to see a closer correlation between their tuition fees and the direct cost of the education they receive. For programmes which generate an effective subsidy which is equal to or greater than their directly attributable teaching costs, some rebalancing of resource allocation may become inevitable.

The extent to which students will accept their fees being used to subsidise other activities is not known. However, some HEIs have already adopted a programme pricing strategy so that the fee for each programme more accurately reflects the cost of providing that programme[15]. One consequence of the fee changes could be even greater pressure on members of staff to generate research income, which may compound the likely pressures arising from the need to increase teaching and contact time.

Student numbers

Whilst it might seem as though there is an endless supply of high quality students wishing to study architecture, is this the case?

The numbers applying to architecture as a percentage of total applicants are not high. According to the UCAS data in 2010, architecture accounted

Table (vi): UCAS Applications and Accepted Applicants statistics by JACS code 2010			
Applicants	**Applicants**	**Accepts**	**%age acc**
Subject group (JACS)	**2010**	**2010**	
A Medicine and dentistry	24,354	9,246	1.9%
B Subjects allied to medicine	91,569	49,963	10.3%
C Biological sciences	46,473	28,892	8.0%
D Veterinary sciences, agriculture and related subjects	7,550	5,869	1.2%
F Physical sciences	19,361	18,041	3.7%
G Mathematical and computer sciences	32,234	28,948	5.9%
H Engineering	30,581	26,070	5.3%
J Technologies	2,475	3,244	0.7%
K Building and planning (excl. Architecture)	6,640	5,034	1.0%
K1 Architecture	6,640	4,379	0.7%
L Social Studies	56,119	38,841	8.0%
M Law	26,217	21,913	4.5%
N Business and administrative studies	72,067	59,388	12.2%
P Mass communications and documentation	12,907	11,234	2.3%
Q Linguistics, Classics and related studies	15,762	12,703	2.6%
R European languages, literature and related studies	5,360	4,678	1.0%
T Non-European languages and related studies	1,453	1,485	0.3%
V Historical and philosophical studies	18,133	15,002	3.1%
W Creative arts and design	74,993	51,702	10.6%
X Education	23,081	16,455	3.4%
Combined sciences	3,738	8,097	1.7%
Combined social sciences	3,754	5,754	1.2%
Combined arts	11,299	13,172	2.7%
Sciences combined with social sciences or arts	14,959	20,872	4.3%
Social sciences combined with arts	9,563	12,136	2.5%
General, other combined and unknown	2,150	4,211	0.9%
Total	697,351	487,329	

for 0.95% of all HE applicants and 0.90% of all accepted applicants. Architecture routinely attracts fewer applicants than music or drama and less than a quarter of the number of students who apply for design (see table vi).

According to current demographic forecasts the number of 18-24 year olds in the UK in the next 20 years is set to fall between 10 and 12%[16]. This will obviously shrink the pool of potential applicants. It also appears likely that the growth in the proportion of 18-24 year olds in HE, which has been

	Table (vii): Institutions that have sought and successfully gained prescription for qualifications at Part 1 and Part 2 level since 1998 (source: Architects' Registration Board)
1	Arts College University, Bournemouth (Part 1)
2	Central St Martins College of Art and Design / University of the Arts (Part 1)
3	Centre for Alternative Technology/ University of East London (Part 2)
4	Hull School of Art and Design/ Leeds Metropolitan University (Pat 1)
5	Northumbria University (Part 1; Part 2)
6	Nottingham Trent University (Part 1)
7	Sheffield Hallam University (Part 1; Part 2)
8	University of Central Lancashire (Part 1)
9	University of Kent (Part 1; Part 2)
10	University of the West of England (Part 1; Part 2)
11	University of Ulster (Part 1; Part 2)

seen over the last ten years, is unlikely to be sustained and may actually fall. This growth was in part a result of the general expansion in the sector which corresponded with the Labour Government's aim that half of all young people in the UK should enter HE [17].

In the past twenty years and especially in the last ten years there has been a dramatic increase in the number of students entering architecture programmes in the UK. This increase is in the order of 70% from 2000 to 2010[18]. Architecture may have benefitted in the general expansion in HE but its recent expansion has been far in excess of this trend. It appears likely that architecture has also benefited from a relatively high media profile in the last decade which has helped bolster the number of applicants. One result of this rapid increase in high quality architectural applicants was that many HEIs were keen to include architecture within their portfolio of courses. Since 1998 eleven new schools of architecture have successfully applied for the prescription of new architecture programmes and several more are in the pipeline[19] (see table (vii)). This represents an increase of approximately one third in the number of UK architecture schools in thirteen years.

The HE sector can now look forward to a period where the pool of home applicants in the target age range will fall and the percentage of those wishing to apply to University may also fall. The big unknown for architecture is how the subject will fare in competition with other disciplines. Will the misalignment of the cost of study compared to potential earnings result in a loss of top students to financially more attractive subjects, or will the vocational nature of the subject enable it to maintain or increase its relative share of a shrinking pool? [20].

The intake to any programme consists of three student groups which all are affected differently under the new fee regime. Table (viii) illustrates the relative number of each of these groups for architecture in the UK in 2010.

Table (viii): UCAS 2010 data for applicants and acceptances K100 Architecture			
Applicants	**Applicants**	**Accepts**	**%age acc**
UK	4391	3046	71%
EU	1211	661	15%
OS	1038	583	14%
Total	6640	4290	

Home students

The majority of the intake into UK architecture programmes is made up of home students. In 2010 this figure was 71% (see table (viii).

The future picture for recruitment is complicated by the 'topping and tailing' of the application pool which is proposed in the White Paper. It appears as though two separate markets will be created: one for the uncapped applicants with AAB+ qualifications and another for the 20,000 students available to those HEIs charging less than £7500. The cost of providing a traditional studio-based architectural education means that few HEIs are unlikely to see a benefit in attracting architect students paying less than £7500 a year. Presently I am not aware of any English HEI which is proposing a fee for an accredited architecture programme which would be low enough to meet the £7500 threshold.

The competition for architecture students is therefore likely to be focused on the AAB+ home students. In 2010 47% of successful applicants achieved AAB or above [21]. Students with such grades, who wish to undertake a programme in architecture, can therefore already be assumed to find places available to them. In other words the removal of the cap will, in itself, not increase the number of students available. The consequence of the removal of the cap is more likely to be the creation of winners and losers in the existing spectrum of providers. Some schools secure in their ability to attract additional AAB students are already making plans for expansion. The success of these schools will inevitably put additional pressure on those HEIs unable to retain their existing proportion of AAB students. For these programmes the average UCAS tariff point entry will have to drop, or the number of their home students will be likely to decrease. In either event this change in circumstances could potentially threaten the viability of the affected programmes.

In a competitive environment architecture may find that as a subject its best strategy in order to maintain its current number of students is to increase its proportion of the overall home intake. As a vocational profession, despite its relatively low earnings potential, it may be seen as a more attractive proposition than many other subject areas. If architecture were able to become a more accepted general undergraduate degree, suitable as a broad skills training for any number of future professions it could easily be envisaged that architecture may significantly increase

from its current share of less than 1% of the overall home entrants into HE. This transition would be significantly aided by a change in the stance of the Architects' Registration Board (ARB) and Royal Institute of British Architects (RIBA) to allow more varied, flexible and less professionally bound Part 1 programmes. Unfortunately this seems unlikely to be the case and as such the professional and regulatory bodies may actually be contributing to the potential fall in home student numbers and the potential loss of some programmes in architecture.

Given the value HEIs are likely to place on attracting AAB+ students it appears likely that those institutions best placed to attract them will do so in increasing numbers. The question for many schools will then be how to protect their home intake levels given a loss of AAB+ students to the higher prestige schools and a fee level above the £7500 limit for the additional student places. Fundamentally the question is whether Architecture can grow its proportion of the home student market sufficiently fast to maintain the viability of its programmes? Even if this growth occurs will the new funding regime simply result in the strong becoming stronger and bigger, whilst the weak increasingly struggle to survive?

European Union (EU) students

Students from within the EU (excluding the UK) accounted for 15% of the overall number of accepted applicants for (see table (viii)). The increase in tuition fees will obviously make the UK offer less attractive to the portion of this cohort for whom tuition costs are a concern.

The argument is often made that in the long term continental Europe will have to follow the UK in the way it finances HE. This may or may not prove to be the case, as the social value placed on HE in each of the member states is particular to that state. What is known is that at present the situation in continental Europe appears to be very different from the UK. Certain German Länder are reducing their tuition fees from their current low rates to zero (Hamburg) and other states seem likely to follow (Bavaria)[22]. Many architecture courses in northern Europe are already taught in English and this trend seems likely to increase.

Within the EU each member state is obliged to allow access to its HE programmes to all EU students on the same basis as the access for its own students. As an EU student you cannot be required to pay higher course fees and you are entitled to the same grants to cover course fees as nationals of the host country[23]. The potential fee savings available to students studying in continental Europe are therefore substantial. Table (ix) provides a summary of the fee savings possible in a number of countries based on currently published fee levels.

Table (ix): Comparative tuition fees for five year architecture programmes in Europe			
	Annual Fee (£)	**Total Fee (£)**	**Saving (£)**
Typical UK School of Architecture	9,000	45,000	
TU Munich	960	4,800	40,200
Delft University of Technology	1,440	7,200	37,800
University of Bologna	600	3,000	42,000
University College Dublin	6,285	31,425	13,575
IE Madrid	1,513	7,565	37,435
Krakow Institute of Tech	3,363	16,815	28,185
ETH Zurich	900	4,500	40,500

As entry to the best European Schools is based largely on prior educational achievement the competition for the best English students in future is unlikely to be solely among UK HEIs, but is likely to be among all the high prestige schools in the EU which teach in English.

High achieving English students may not simply be attracted across the Channel by the low fees as the competition faced by UK HEIs is not solely financial. The overall educational offer made by some European schools increasingly makes the offer to students made by UK HEIs look poor in comparison. For example the ETH has fees of £900 per year and offers students a guaranteed desk space, "fantastic facilities" and access to some of the UK's most high profile tutors (who are paid four times the rate typically paid to them in the UK)[24]. In short, how can an unsubsidised English provider of architectural education hope to compete over the long-term with its heavily subsidised European equivalent?

This question leads to two associated questions, the answers to which may help to determine the survival of the species. Firstly, will the UK continue to attract the large numbers of EU students that currently chose to be educated here? Secondly, will the vanishingly small number of home students who currently undertake all of their academic education in Europe increase, shrinking the pool of applicants for UK HEIs?

The UK government was presumably not oblivious of the change in destination patterns which would result from the new fee regime. The vast majority of EU students return to their home country after qualification. In the recent past the UK taxpayer has arguably subsidised the education of a large number of EU students. If that number of visiting EU students dwindles and the number of English students studying in the EU increases that subsidy burden would transfer onto other EU governments[25].

Overseas students

An area where the population demographics appear favourable is overseas recruitment. The changes to undergraduate funding do not include the fees applicable to overseas students and therefore the recruitment of overseas students should be relatively unaffected. The overall demographics indicate that the number of students eligible and able to afford a UK education is likely to increase in all of the countries which have historically provided substantial numbers of overseas students. This likelihood assumes that the various exchange rates remain reasonably favourable.

In 2010 the 583 accepted overseas applicants represented 14% of the total intake for that year (see table (viii)). A key question for many HEIs will be whether the recruitment of overseas students can increase sufficiently to compensate for any drop in home and EU entrants?

Studio based learning and other vulnerable areas for UK Architectural Education

It seems clear that with the removal of HEFCE funding studio-based pedagogies are under threat. Many metropolitan schools have already had to move away from the traditional offer of a studio workplace for all students. The price of land and buildings, particularly in city areas, mean that traditional studios are simply too expensive. Students increasingly hot desk, or simply attend studio for tutorials and reviews.

Even though the recently approved QAA benchmark statement for architecture enshrined within it the requirement for studio teaching, it by necessity fell short of stating that studios should be available as permanent workstations for students. Whilst students in a previous generation took this provision as the norm, it is increasingly becoming the exception. There will doubtless be a pressure on HEIs to cut the cost of its delivery and find methods of teaching which are more efficient, preferably ones which might even improve the student experience. The future of traditional studio teaching appears particularly vulnerable in this context. Despite the well documented advantages of studio teaching[26], in many HEIs it is only extensively employed in architecture and viewed as an expensive anachronism by some other disciplines. The notion that students might receive one-to-one weekly tutorials from skilled professionals in a purpose-designed space available to the students 24 hours a day, 7 days a week, sounds extraordinary to academics from some other disciplines.

Architects know the value of studio culture. They know the benefits of it and they fear the cost of losing it. Quantifying these costs and benefits is something which is extremely difficult to do and to the best of my

knowledge has never been convincingly carried out. Even where it could be attempted the costs associated with the space in an area such as central London makes it almost impossible to sustain traditional studio teaching in the context of a maximum £9k fee.

The question therefore emerges as to whether a two tier system will develop with traditional studio-based programmes and programmes which are delivered in a less costly way? Could a “chalk & talk” (more accurately “marker & white board”) based design education ever replace the studio pedagogy? Given that the future funding basis is likely to be the same for Architecture as a band C subject as it is for all band D subjects (i.e. the complete removal of HFCE Block Teaching Grant for these subjects) how long will HEIs continue to support studio teaching with its significant additional costs? [27] Will the cost of running a studio-based architecture programme for some HEIs simply look like poor business compared to a band D subject with a comparable intake?

In the recent past the ability of architecture to attract increasing numbers of high quality applicants has, to some extent, amour-plated the subject in the context of University internal politics. For many it has been a subject generating a net surplus to the HEI and securing students with entry qualifications above the HEI's average, thereby improving its admissions metrics. If the stream of high quality applicants begins to dwindle, will the other vulnerabilities of architecture as an academic subject once again come to the fore[28]. Bluntly, in many HEIs the performance of architecture with respect to grant income and even research output is not strong when measured by the usual metrics.

Separate schools of architecture which stand alone within their institutions may appear increasingly vulnerable. Many already only exist within larger administrative units. This arrangement may seem to offer architecture more security, but this may be illusory if recruitment becomes challenging, research performance is below average and the costs of delivery are relatively high. In this context how will HEIs view architecture within their portfolio?

Alternatives to the UK’s 3+2+2 model

In the UK the ARB and RIBA have consistently held a common line requiring all accredited courses to comply with the requirement for a three year minimum Part 1, a two year minimum Part 2, and 2 years in practice as a minimum prior to Part 3. This framework is looking increasingly inflexible, costly and unattractive by many of the schools of architecture which are facing competition from other disciplines.

The UK’s position establishes a higher threshold to qualification as an architect in the UK than in other parts of the EU. This is despite the fact

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that an EU student who has completed only four years of academic study, but who is registered in their home state, is automatically recognised as fully qualified to practice in the UK. The same 'short-cut' also applies to a UK student who chooses to undertake all their training in an EU country and then return to the UK to practice.

In 2011 the European Commission abandoned a possible revision to the Professional Qualifications Directive (PQD) which would have required a minimum of five years academic study together with 2 years of professional experience as a prerequisite to qualification as an Architect within the EU[29]. The UK's position in requiring a higher standard with respect to time spent in academic study is coming under increasing scrutiny by schools wishing to develop innovative new programmes which might help address the problems associated with student indebtedness[30].

The stipulation of minimum time requirements to qualification can be seen as arbitrary and problematic within the framework of contemporary HE. The essential judgement with respect to any award should be the demonstration of the requisite competencies for that award (typically the programme learning outcomes). Time of study alone is not an indicator of competency. Some within the profession appear to wish to maintain a five year minimum as an indicator of quality, whilst failing to recognise the financial consequences for those students more than capable of reaching a Part 2 standard in less time, or by other modes of study. If the professional bodies are sincere in their stated aim to improve access to the profession then the question arises as to whether they are prepared to support initiatives which create more flexible pathways to registration for talented but financially challenged students?

Increasingly Part 1 can be seen as an anachronism. It has no equivalent within the EU, prevents flexibility and leads to various anomalies for students who have completed Part 2 programmes in the UK, but have undergraduate architectural degrees from elsewhere. The recently adopted QAA benchmark statement for architecture and the revised joint criteria of the ARB and RIBA all state identical criteria for Part 1 and Part 2 qualifications. The only differentiation is through a handful of attributes, with the Part 2 attributes always representing a higher level of competency than the Part 1 equivalent. A student who has demonstrated Part 2 competency in the UK is however prevented from completing an RIBA Part 3 course until they have undertaken an additional and costly exam for an award with a lower standard of competency than the award they already hold.

In order to allow schools to develop competitive and attractive pathways to Part 2 it has been convincingly argued that a Part 2 award should provide exemption from Part 1[31]. In opposing this position the RIBA is increasingly being seen as protecting its own institutional self-interest rather than

promoting wider access to the profession. It raises the question as to whether the agenda of the RIBA is misaligned with the agenda of UK architectural education with adherence to the former being to the detriment of the latter?

Of the professions which share a similar earnings profile to architecture Civil Engineering provides perhaps the most informative alternative model. Civil Engineers also require a minimum of seven years training prior to obtaining chartered status but interestingly this is divided between 4 years of academic study and 3 years in practice. This model is fully compliant with the current EU requirements for architecture and the possible revisions to the PQD currently under consultation. The question arises as to whether this provides one of several alternative models for UK architectural education which might be more advantageous than the model which currently persists?

Conclusion: the future

It is always a particularly vain activity to postulate on the future when data is sparse and the extent of the unknowns is great. Any prediction is almost certainly destined to be proved wayward or comical by actuality. Nevertheless predicting the future in the context of the subject of this paper is too tempting an opportunity to resist. As a means to conclude, I therefore offer the following hostages to fortune, should the existing framework of UK architectural education remain unchanged.

There will be fewer entrants into English Part 1 architecture programmes in the next decade compared to the last.

The 2012 repayment terms will be made less favourable to the students before the write-off time limit is reached.

There will be an increase in the number of home students of architecture choosing to study in northern continental Europe in the next decade.

Recruitment of overseas students will become increasingly vital to maintain the numerical and financial viability of architecture programmes.

Architecture has been seen as an attractive discipline in the recent past by many HEIs on the basis to attracting high numbers of applicants with high entry requirements. As this ability fades for some schools the reality of relatively poor grant capture and research metrics will cause their continued existence to be questioned.

There will be a number of schools able to attract additional students at AAB+ who will expand and be seen increasingly as the upper tier of a two-tier system.

Schools competing below AAB will increasingly find it difficult to maintain their intake at 2011 levels as higher prestige institutions expand to take advantage of the removal of the cap on intake[32].

Some undergraduate architecture courses will increasingly seek to market themselves as applicable to a number of future career paths other than architecture.

Metropolitan schools, those with high buildings costs or those under financial pressure will have to increasingly move away from traditional studio teaching with individually allocated work space.

The three plus two model of architectural education in the UK will fragment with more varied pathways to qualification arising.

The division between academic-based and practice-based learning will 'blur' with the universal requirement for five years of full-time academic-based learning coming under increasing challenge.

Standalone schools of architecture will become increasingly vulnerable with the recent trend of schools becoming an element within a larger organisational unit likely to continue.

Part 2 will become the academic threshold to the profession with the possession of a Part 2 prescribed qualification (i.e. a qualification which also satisfies a four/five year period of architectural study) providing exemption from the lower Part 1 requirement.

Some projections on the future of architectural education will be proved entirely wrong.

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Marginal Voices: Capitalising on Difference in the Design Studio

David McClean, Neil Lamb & Andrew Brown

Attention has been drawn to the detrimental consequences of the 'power asymmetries' (Dutton, 1991) that remain commonplace within design studio. Yet, despite a growing interest in the development of pedagogies that seek to erode this phenomenon, thereby creating the basis for true dialogue, it is argued that the student voice still often remains peripheral.

Within architecture education the tutor-student dynamic is critical not only to knowledge construction, but to the process by which the tastes, culture, and ethical and value systems adopted by the profession are imparted; these fundamentally determining the language and behaviour of studio, as well as the criteria for assessment of student work. Through processes of professional acculturation the student is typically uncritically socialised into the status quo (Yanar, 2007). Equally, effective knowledge construction resides in the development of a culture or code that orders the nature and language of communication and tutor-student interaction, and which engenders a realisation that theory and knowledge are things that develop through the work and the dialogue surrounding them. Thus the early stages in the learning process require careful consideration in order to establish the template for future interaction and learning, and to imbue a strong sense of student motivation.

Within this context, what are the strategies that overtly respect difference? How might educational processes in design studio give greater voice to the individual on the periphery? This paper presents an experiment in which peer learning was used as a central tool for reducing the influence of power and enabling disparate perspectives to contribute meaningfully to the learning process, and the individual's relationship to it.

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"Diversity is not about how we differ. Diversity is about embracing one another's uniqueness."

Ola Joseph

Introduction

This paper arises from a continued interest in, and consideration of, the relationship between teaching practice in design studio and related educational theory. It is argued that consideration of pedagogical theory, applied to the specific context of architecture education, is valuable in informing developmental change aimed at engaging and embracing the student as an individual learner. Equally, it is deemed central to achieving coherence and rigour in the development of pedagogic strategies. More specifically, the paper is concerned with the development of inclusive approaches to studio teaching that derive benefit from the full breadth of experience and viewpoint represented within a cohort[1]. It presents a learning model explored with the first year students at the Scott Sutherland School of Architecture & Built Environment in Aberdeen, which had the aim of creating an inclusive learning environment that engages and harnesses the diversity of the cohort as a constructive basis for learning. In this context the terms 'periphery' or 'margins' refer to the positioning of the individual rather than the nature of their view. Indeed it is recognised that peripheral views have real value within debate and ought to be included. However, whether or not this is achieved is contingent on student and tutor approaches, and the potential exists for the possession of a peripheral view to marginalise and exclude the individual.

[1] The paper consciously avoids project description, but instead focuses on the underlying pedagogic structure and governing principles. For information, Appendix A illustrates the teaching plan for the first semester of Session 2010-11, including indication of the thematic nature of projects.

Theoretical Context

The Studio as a Setting for Social Learning

It is clearly the case that many consider that studio culture, its behaviours, values, and norms, represents one of the most enduring qualities of architecture education, and one of the most memorable. Studio is the place that allows students to develop a social culture, and where students become progressively acculturated into professional beliefs and value systems. In this respect, studio is instrumental in the definition of the culture of a school, this having been identified as being as important to student learning as the specific curriculum offered (Nicol and Pilling, 2000). Yet despite the many positive dimensions of design studio, the common existence of negative factors, such as the 'power asymmetries' and dependencies first documented by Dutton (1991) is clearly recognised in the literature. Indeed, a number of studies have noted that, despite the intention of a creative, exploratory learning process centred on the individual, studio-based learning in reality constitutes a teacher-centred

experience (Dutton, 1991; Yanar, 2007). Equally, research has identified the lack of accommodation of the individual, despite the processes involved in design studio purporting to develop individual creativity and expression within the context of architectural design (Webster, 2004). At a time when much emphasis is being placed on the individual in learning, and the constructivist notion of the learner building personal knowledge incorporating lived experience, cultural background, and so on (i.e. the antithesis of the 'empty vessel'), the question arises as to how the social dynamic and properties of studio may be harnessed to give voice to the individual through the democratisation of the learning process. In the course of reviewing and re-developing the first year learning experience at the Scott Sutherland School of Architecture & Built Environment, this question proved a central concern, and this paper presents the resultant learning strategy and structure. Accordingly, this process of pedagogic development had the dual purpose of transposing the individual voice from the margins to the centre of the learning process.

Learning within Social Settings

It is argued that the most significant attribute of design studio is the culture that it develops between students, as well as staff and students. Both the social dimensions of studio, and the opportunities for collaboration and sharing, act as stimulants to learning (Parnell, 2001). Indeed, it is ultimately not so much the project work that acquires lasting significance, but the culture that the learning environment propagates (Koch et al, 2002). Anthony Roberts (2003) goes further, arguing that studio represents an ethos that extends beyond the physical bounds of space, and that develops primarily from a collective will of people to work together. The ensuing dialogue produces creative debates, even conflicts, and it is this frisson that is the defining quality of studio working, one that positions it clearly at the heart of the educational process. Moreover, the contribution of studio culture out-with the formal curriculum has been referred to as the 'hidden curriculum' (Dutton, 1991), and it would appear that these aspects are as significant to student learning as the course itself.

Typically studio culture generates close bonds between individuals and a strong sense of community, this being advantageous to the learning experience as well as in future social and professional lives. These bonds can be very powerful and frequently endure over the course of a lifetime. Thomas Fisher describes this in terms of a 'fraternity' culture (Fisher, 2000). Indeed the process of learning through socialisation is a powerful component within the 'hothouse' environment of studio. It is acknowledged that one of the strongest mechanisms for supporting the diversity of learners within a cohort is the cultivation of a community that builds a strong interrelationship between the learning process and social activity. The role of 'cognitive conflict' propagated by multiple

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perspectives, was noted by Piaget (1972), who also observed that this is achieved most effectively through a culture of co-operation. Moreover, the work of Vincent Tinto (1993) has highlighted the importance of the social and academic integration of students if they are to become and remain engaged in the education process. Yet, as revealed by Stevens (1998), architecture education does not historically demonstrate great social diversity amongst its numbers. At a time when there is considerable political impetus to widen access and broaden the social profile of university students, it is argued that the case for inclusive learning processes has never been stronger.

Through consideration of the writings of socio-cultural theorists such as Leo Vygotsky, Shaffer (2003) has observed how learning takes place through the internalisation of social processes of evaluation, and contends that therefore 'the norms of the community become a framework for individual thinking and individual identity'. A dichotomy clearly exists between the innate social potential of studio, and the apparent general lack of the strategic structured adoption of peer learning techniques in the learning process. Despite the strengths of design studio in fostering socialisation, consideration of peer learning as a core building block of formal learning strategies remains rare. It may be argued that forms of professional education that require to demonstrate competence at an individual level mitigate against this, but there needs to be a clear distinction drawn between the learning as a process, and the formal outputs of that process.

The work of Flavell (1985) and Stahl (1992) on the cognitive and metacognitive processes of knowledge construction dismisses the seemingly common assumption that knowledge can be effectively transmitted from, say, tutor to student. Instead, the learning of the recipient is contingent on the individual's 'schema', including the contextual knowledge and understanding that they have, against which new information is aligned creating either a 'fit' in which case knowledge is deepened, or leading to previous knowledge being revised. The work on metacognition undertaken by Weinstein and Rogers (1985) is relevant here, especially their observation that active learning strategies assume particular importance where learning involves the mastery of a task. The reflective functions within metacognitive strategies enable the student to review their own understanding of a situation of problem, and define actions that allow knowledge to be appropriately constructed or reconstructed. As a helpful illustration, Flavell (1985) uses the analogy of progressive archaeological discovery leading to the revision of histories over time. It follows, therefore, that the broadening of contextual perspective through the views and experiences of others represents a valuable agent in the construction of individual knowledge, particularly where the subject has an innate indeterminacy and integrates many fields. It may thus be argued that the aspiration of developing independence in

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the individual learner is most effectively realised through the structured use of peer learning techniques and a degree of formalised social interaction. Within this context, what might a strategy be that overtly respects difference? How might the educational process give greater voice to the individual, and how might a peripheral voice be more clearly heard?

Underpinning Principles

The Scott Sutherland School in Aberdeen has begun to explore a new pedagogic framework for first year[2] that seeks to address the issues introduced, and which adds greater clarity for staff and students regarding the intention, purpose and objective of the learning process and its constituent parts (e.g. studio projects). Additionally, the school has recognised the need for a more explicitly inclusive process that promotes dialogue and breadth of perspective, and reaffirms the pedagogic value of studio. At the core of the strategy lies reciprocal peer learning within the first year cohort, which encourages exchange between students of equivalent level, albeit with varied backgrounds, experiences and perspectives, which the learning process seeks to capture and build on. Of the ten different models of peer learning identified by Griffiths, Housten, and Lazenbatt (1996), the 'proctor' and 'learning cell' models were adopted as core components of the pedagogic strategy. Of particular interest was the notion of the learning cell, incorporating the formal use of structured interaction and peer group dynamics.

[2] Appendix A illustrates the teaching plan for the first Semester if Session 2010-11

The developmental process began with the identification of four guiding principles drawn from the literature, as follows:

1. Recognition of each student as an experienced user and observer of the built environment, accepting that their architectural sensibilities that had yet to be developed and shaped. Students were encouraged to reflect on their experiences and observations through an architectural lens.
2. Commitment to developing ways in which the multiple perspectives and experiences of students could be shared and built on.
3. Rendering the learning process explicit, and the development of greater understanding of the process in the mind of the student.
4. Identification of ways in which the negative aspects of the power relationship between tutor and student could be minimised.

The Learning Strategy

Using the above principles as a framework, further consideration of the learning process in relation to the underpinning theory led to the identification of three key 'strands' that structure the learning strategy. These three strands quickly became interwoven as the learning strategy was defined, creating a learning experience stronger than the sum of its parts. The learning plan attempted to create a blend of skills, tasks and

exercises that expressed a distinct and engaging learning process whilst developing new knowledge and skills readily understood to relate to architecture. These key developmental strands were as follows, each of which are subsequently described in detail:

- Architectural skills
- The Critical Self
- Professional persona

Architectural Skills

Aimed at developing core architectural skills, a series of tasks were run in parallel with other studio-based work throughout the session. In doing so, skills[3] were individually acquired within the group setting that could be immediately and progressively applied to other ongoing work. Moreover, the parallel nature of their workload introduced the student to issues of time management and prioritisation, this being considered essential to enabling the student to perform optimally. Early diagnostic exercises enabled the level of input and scope of the tasks to be reviewed to ensure that the entire cohort had the opportunity to achieve a threshold level over the duration of the session. These also allowed peer learning groups to be effectively structured to enable individuals to benefit from the collective range of personalities and aptitudes.

3 Core skills included those relating to spatial awareness and composition, communication, research skills, critical writing, and conceptual thinking.

The Critical Self

The role of reflection in and on the design process has been documented extensively (inter alia Schon, 1983). Nevertheless, despite the fundamental role of reflection in studio-based learning, Nicol and Pilling (2000) noted that courses are very seldom designed around the act of reflection. Indeed, it would appear that typically little time is provided specifically to reflect on progress, and hence to make the reflective process explicit.

In reviewing the learning process, the incorporation of specific reflective functions was deemed crucial to developing critical awareness of personal progress relative to the overall learning process and, importantly, relative to peers. There is evidence to suggest that in the intensity of design studio, students can lose sight of the overall learning path, concentrating instead on the immediate task (McClean, 2009). However, it is argued that there is advantage in the student developing an understanding of the progressive development of projects, in order to develop a clearer mental map of their own learning as they progress.

Within the reflective process, students intuitively seek to position their progress and development in relation to others, and the conventional currency for doing so is grades. This is the culture that they are generally familiar with, bringing a level of expectation of, and reliance on, finite marking systems. Instead, as a means of weaning students from such

systems, greater emphasis was placed on feedback as a means of orienting the student with respect to performance from a more qualitative standpoint. A consequence of secondary schooling, with its focus on achievement, is that students can be conditioned to expect success, and that some will find subsequent weak performance alien, demotivating, and hard to accept. In transforming attitudes to learning through the process, a central objective was thus to convey that learning from mistakes is not only acceptable, but within the context of a reflective process, can produce a powerful learning experience. Through an explicit, purely formative process of reflection and dialogue, students were encouraged to confront and understand weaknesses, and this yielded positive patterns of students seeking to self-improve through a process of iteration. Where this occurred, it was a clear indication of students taking charge of their personal learning.

The critical self embodies the aforementioned ability to establish, argue, and justify a personal position or stance. Indeed, early realisation of this on the part of the student was deemed instrumental in enabling the rationalisation of varying, sometimes conflicting staff opinion, and the acceptance of the indeterminacy of the subject. Of course, recalling Dutton's concept of 'power asymmetries' the management of the tutor-student dynamic was crucial to facilitating the development of individual positions, coupled with the ability to debate their legitimacy. Minimising the effects of power proved to demand careful reconsideration of the tutor role, this representing a fourth 'hidden strand'. The over-riding change that was introduced involved increasing the capacity of the tutor to listen, permitting the student(s) to openly express themselves, and enabling the staff to view both what is, and what is not, taking place. Attempts were made to invert the traditional tendency for the tutor to quickly dominate a conversation, thereby subverting and subordinating the view of the student. Students were routinely required to present their ideas and opinions, or respond to specific questions and issues, but in an effort to avoid over-familiarity and the establishment of predictable patterns of discourse, the format of the discussion was frequently changed. For example, whilst the group leaders[4] were typically oriented to leading the discussion, they were asked to take on a purely listening role within specific conversations. This democratised the dialogue, opening the door to less confident students who sometimes had strong ideas but were frequently denied a platform due to the strength of their peer(s). The technique also served a diagnostic role giving staff a much stronger sense of the individuals within the cohort.

The Professional Persona

Design studio typically acts as the place where socialisation and professional assimilation begins to be developed, or as Dana Cuff (1991) elegantly expresses it, the place where 'the ethos of the profession' is

[4] Group leaders were appointed at various points in the academic session through a combination of volunteering and nomination

born. Accordingly, the developed learning process sought to disabuse the notion of architecture as individual endeavour, and instead instil an understanding of it as a fundamentally collaborative practice.

In previous years it had been observed that initial student understanding of the nature and role of the profession was often preconceived and narrow, and sometimes misguided. Moreover, a reluctance to discuss preconceptions and assumptions of the profession had been observed amongst students, for fear of appearing ill-informed or naïve. It was thus considered important to openly discuss the role of the architect, and the profession's evolving position within broader industry and societal contexts. Discussions were held with the students about challenges currently facing the profession, from issues of energy and resources to economics and professional unemployment. In this way the complexity of the professional world was confronted, beginning processes that lead to the individual developing thoughts about their own professional lives.

The defining nature of professions is that of a social grouping bound together by its specific knowledge and expertise, accepting that this is itself an evolving entity (Duffy, 1998). With the aim of establishing a professional ethos, the group functioned within a set of standards, codes, and principles of practice that conferred a degree of operational cohesion and unity. Whilst the ultimate objective was to develop the capacity in the student to independently engage in learning as an intrinsic component of their professional lives, the initial step on commencement of studies required that the student was appropriately oriented and supported. The impact of transition from secondary to tertiary education is significant, this necessitating that the pedagogy embraced and managed this change through an explicit articulation of difference.

In order to encourage sharing and co-operation, learning purposefully commenced in group format contextualised by discussion of the collaborative nature of contemporary practice. It was considered vital that the skills students already possessed, whether verbal, written or graphic were acknowledged and fostered to promote the levels of confidence that are central to deep learning and engagement (McClean, 2009). The role of the tutor during this initial phase was crucial as, of necessity, cultivating student confidence and motivation took precedence over any defined or graded project output. The tutor was required to be vigilant and observant of inter-personal dynamics and of the characteristics of individuals, and operate flexibly to facilitate the accommodation of the full spectrum of diversity within the cohort. To be effective, this required to be done while avoiding the traditional 'observe and replicate' model defined by Bandura's Social Learning Theory (1977), which can discourage contributions from those on the margins of a group.

Students were encouraged to work in the studio spaces as much as possible and run the groups in a semi-professional environment, keeping notes of formal discussions with design tutors, and regulating group workload and attendance. Groups were constructed after an initial individual diagnostic project whereby the first group leaders were identified. One student was appointed group leader on a rotational basis, and empowered to moderate group discussion and take final decisions, playing the part of the lead designer in a quazi-professional environment.

In a typical week, studio teaching occurred over two structured, though contrasting, formal tutorial days. The first combined group working with formal input such as lectures and skills instruction, as well as feedback and 'feedforward' sessions. The second day involved a wider team of tutors and senior students and consisted of group working and presentations. These exercises were designed to bring to the student consciousness the fact that the skills, attributes and experiences that they brought had a relevance and value to the subject of architecture. This celebration of ability - from drawing, to poetry, to dance - served to reveal a panoplae of skills both at the level of the individual and the collective. Moreover, the myriad of varying personal perspectives introduced the issue of subjectivity, as well as the fundamental role of opinion and critique, and the importance of adopting and justifying positions within an indeterminate discipline.

Initial learning was designed to systematically challenge the notions of determinacy and singularity that appear to be commonly acquired during secondary education, and to allow students to understand that the position of the tutor does not necessarily represent a position they are expected to adopt. From the outset the expression of diverse opinion was encouraged and celebrated as being vital to discussion and the ongoing development not only of students, but also of the tutor team.

The Geography of the Learning Space

Any form of pedagogic experimentation is necessarily governed by the available resources with regards to space, equipment, and academic staff. Together with the goal of a democratic working space, these resources provided the parameters within which the learning strategy was designed. A learning environment was sought that encourages critical thinking and allows the display of continual student development, through provision of both working and display areas akin to those defined by Fisher (Jamieson et al, 2000).

The studio was structured with the cohort being divided into groups of three, and combined 'supergroups' of six, depending on the purpose and stage of the exercise (see Appendix B). Each core group of 3 became the fundamental learning unit around which the learning process was organised, with one student at any given time encouraged to assume the

role of 'group leader'. The spatial organisation of the studio space was crucial to fostering debate and the encouragement of discussion from the outset. The sharing of variable and diverse skills between peers allowed students with different aptitudes to contribute to a forum which in essence became a vehicle for social learning and, in doing so, easing the process of adjustment and acclimatisation intrinsic to the transition to tertiary education.

Running along one edge of the studio was an informal gallery, where each student and group had defined space in which to display, record and reflect (see Appendix B). Ideas were democratically presented, allowing development to become explicit, and aspirations to develop through comparison and implicit competition. The integration of this space within the wider traditional studio context allowed students to familiarise themselves with the culture of practice which encompasses the processes of communication, discourse and critique which lie at the core of architectural education.

Evaluation of Initial Cycle

Student responses received from the initial year[5] of operation indicate a positive response, these being borne out by the views of tutors (who had the ability to compare with prior regimes). Encouragingly, the views of the senior students involved in peer learning sessions were also strongly supportive of the process, with some reflecting that they would themselves have derived additional benefit from a similar process. In terms of outputs, the process can be seen to have delivered strong, consistent, results, this view being supported by professional peer review through the external examination system.

The desire for inclusivity was both political in the sense of striving to achieve a more democratic learning environment, and pedagogic in seeking to capitalise on the innate collective resource represented by a cohort. Whilst recognising that the nature of cohorts can differ markedly, the first cycle of the experiment generated a richer, more open dialogue between peers and with tutors. However, it was the levels of confidence exhibited by students in the second half of the year that signified the greatest change; confidence about individual abilities and potentials, the ability and willingness to openly discuss matters relating to architecture, and confidence in personal suitability to the subject of architecture.

The Tutor Role

Vital to the success of the experiment, was a coherence of tutor approach, attitude, and action. Herein lay a number of challenges as architecture education suffers from deeply engrained beliefs, behaviours and

5 Student responses were both anecdotal in the form of conversations in studio, and formal through the results of the University's annual Student Evaluation Questionnaire

orthodoxies; in other words a context in which achieving change can prove difficult.

In order for the individual to have their views openly acknowledged, for liberation of discourse, and for the peer-based process to become established, the tutor role took on a form that effectively inverted that of the traditional academic leader, although of necessity aspects of leadership never disappear. The crux, however, was enabling a spirit of democracy and trust between students, and between students and staff. This demanded greater staff self-awareness in terms of the power relationship with the student, and careful consideration of how to manage this changing relationship at key points in the learning process. Additionally, greater emphasis on observation and listening imposed new challenges for staff, as did the ability to carefully manipulate group dynamic to ensure equity within groups.

Effective learning necessitates an engagement with new material and information leading to the individual taking ownership of it in ways that are personally meaningful. The tutor therefore becomes the facilitator of the learning process, helping 'bridge the gap between the structures of the discipline and the structures in the students' minds' (McKeachie, 1992). For this process to be effective, the clarity of objectives and processes is paramount, and required weekly briefing / discussion sessions, which also served as points where progress could be reviewed. Moreover, such sessions were vital to ensuring levels of mutual staff confidence in the light of changing practice, as well as consistency in teaching and observation.

One of the most important roles for the tutors was to maintain discreet observation of group performance until the group was ready for tutorial discussion. As the groups worked in the school's studio spaces, staff would observe initial group discussion and dynamics prior to a formal meeting. The agendas for discussions would be tabled by the groups in the first instance encouraging students to take the lead in the process. Tutors initially worked together to set standards for the studio and then individually to the defined agenda, encouraging all students to participate. A consistent and equitable level of contact was maintained for all groups, with tutors mixing the groups half way through the teaching program to discourage familiarity and to offer additional opportunity for students to become accustomed to varying inputs.

Finally, there were pitfalls in developing such an approach. Dillenbourg & Schneider (2009) recognised the fact that interdependent learning is more palatable to some students than others, and this was supported by experience. Equally, the avoidance of stereotype was important in the grouping of students, this highlighting the importance of the diagnostic exercises introduced at the outset. Both issues point to the further development of both process and skill in future iterations.

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Summary Conclusions

The work presented in this paper constitutes the initial steps in the development of a learning process that carefully utilises the peer-oriented social setting of studio in order to create an inclusive learning process that introduces a number of precepts that are fundamental to architecture education. Moreover, it argues that careful and inclusive utilisation of the peer group can enable disparate perspectives to contribute meaningfully and valuably to the learning process, and the individual's relationship to it.

Three 'strands' were employed as the structure for the learning strategy. The need to teach appropriate architectural skills in the formative years is well established. A particular strength in the initial iteration of the experiment was the incorporation of 'lived experience' into projects showing where this experience could be related to the study of architecture whilst simultaneously breaking down initial inhibitions and facilitating social interaction. The 'critical self' sought to strengthen individual awareness, seeking questioning and reflective capabilities, utilising both multi-media and formal reflective journal techniques. In most instances this was deemed successful, although some students were not able or willing to record the process and preferred open forum discussion and summative conclusions. The 'professional persona' allowed students to conceptualise learning in the context of the profession, and to develop a greater initial sense of the evolving professional context.

It became evident that vestiges of traditional tutor model remained, and it is clear that the transition to a new system of peer-based pedagogy will take several iterations to fully develop and hone. This is perhaps especially true with respect to the nature of first year students, whose introduction to studies coincides with developing individual identities, and the freedoms and challenges of university culture, new ways of working, and greater self-sufficiency in life.

In conclusion, the initial implementation of a learning process that consciously placed peer learning at its heart, derived positive results with respect to the objective of achieving inclusivity and associated benefits in relation to student confidence and engagement. Further iterations will permit refinement of the model, as well as a more thorough longitudinal evaluation of its strengths and weaknesses. However, of all the observations made, what is perhaps most interesting is that the nature of the projects (as vehicles for learning) did not significantly changed from previous years. What did change was the level of deeper consideration of the educational structure and objectives that were played out through the projects. This brought a greater rigour and is beginning to provide opportunities that enable learning to fully benefit from the whole student group in ways that hitherto it had not.

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Fear and Learning in the Architectural Crit

Rachel Sara and Rosie Parnell

The crit forms the primary narrative through which critical design thinking in architectural education is operationalized. The crit, 'design jury' or 'design review' inhabits a liminal space through which the process of learning architecture and development of professionalism are curated as a rite of passage. This pedagogic process is typically centred on the student presenting design work to a panel of tutor and visiting critics and fellow students. At its best, it can be used to explore ideas and develop understanding through dialogue between all parties. More commonly, it centres around the binary role of tutor 'critiquing' and student 'defending' design work.

This research paper examines the findings of a CEBE (Centre for Education in the Built Environment) funded project in the UK to record and understand current student and staff experiences of the crit process through an online survey. The key findings of the research show that the crit process is one that both students and staff value in principle, but that it often fails to fulfil its potential as a place of constructive critical dialogue. Stress and fear are the most consistent experiences of the majority of students. This paper explores the positive and negative implications of this on student learning.

Keywords: critical dialogue; fear; learning; pedagogy

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Introduction

One of the most characteristic pedagogic activities in the education of an architect is the crit, design review or design jury. Typically undertaken at the end (and sometimes mid-point) of a design studio project, the crit is the place where design work is shared, critiqued, reviewed and developed. The format usually involves one or more students presenting their work to a panel of critics who in response raise questions, develop an understanding of the design work and feedback their perspectives of the quality of the work – which aspects of the proposals seem to work well, and what can be done to improve the proposals. The panel of critics are often made up of design tutors and practising architects, with student peers also involved at least in principle.

The crit process operationalizes the concept of critical thinking in relation to design. This development of critical design thinking is one of the key criteria for the education of architects[1]: indeed many would argue that critical design thinking is a key threshold concept (Meyer and Land 2003) in 'becoming an architect'. Since the crit is the principal place in which critical design thinking is made visible and explicitly valued, it has the potential to both facilitate learning a fundamental architectural skill and act as a liminal stage in the passage to becoming an architect.

When viewed in this way, the crit can be seen as a ritual rite of passage; undertaken regularly in a ritual that can be seen to mark a student's progress from one status (uninitiated or non-architect) to another (someone who thinks/acts like an architect). In the typical format, it is an event of high drama around which students focus their attention in developing work. Often students work late, or all night in preparation and arrive having had little sleep, and in a heightened state of stress and fear. Students pin-up their work and await their turn to present (often observing the crits of others while they wait). When it is their turn, the panel of critics and students arrange themselves around the student presenting. The student begins by presenting their work followed by responses from the critics. The critics each play a role in the event – learned from their experience of passing through the same ritual as students, and honed through their repeated experiences now as the elders of the process. Often their role is to challenge, test and ultimately judge the nature and quality of the work and the responses of the student. Once the process is over (as defined by the critics), the student will often retreat to gather their thoughts, then rejoin the group alongside, or as part of, the panel of critics. The event typically culminates in a celebratory (or commiseratory) social – a trip to the pub or equivalent – and a feeling that another milestone has been passed.

[1] As outlined in the ARB Prescription of Qualifications 2011 and in line with the Mutual Recognition of Professional Qualifications Directive [2005/36/EC], which facilitates the recognition of qualifications across the European Union (ARB 2011:1).

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The crit ritual, alongside the design studio pedagogic model, has come to characterize architectural education. However there has been increasing criticism of the process and the way it is undertaken. Over 10 years ago, the authors were involved in an action research project to improve the relationship of architects with clients and users through their education (CUDE[2] – see Nicol and Pilling 2000). As part of the project we recorded students' experiences of the crit and began to develop alternatives and best practice approaches. The research highlighted problems with the crit model, as well as potential strengths. This part of the project culminated in a student guide to the Crit (2000 and 2007) and a Briefing Guide for CEBE Transactions (2004), both of which were intended to change the ways in which crits were undertaken in order to maximise the potential for student learning, whilst minimising the negative aspects. Since then there have been a number of published research papers suggesting that the process is still perceived as problematic by some tutors and students. Issues raised include the confrontational nature of the event and the impact that this might have on future relationships between architects and their clients and users (Wilkin 2000); the dominating and potentially destructive power relationships inherent in the model (Webster 2007, Till 2003-5; see also Willenbrock 1991); the nature of the event in replicating and legitimizing existing understandings of the production of architecture (Webster 2011 and Till 2003-5); and the particularly negative impact of the process on female and black and minority ethnic students (de Graft-Johnson, Manley and Greed 2003, CABE 2004). However, anecdotal evidence suggests that there have been general changes in the way in which crits are typically run.

This research project sought to provide an updated snapshot of both student and staff experiences of the crit in UK schools of architecture, in order to help understand such experiences and inform ongoing development of the crit and its related processes.

[2] Clients and Users in Design Education

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Research Questions and Methods

Questions

The research addressed two key questions:

- What are student and staff experiences of the crit in UK schools of architecture?
- What is the impact of this crit experience on student learning?

Six research objectives are generated from these questions. To identify:

- the typical current format of the crit
- what students and tutors think and feel about the crit
- what students think they learn (and what tutors think students learn) during a crit
- what works well, what is less successful and why this is
- whether or not particular groups experience the crit differently
- what the alternatives could be

Methods

Following a review of the academic literature, the research involved an online survey using Survey Monkey to ask primarily open-ended questions of architecture students (past and present, at all stages of their architectural education) and tutors. The survey included some closed demographics questions alongside questions about participants' experiences of the crit/design review. The demographics questions recorded gender, ethnicity (using categories in line with the Office for National Statistics data categories), and an open-ended question that asked respondents to record any aspects of their identity that they felt had affected their experiences of the crit. Below is a summary of indicative questions related to the crit itself.[3]

- What is the first word that comes to mind when you hear the word crit?
- What is the purpose of the crit?
- What is your gender?
- What is your ethnic group?
- Are there any aspects of your identity which you feel have affected your experiences of the crit?
- Can you describe the last crit you were involved in at your school of architecture? (think about how many people are involved, who presents, who questions, what the physical arrangement is)
- How would you describe your experiences of the crit? (What is the atmosphere like? How do you feel? What do you get out of it?)

[3] which were tailored according to student/tutor respondent and the logic-path format of the online survey.

- Can you describe your best crit experience?
- What made it work well?
- Can you describe your worst crit experience?
- What made it work badly?
- What do you like and dislike about the crit process?
- What do think you learn during a crit?
- What impact does the crit have on the way you think about your architectural education?
- Do you think there is a better alternative to the crit? If so please describe.

The survey was piloted at the University of the West of England and then distributed via e-mail to SCHOSA[4], through the website of ARCHAOS[5] and through contacts at eleven schools of architecture. Where possible, contacts were asked to invite students to complete the survey in a teaching session. The latter provided the majority of survey responses.

In total 100 responses were collected. Of these 78 were from students and 21 from tutors (1 response did not record either). Student responses were collected from four schools, all outside London and geographically spread across England. The schools represented two pre-1992 and two post-1992 universities. Responses also represented prior experiences at schools in London, Scotland and continental Europe. Staff responses represented a wider range of institutions and also represented a range of different prior experiences nationally and internationally. Overall, 22 schools of architecture were represented either directly or indirectly.

The gender breakdown was very even, with 50 respondents recording themselves as female, and 49 as male (1 respondent skipped the question). The majority (86%) of respondents described themselves as white British, other white or white Irish ethnicity, which is roughly in line with the national average. 15% of respondents described themselves as non-white. Of this group, black or black British – African, Asian or Asian British – Indian, Other Asian backgrounds and mixed – white and black African ethnicities were recorded. The participants also represented a range of year of study, with responses from all year groups at both undergraduate (part 1) and postgraduate (part 2) levels (UG1=17, UG2=10, UG3=9, UG4=5, PG1= 4, PG2=7).

Responses from the survey were analysed using open coding to identify key themes and categorise the data. Word clouds[6] were generated using Wordle (2009) as a way of visually communicating the frequency of word or phrase occurrences in survey responses. Key themes were identified and used to frame a second stage literature review to explore impact on learning of the recorded experiences.

4 Standing Conference of Heads of Schools of Architecture

5 National Architecture Student Association

6 Word clouds generate a grouping of words 'from text that you provide. The clouds give greater prominence to words that appear more frequently in the source text.' (Feinberg 2009)

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Research Findings

Typical Format

> 'The tutors sat at the front, but insisted on students leading the proceedings. They did take over later mind...'
>
> Student respondent

According to the survey responses, the typical format described at the start of this paper remains very much the norm. The respondents mostly described a single student presenting for between 5 and 10 minutes, followed by a discussion for 20 minutes to typically take up a total of half an hour per student. Individual students typically present by standing by the work they are describing and talking to a front row of tutor critics, with students normally sitting/standing behind. Feedback is typically given after each presentation and led by the tutor critics. Exceptions to this format described students presenting in sets (of 3 in one case and 5 in another), with feedback after those (3 or 5) presentations; student 'buddies' leading the discussion; half the group presenting and half the group reviewing; group presentations; one student presenting another student's work; changing the physical arrangement by sitting around a table; and finally, the critics having a break after a set of presentations to prepare feedback before the presenters returned and the feedback reported.

The total number of people involved in the typical crit is relatively small. Despite a consistent increase in student numbers in most schools of architecture, all but two respondents described a crit format that involved fewer than 20 students. A couple of enormous events involving around 100 students were described, but these were seen as unusual – held outside, in public and very particular to the project being undertaken. At the other end of the scale there were two student respondents who described their last crit as involving only them presenting to two critics. The average number of students involved was 16 (and only 11 where the two crits involving 100 students are discounted). The most common (mode) number of tutor critics in the most recent crit experience of the respondents was 2. The average (mean) number is a little higher at 2.5, reflecting that in a number of cases there were 3, 4 or even in one case, 5 critics (and 6 critics for the crit involving 100 students).

Where comments were made about the involvement of students in the questions, discussion and feedback, it was mostly to record that student involvement beyond 'listening in' was a rare occurrence. There were, however, some examples of the format being manipulated or changed in

order to encourage or enforce student involvement. Examples included commencing the feedback with questions from students, involving student 'buddies' to record notes on the feedback and lead discussions, and undertaking crits in a cosy space where there were no interruptions (which was seen by the respondent to facilitate an inclusive atmosphere where students became involved in the discussions).

Finally, throughout the survey, there was an assumption that the crit was the place where work was being marked; although in describing the crit format, the issue of assessment or marking was only directly discussed by one respondent (where marking was undertaken during the crit and moderated afterwards).

Impact of the format on learning

> 'Because of lack of space one of the tutors accidently stepped on my final model while moving chairs to the next crit.'
>
> Student respondent

Throughout the survey, respondents made clear that the success or failure of the crit as a learning event very much depends upon what might be interpreted as relatively subtle differences in the behaviour of staff and students and differences in the overall format of the process. In particular, crits with too many students, that were poorly managed, or in a poor space with distractions in the background were seen as problematic. One respondent described as a problem not knowing the tutors involved and another described a highly destructive 'star' guest critic as their worst crit experience:

> 'Famous starchitect brought in to crit 'star' students. Whole school turned out to watch each student be demolished by guest. All other tutors too much in awe of him to step in and support their students.'
>
> Tutor respondent

Conversely, subtle differences in the set up can also have a positive influence. One student respondent described their most recent crit experience:

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> 'Approximately 15 people (13 students and 2 tutors), the atmosphere was really positive and cosy, students were taking an active part in the crit, supported by tutors, all of the opinions were really helpful and constructive, the physical arrangement facilitated this successful course of the crit as it was in one of the seminar rooms, all the doors [locked], no people passing by or distracting'
>
> Student respondent.

It is clear that there are many contributory factors in defining the characteristics of each crit on each particular day. However there are certain themes that repeatedly emerge in relation to respondents' experiences of the crit.

First Impressions

Fig. 1. First Impressions of the Crit: Wordle, 2009 (Word cloud created 2011)

The most overriding emotions related to the crit are those of stress and fear. The survey asked respondents to record the first word that comes to their mind when they hear the word crit. Exactly half (50) of the responses were negative, using words like dread, fear, devastating, scary, stress, hell, boring and confrontation. The word stress was used by 12 respondents, and words that denote fear (scary, dread, argh!, oh no! etc) used by 17 respondents. The majority (42) of the remainder of the responses were neutral, using words like workload, presentation, judgement, review,

preparation and critique. The remaining (8) responses were positive, using words like celebration, good fun, and essential.

Twenty seven of the negative responses came from females (54% of the females) and 22 from males (45% of males), which suggests a slight difference in the experience of females compared to males. The difference is slightly more pronounced among the students, where 57% of the female students (23 of the 40 female students) recorded a negative response, whereas 47% of the male students (18 of the 38 male students) recorded a negative response.[7] 'Being female' was also raised by 7 respondents as an aspect of identity that affected people's experiences of the crit process (the majority of respondents did not think there was any aspect of their identity that affected their experiences of the crit process). In addition being different in other ways was recorded as having an impact, including being older, being a *'foreign student'*, not having family in the business, race, and feeling *'uncomfortable with my group mates'*. A deeper understanding of this gut reaction response to the crit was explored throughout the rest of the survey.

7 However, neither Fisher's exact test nor the Chi-square test revealed a statistically significant difference between samples at the 95% confidence level.

Experiences

Tense/Stressful atmosphere

When asked to describe their experiences of the crit the majority of students described a tense, nerve-wracking or awkward atmosphere. In some cases this was seen as positive, but for the most part there was a preference for a more laid-back supportive atmosphere, as reflected in the following example:

> 'The best crit was at first year, when everyone respected your effort and the atmosphere was friendly.'
>
> Student respondent

At its best, the crit was described as a place of enthusiasm and discovery, with an energy or buzz:

> [I like] 'the buzz and energy of the day - being able to go around and take in everyone['s] work.'
>
> Student respondent

However, for some respondents the crit was an entirely negative experience. When asked to describe their best experiences of the crit, four of the respondents either felt that a 'best experience' wasn't possible, or

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was yet to come. One student respondent recorded that the event itself was an anticlimax and another described it as the *'worst part of the year'*.

Dialogue

There was a consistent emphasis from students on the need for useful feedback and constructive criticism that would help them to progress their work, and a general agreement that the crit works when it is supportive and based on inclusive conversation and dialogue:

> '[A] Good crit experience [is] defined by: a sense that people were interested in project presented, that our personal ideas are coming through the presentation; esteem of other students regarding the drawings put on the wall, positive and constructive feedback from tutors. [You] Come out of good crit with confidence and inspiration as to where to take project, what to do next.'
>
> Student respondent

In describing what participants liked about the crit, there was a strong emerging theme of the crit as an opportunity for a shared dialogue, discourse or debate as a tool to advance understanding and propose and test ideas and gather feedback. Respondents described liking the opportunity for feedback, reflection and to respond to questions. They also recorded valuing the opinion of 'fresh eyes' on their work as well as the alternative design approaches suggested by critics. Student involvement was seen as key – both in creating that dialogue as well as making the event a shared experience. Inversely, a lack of constructive criticism and overly negative feedback were the most frequently given descriptions of respondents' worst crit experiences.

Valuing the student's work

There were some responses that suggested the importance of the crit in valuing the work and effort that the students had put in. One student described 'I want to do my work justice', while others suggested that there needs to be more parity between the amount of work undertaken in preparing for the event and the event itself:

> 'Considering often highly demanding expectations from our projects, I do not feel satisfied with the amount of time lecturers spend with the individual projects. They are always in a rush as well as they do not seem to organise the day.'
>
> Student respondent

The way in which tutors behave during the presentations and critique can have an impact on the way in which students feel their work is being valued:

> 'its pretty humiliating standing in front of something you've poured hours of work, sleepless nights, stress and effort into and have 2 tutors look at it for 15 minutes after 5 weeks of your work and rip it apart in every aspect they can think of.'
>
> Student respondent

In contrast, students' experiences are much more positive where they feel their work is valued:

> 'I like those who understand that you have worked, and your efforts and are quite polite and always explaining their opinions.'
>
> Student respondent

Differences of perception between students and staff

Among those responses that discussed the crit in positive terms, tutors tended to draw out the potential for the process to be rewarding, celebratory, enjoyable and enriching for all whereas students tended to comment on the benefit of feedback and constructive criticism, suggesting a subtle difference in the way that tutors and students perceive the crit.

Tutors highlighted five key issues that can make the crit process less successful, which can be organised into issues around student behaviour and issues around staff behaviour. Student responses are used to expand on these issues:

Student behaviour

Tutors recorded that student apathy; poor student work; and overly nervous or shy students can all have a negative impact on the success of a crit. The issue of poor student work or presentation, and lack of organisation or preparation was a particularly strong theme – equally raised by students.

Issues which were framed by tutors as student behaviour were framed differently by the students themselves. For example, where tutors

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described 'student apathy', students described a lack of student involvement and lack of briefing about the critics and crit process. Where tutors described 'overly nervous or shy students', students described a lack of confidence, lack of sleep, and too much pressure. There was a strong theme that students' tiredness had a negative impact on the crit:

> 'My worst crit was when I was so tired I had not slept the night before'
>
> Student respondent

> '[I] dislike how tired I am and how little I care at that point about my project.'
>
> Student respondent.

In addition, the stressfulness of the situation is seen to reduce the potential for learning. In this vein, one student respondent recorded, *'I am often too nervous to really hear what is said!'*

Tutor behaviour

Staff responses record that tutor behaviour, including a process of confrontation (in particular personal confrontation) and defence and a lack of criticality can reduce the learning potential of the process. One tutor recorded that the crit:

> 'can be an enriching experience for tutor, guests and students alike but can, in some instances lead to confrontation and defensive responses as a function of staff and student input and responses.'

Students repeat some of these issues and also highlight others. Indeed, the majority of responses describing worst crit experiences referred to tutor behaviour. The tutor behaviour of confrontation and overly negative/unconstructive comments is repeated, with the potential for tutors to be abusive or humiliating each raised by one respondent. In addition, respondents described tutors changing their opinions to fit in with other critics, and presenting opinions with no opportunity for students to respond. Students did not specifically highlight a lack of criticality being an issue, although the notion of misleading tutor feedback was raised: 'they may smile and be encouraging the whole way through, but then you will only receive a 45' Student respondent.

Students also raised the difficulty of presenting work where their views are not in line with those of the tutors. A similar disjunction was raised

by a student who felt that their work was being judged on the graphics and not the design, and by a tutor reflecting on their experiences where surprise issues were raised during the crit that they felt should previously have emerged in the tutorials. Conversely, students highlighted the positive benefit when the tutor 'gets' the project. This reflected one tutor's comment that described the students' 'minds-eye' becoming visible during the process and a general discussion about the value of the crit in being able to really get an in-depth perspective on the student's work. However, it also suggests a potential reliance on the opinions of the tutors, as one student recorded:

> 'your [sic] not thinking or caring about anything other than "is this what the tutor wants?"'

Another two students recorded that the crit is a 'kind of "shaping" tool' that teaches you 'what tutors wants from you to do?'

As an event that is largely perceived by respondents to be about judgement, critique and review, it is notable that the responsibility for this judgement is seen to be held by the tutor. As one student respondent put it, the usefulness of the crit 'depends so heavily on the calibre of your tutors.'

Worst crit experiences record tutors not being engaged or listening to the student presenting, interrupting the student presentation, patronising the student, showing a lack of respect and a lack of understanding. In particular, the notion of tutors pushing their own (often hidden) agenda – as opposed to understanding the agenda of the student – emerged as a strong theme:

> 'My worst crit experience has been when the tutor (in this case a visiting critic) had their own agenda and forced this upon the scheme without taking time to understand the presentation correctly.'
>
> Student respondent

In contrast, respondents valued critics who were polite, recognised the effort they had put in, provided the opportunity for students to defend their ideas and explained their opinions:

> 'First of all the tutor was polite. He was not interrupting my presentation what [sic] made it less stressful. He asked well constructed and clear questions and was able to evaluate my answers. He tried to understand the reasoning behind my thinking'
>
> Student respondent.

The notion of a 'good crit' and a 'bad crit' is very ingrained, as one tutor describes: 'it is still common place to talk about a 'good' or 'bad' crit, and whether or not it 'went well'. i.e. was your work judged to be good or bad. Did you receive positive or negative comments.' However this measure of the process seems to be distinct from student learning. As one student recorded in reference to their most recent crit:

> 'it went well, wasn't much criticism, maybe would have been good to have more feed back rather than just a good mark.'

This suggests a conflict in perception about what the crit is actually for.

Student Learning

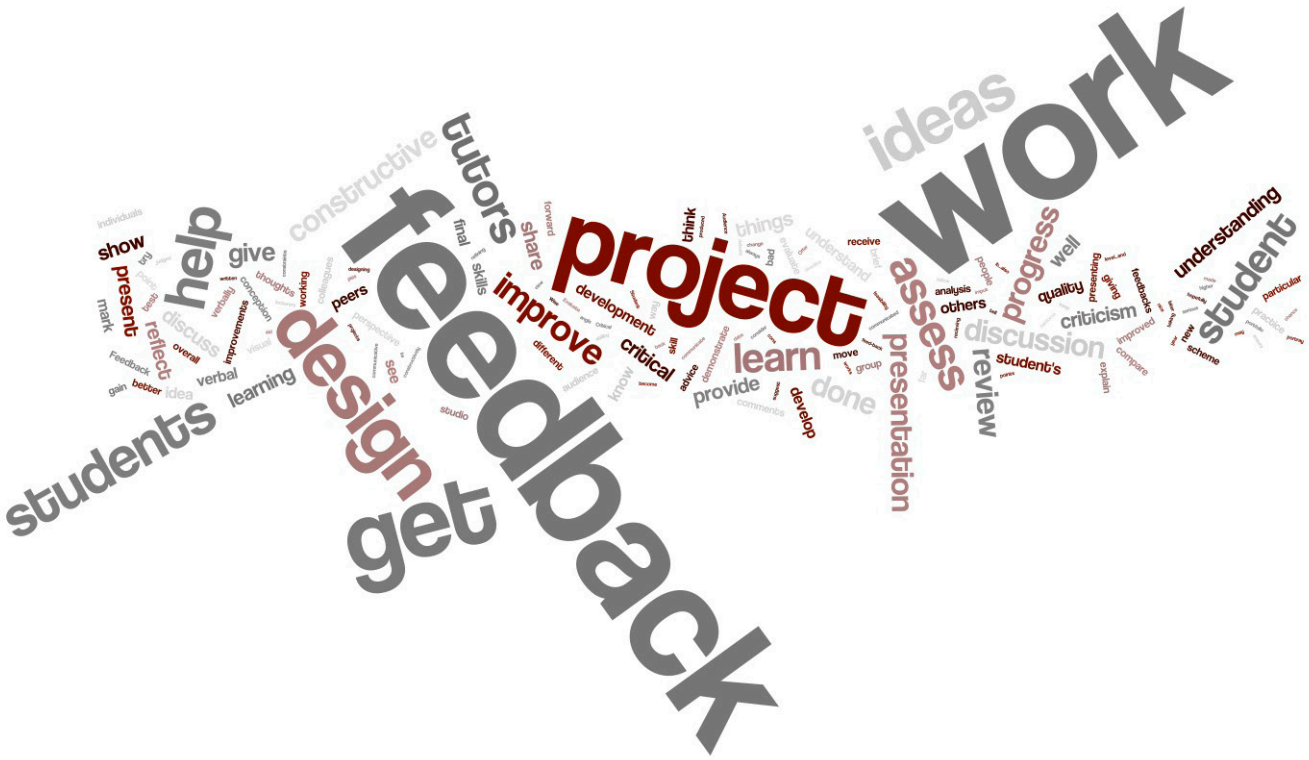

Fig. 2. What is the purpose of the crit?: Wordle, (2009)(Word cloud created 2011)

Table 1. The number of times words were mentioned by respondents answering the question 'What is the purpose of the Crit?'[8]

It seems axiomatic that the reason for undertaking the crit is to promote student learning. Accordingly, when asked *'what is the purpose of the crit?'*, the group of words 'progress', 'development' and 'learning' or 'learn' were cited second most frequently by participants (see table 1).Responses also begin to suggest the ways in which learning is **facilitated.** For the

[8] Only words with three or more citations are included. Words with similar meanings are grouped after checking the meaning in context.

Key Word(s)	Number of citations
Feedback/advice/constructive criticism/feedback	45
Progress/development/learning/learn	**24**
Assess/evaluate/judge/mark/test/what people think	**21**
Discussion/discuss/Share/sharing/new perspective	**17**
Review/analyse/reflect	**15**
Ideas/idea	**15**
Presenting/presentation	**12**
Improve/refining	**9**
Understanding	**4**
Critical thinking	**3**

majority of respondents the purpose of the crit is to provide feedback, advice or constructive criticism (as reflected in prior comments about successful and positive crit experiences), which clearly has potential to affect student learning. After 'feedback' and 'learning' respondents most frequently cite words relating to 'assessment/evaluation', followed by 'sharing/discussion' in recording their understanding of the purpose of the crit. It is interesting to note that whilst assessment and feedback often go hand in hand, it is far less common to find educational activities that bring together assessment with sharing and discussion. This can be read as a positive aspect, in which the crit model creatively brings together these elements, or as a negative aspect exposing a model that is undertaken without a clear idea of its purpose.

Other repeatedly cited words in relation to the purpose of the crit reflect the kinds of things that students are learning, including reviewing, analysing and reflecting; presenting; refining and improving ideas; developing understanding and critical thinking.

In contrast to respondents' first thoughts about the crit – as a place of fear and stress – there is a much more measured acknowledgement of the purpose of the crit. Students do seem to have an awareness of its intended purpose, however they are less sure that they **actually** learn what they are intended to learn:

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> 'I'm not sure how much I have learnt directly from my own [crit], as the blinds tend to go up for the duration. I often go away believing that I have not learnt anything from my own reviews.'
>
> Student respondent

When asked, *'What do think you learn during a crit?',* the most commonly held view recorded was that crits allow students to learn how to present both visually and verbally, and to communicate their design ideas. Through the process of clarifying an idea for presentation, alongside the feedback given in the review, students learn how to improve their work (both in their current project and for the future). Respondents also particularly valued the way in which the involvement of their peers means that students see other viewpoints and different approaches to the same task. A number of students recorded learning from their peers as one of the key things they learnt from the crit.

In addition, respondents felt that they learnt to think critically, work to a deadline and manage their time. There were quite a variety of opinions about what other learning might go on in a crit. Again this can be read positively (that the crit allows different students to learn in different ways at different times) or negatively (that the learning purpose of the crit is unclear and attempts to be all things to all people).

Finally there were two respondents who perceived the crit quite negatively in terms of learning, describing their learning as:

> 'Dealing with extreme stress, rejection and lack of sympathy, controlling panic attacks, learning how to defend my statements.'
>
> Student respondent

and

> 'how to sit in silence.'
>
> Student respondent

The deadline that the crit provides was valued by both students and tutors. In addition, the opportunity to see the work come together at a particular point in time was highlighted as something that tutors liked about the event. It was repeatedly highlighted by both students and tutors alike that crits need to be undertaken at a time that allows students to respond to, and develop from the comments they receive.

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Alternatives

When asked if there was a better alternative to crits and if so to describe that alternative, respondents almost entirely recorded 'no', or proposed amendments to the current model rather than a complete rejection of it. This might reflect that overall the crit is seen to be a better (if not perfect) model than alternatives, or it could be simply that the system is so much a part of the culture of architectural education that it is impossible to imagine it without the crit:

> 'I can't really think of one - proof that architectural education has formatted me to think of them as the only mode of assessment for design work!'
>
> Student respondent

The alternatives proposed by respondents are summarised in the table 2:

Alternatives to the Crit	**Further detail**
Exhibition format	Pin-up only. The drawings should speak for themselves
Small group discussions	To promote a more relaxed atmosphere
More targeted variety of learning events	Different crits for different occasions and stages in the project as well as more targeted learning outcomes, including round table small group seminars, students presenting other students work, students presenting to clients with tutors as silent observers, peer reviews and the exhibition format, group and paired reviews, charrettes and workshops, role playing, on site review, review while making work, reviews in public
Review process	An implied shift of meaning from criticism to a review of the project
Hand-in only	With a proposal for the work to be marked by a number of different people and followed up with tutorials
Student involved critique	More informal setting where students are more involved in the critique

Alternatives to the Crit (continued)	**Further detail (continued)**
Not assessed	Presentation with questions but no comments. Assessment undertaken during the design process and at a final meeting between tutors and student in informal setting. 'Once that pressure was off- I was better at putting the focus on what I want to show and what I want to get out of the crit…' Student respondent
Colloquium	Presentations followed by group discussions (possibly around particular themes)
Peer review	Students are the sole (or lead) reviewers
In camera	Presentations in private to tutors only
Tutorial review	One-to-one review
Competition review	Projects are presented and one or more winners chosen
Project swap	Students pair up and spend a day doing an hour together on one person's project and then the next hour on the other persons' project and so on.
Client/other professional led review	In order to mitigate the power of the tutors

Table 2: A summary of alternatives to the Crit as suggested by respondents

These alternatives demonstrate the range of ways in which it is possible to develop the format for different purposes. In particular, a number of respondents made clear the importance of using a range of different design reviews for different purposes throughout the academic programme:

> ‘Crits can take place in many different ways, and those that encourage positive discussion and constructive criticism are extremely useful.’
>
> Student respondent

Respondents once again focused on the behaviour of tutors as a way to improve learning potential. Students proposed that tutors behave in a polite and supportive way, that they clearly explain their ideas and the reasoning behind what they say. One student suggested that tutors need to be educated in how to behave during crits:

> ‘Educate tutors - some are very good at understanding the situation, but some aren't.’
>
> Student respondent

Discussion and Conclusions

It is apparent that the crit is still very much a central part of architectural education and that there are elements of the crit that are still problematic for some students, some of the time. A large number of students experience the crit as a fundamentally stressful, fear-inducing event. However, at the same time, they are largely aware of its potential as a learning experience – the aspiration overwhelmingly being described in terms of gaining constructive feedback on presented work, the experience of learning primarily relating to presentation skills. Although many students have some experience of crits in which they have received helpful feedback, the apparent discrepancy between *aspiration* and *experience* is interesting. One clue to understanding this discrepancy could lie in the stress and fear which students report as being associated with the event. This finding is in line with other recent research into the crit in architecture (see Flynn 2005) and art and design (see Blythman, Orr and Blair 2007). Both relevant reports suggest that this kind of anxiety is likely to block students’ ability to learn in the crit environment. This argument is supported by research in education and educational psychology, where stress has been shown to have a negative impact on academic performance (Akgun & Ciarrochi, 2003; Sloboda, 1990; Struthers, Perry & Menec, 2000). It could, therefore, be interpreted that in the event itself, stress and fear reduce many students’ ability to listen to and engage in comment/ dialogue in which constructive criticism might develop. Or as the student above put it, *‘...the blinds tend to go up for the duration.’*

Also relevant to note is the well-rehearsed argument that fear is likely to inhibit creativity; that if there is no safe space to take risks, this will inhibit the creative process (Tharp and Reiter, 2003). Most of the crit descriptions

and experiences in this study do not evoke a sense of 'a safe space' in which to try things out. Hennessey and Amabile (1987), in an extensive review of research into supporting the creative process within education, also cite a *'focus on expected evaluation'* and use of *'plenty of surveillance'* among five key approaches to killing creativity (p 13-14).

Research has shown, perhaps unsurprisingly, that if fear becomes a chronic condition it is also likely to affect students' mental and physical health (Beatty & Beatty, 2001; Bovier, Chamot & Perneger, 2004; Powell, 2004). If it is the case that the crit creates stressful conditions in which many students learn less, are less creative and are building the potential for related mental and physical health problems, then it is important to ask, 'Why is the event so stressful?' And, 'How might debilitating stress and fear be diffused?' The pressure and potential stress of preparing work in the run-up to a scheduled crit is one aspect, but the deadline and focus that the event provides for student work and thinking is something appreciated by staff and students alike. The stress and fear *in* the event, however, could be assumed to relate to two main issues: personally delivering a (semi)public presentation and the fear of being personally and professionally judged or assessed.

It is not clear from the research whether or not students are provided with separate targeted support to broadly develop presentation skills, however, nothing is mentioned. Although visual and verbal presentation skills were most commonly cited as a learning outcome from the crit, the idea that one develops these skills only by 'having a go' and then reflecting on how well it went, appears to be rather a blunt learning tool. There have been examples of targeted student support to develop students' competence and confidence in these skills at a range of schools of architecture (for example via the CUDE project). It is suggested that a more consistent approach to this kind of 'supplementary' skills development could help to reduce fear for some students, through the increased competence and confidence that it gives them back 'on the floor' of the crit itself.

Similar crit 'support acts' might be targeted at the development of critical capacities, where modelling of constructive critique, observing and evaluating precedents and practising communicating criticism, can initially be safely explored at a distance from students' own work, fuelling more open dialogue and debate. Research in education suggests constructive feedback in a supportive environment should have a positive impact on learning. Supportive environments are seen to increase student's belief in their own abilities and increase their motivation (Bereiter & Scardamalia, 1989), both of which are likely to lead to better academic results (see Graham and Weiner 1996 for a review). Targeted development sessions might then begin to address the second suggested source of stress and fear – being judged and assessed – where familiarity

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with a co-creative, constructively critical atmosphere gradually has a positive impact on the parallel crit experience.[9]

Relevant here is the importance that the research findings place on the role of the tutor in shaping the learning potential of the crit. Respondents repeated their demands for tutors to behave in a way that is polite, respectful, and engaged, not abusive or humiliating. Students asked that tutor-critics value the work that they have put in, don't interrupt their presentations and allow them to respond to questions and comments about their work. When summarised in this way it seems like the minimum standard that we would expect from any critic, but it is clear from responses that this is not always the case. This suggests that there is potential for a tutor focussed briefing, parallel to the crit 'support act' for students, on communicating constructive criticism. All of the above should ultimately contribute towards reducing fear of judgement and increasing learning.

In addition, tutors have huge potential to effect learning in developing the format of the event. Feedback suggests that there is a need for a greater variety of approaches for different occasions, based on priorities for intended learning. This suggests that tutors need to have a pedagogical grounding in order to raise their awareness of alternative approaches and understand the likely educational impact of these approaches. Fundamentally there is a need for a clearer set of processes in setting up the crit, including: submitting work in advance to avoid over-tired students; briefing both students and tutors as to the purpose of the crit and the nature of good, constructive feedback; structuring sessions to allow students to prepare their presentations; introducing ways of recording the feedback during the crit; and keeping the process to time.

It is clear from the research that for some students the stress and fear linked to the crit is more of a problem than for others. Further research, with larger numbers of students is required to explore the possibility that female students might find this more of a problem than male students. Research into why women leave architecture (de Graft-Johnson, Manley and Greed 2003) and architecture and race (CABE 2004) both suggest that the crit is an event that can put off female and/or black and minority ethnic students continuing their studies in architecture. It is not clear from the present research whether either gender or race significantly affected students' experiences of the crit. What is certain, however, is that for a relatively small number of students the current model is contributing to a potentially damaging negative experience that has no perceived learning potential.

9 Some evidence of this kind of transference of critical skills was seen in the use of studio peer discussion groups at the University of Sheffield (Parnell 2001:12).

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Concluding thoughts

It is facile to say that learning experiences should be designed with learning in mind, but this is arguably at the root of all of the practical recommendations that have emerged from this research. It is worth emphasising here the recommendation to demonstrate greater cognisance of the stress and fear associated with crits and the potential impact of this on student learning (and health). Student stress and fear clearly persist, alongside a convergence of crit 'models' upon the dominant format described in the opening to this paper. That fear is likely to inhibit learning in a crit context is not new knowledge (although it is less common to acknowledge the impact of 'crit fear' on the creative process – an issue that requires further research). However, it is suggested that this knowledge rarely informs the design of the crit, its alternatives, or its potential 'support acts', as discussed above. This should not be read as a plea to 'go easy' on students, or to reduce criticality, but as an appeal to educator professionalism to consider and openly discuss stress as a critical factor in the effectiveness of learning and teaching approaches.

Findings suggest that the crit continues to be poorly defined, or at least unfocused, in terms of its intended impact on learning. This is reflected in the wide ranging thoughts collected about what can be learned and what makes a successful crit, as well as the more general accounts of crit experiences. While this could be interpreted positively, it is argued here that the crit commonly appears to be trying to be all things to all people, rarely being particularly successful in any one aspect of learning. The crit is undoubtedly sometimes a positive learning experience for many students. However, its recognised potential to support constructive, dialogic approaches to learning does not appear to be realised often enough.

The notion of dialogue as a basis for learning is attractive because of its potential to challenge and move forward existing hegemonic knowledge. A number of respondents highlighted the negative potential for the crit to be a 'shaping tool' that, by inference, inculcates students into the values systems and associated existing knowledge of the tutor-critics. This is a key issue in relation to the fear of being judged and assessed, reflecting the broader relevance of tutor-student power relations.[10] Dialogue, in contrast, is seen as a crucial element in the construction of new knowledge (Reynolds, Gale, and Jetton 1996), through which students and tutors are able to challenge accepted ways of doing things and co-develop new understandings (see also Wink, 2005). Indeed Willenbrock argues that *'if there's no dialogue, there's no learning'* (1991:94).

Although attempts continue to be made to rebalance student-tutor power relationships (by introducing other voices to the crit, enforcing student-critic roles etc), co-constructive dialogue, as described above, remains a challenging goal. The challenge lies in part with the perceived

[10] Webster (2006:287-8) discusses these power relations in the context of Foucault's '"archaeology", of the illusory nature of disciplinary "discourse", "truth" and "knowledge"' and the 'micro-technologies of power' used by institutions 'to control entry or train individuals towards a dominant disciplinary paradigm or habitus' - the latter term being borrowed from Bourdieu. Stevens (2002) similarly draws on Bourdieu to develop a powerful framework with which to critique the socialisation processes at work within architectural education.

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association of the crit with summative assessment, i.e. marking. Engaging in dialogue in this context might be seen as a risky strategy by many students. Perhaps even more of a challenge however is presented by tutor-critics, who to some degree cannot escape the effects of the socialisation and enculturation process they have experienced (Webster 2006, Melles 2008). While tutor values ultimately determine student marks, these values will continue to determine 'quality' and appropriateness in architecture, the discipline. This is arguably inevitable in any professional/disciplinary sphere. The tacit, or hidden agenda of the tutor-critic therefore defines the milestones to be achieved in the ritual passage towards becoming 'an architect' – not in the official professional sense, but in broader cultural terms, as described by Bourdieu (see Webster, 2011).

Crits, therefore, by their very nature, will continue to make some people feel, as this student respondent did as though they *'should not be on the course'*, while others will aspire to accumulating the required tacit knowledge and associated skills, understanding and attitudes. The crit, as a site of 'insider' judgement, will continue to provide aspiring students with oblique clues as to how to achieve this 'insider' status. As such, the crit is a powerful site of production for the culture of architecture: as architectural educators, we need to continue to question which cultures are desirable, and which are destructive. The present culture seems to be more about fear, than learning.

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Colloquium: Exploring Common Grounds – Architectural Methodologies in Doctoral Learning

Julia Udall & Anna Holder

The 'Common Grounds' Colloquium was a workshop-based event which took place on the 14th/15th of January 2011 at Gladstone's Library, St. Deniol's. It was organised by James Benedict Brown and Anna Holder, students from Queens University Belfast and the University of Sheffield. The event was devised in response to a growing awareness that as architects we have a particular way of thinking about and carrying out research, whilst also a magpie-like approach, often borrowing from other disciplines.

'Common Grounds' was a name chosen to signify the need for developing a shared body of knowledge, and a place to collaborate and reflect on these concerns.. The following review, co-authored by a participant and a workshop organiser, gives an account of the event and draws out emerging themes and commonalities of experience which can be used to develop understanding of the specificities of doctoral research in architecture and the built environment.

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Workshop Aims

Our main aim in organising the two-day 'Common Grounds'[1] colloquium was to provide a unique forum for postgraduate students and early-career researchers to come together away from the university and enjoy an informal but focussed discussion and exchange of ideas. We also hoped to share resources and skills in order to help one another to build capacity for high quality research on architecture and the built environment, perhaps developing thematic clusters of support for research-in-progress, or possibilities for future collaborations.

The idea for a student-led research event specific to these disciplines emerged from the experiences of the organisers during the first year of their PhDs. Doing research on or in the field of architecture can feel like a methodological 'free-for-all', borrowing from the arts, humanities, physical and social sciences. At the University of Sheffield, research methods courses that provide relevant skills (such as case study and qualitative methods) are offered by departments as diverse as East Asian Studies and Health Studies, who are themselves 'borrowers' of methodologies. We had encountered what felt like stumbling blocks in the subsectors of our discipline borrowing from the natural sciences – positivism, hard and fast rules for research process, clear cut relationships between researcher and thing researched - all conflicted with the more contested, contingent and creative questions of social and spatial research. There was an inkling that as researchers with a very specific design-based and professional training we brought a certain set of attitudes and skills to the research process – the idea of propositional or performative research, activism and participative research and the confusions and possibilities offered by undertaking research by design.

Participant aims

The workshop design was constructed to allow flexibility and to accommodate and support the aspirations of participants. Prior to the event aims from the workshop participants were solicited, creating the following co-produced workshop aims. We should provide an opportunity to:

- present, discuss and constructively critique research-in-progress
- collaboratively consider what might be particular about architectural research.
- question 'what is a PhD by design?' How and where might it differ from a 'conventional' architectural PhD? (If it actually does. Are there more designer-ly 'conventional' PhDs and conventional 'PhDs by design'?)
- explore what counts as 'design' in the context of PhD research
- develop ideas of what forms of representation might be employed to present and disseminate the research?

1 The colloquium is not in any way affiliated with the 'Common Ground' company, publishing house or series of conferences.

• begin to clarify any form of methodology for its research and production. ("I have a much better feel for the subject matter than for the way in which I am going to research it.")
• discuss with others the methodological implications of carrying out a PhD by Design - to discuss this approach and investigate with others the opportunities but also limitations of (methodological) approaches.
• learn from others' experiences in (different methodological) areas.
• meet a group of doctoral researchers at different levels but within same area of interest, build networks, discuss our experiences and share practical advice
• see different types of research processes and approaches that can be applied to the architectural field
• get input and references from others to develop or articulate my own methodologies and research choices

Fig. 1. Image of the workshop, 2011

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Themes and concerns emerging from the workshop

1. Bringing design approaches to research.

Discussion of the experience of moving from a design education or practice background to developing the skills of a researcher brought recognition of the way we transferred design skills and approaches to our research work. Whilst design work can be part of a rigorous and systematic process, there is acceptance of intuition, and of applying overarching ideas or approaches from previous projects or precedents based on a 'try and see what fits' heuristic. This is not necessarily linear, and frequently makes space for loops, iterations and overarching processes. In trying to define or develop methodologies for architectural research we have been surprised by our inability to articulate a design epistemology as well as lacking architectural methodologies to call our own. As architects both socialised and embedded in our discipline, we have a strange lack of awareness about 'what we do'. How do we make our knowledge and approaches apparent to ourselves and to others? This links back to workshop participant's experiences of miscomprehension when working in academic departments other than architecture - perhaps by moving into someone else's space or discipline and being forced to explain ourselves, we can improve the architectural discipline's self knowledge.

2. The disconnect between, and translation of, the research process as written, and experiences of research.

A common thread of perception throughout the group was a disconnect between the research process as 'written up' or presented in research methods literature (a linear, directional progress from ontology to methodology and methods), and the research process as we experience it. The latter is often a tangled back-and-forth, with an ontology emerging throughout the process of developing methodology and collecting data. Developing on the previous theme, we found parallels between research experiences and the iterative or emergent nature of the design process, which is reliant on 'hunches' or following emerging patterns, an element of 'trusting the process'. The 'translation' of this immersive and imprecise process into an account of a rigorous and direct methodology for research in the process of 'writing up' was recognised as another layer to take into account.

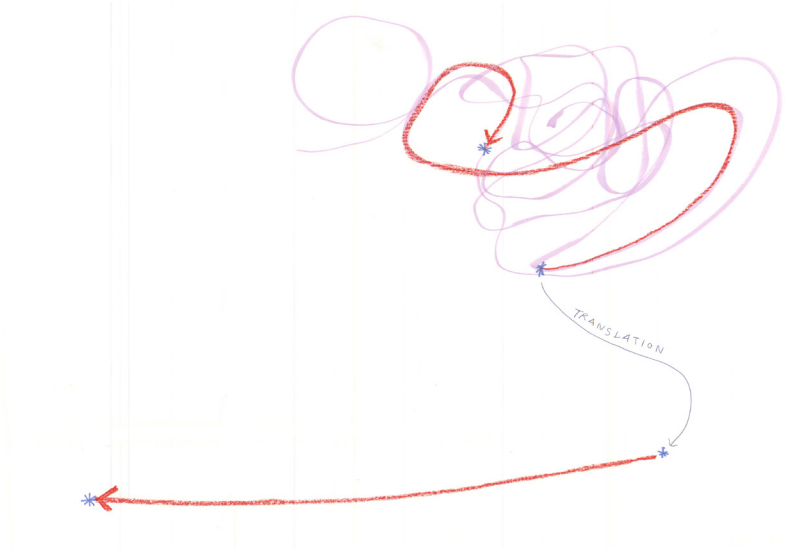

Fig. 2. Diagram: translation, 2011

3. Knowledge and action in emancipatory, participative and performative research.

This theme straddles ontological, epistemological and methodological concerns among participants. There were concerns about the types of knowledge valued in academia and in practice. Practice-led research focuses on knowledge seemingly biased towards the tangible skill set of the practitioner. It privileges an understanding of space based on what can be drawn and built, and an understanding of relationships and communications to make building based on what is written in the forms of official permissions, tenders, production information, specification. Through our conversations we explored the preoccupation with information which is not easy to communicate; the values that users and makers attach to space and place; forms of knowledge which facilitate working with diverse groups of people; ways of communicating and representing which attempt to break down the hierarchies and distinctions between built environment professionals and other disciplines and users. We recognised parallels in research and practice of acting or working performatively to break down the dominance of the written word or the drawing. We discussed the desire to open up architectural research to pay attention to and include the views of those outside of the discipline and of non-professionals.

4. Research collaboration (and cross-pollination), across and within disciplines.

Experiences of working across disciplines, straying into unfamiliar areas of literature and working with others either not from the research

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environment or trained in other disciplines; all required the research skill of "being multilingual". There was cynicism from one participant about the values of interdisciplinary work, and whether it was motivated by genuine interest in sharing and connecting knowledge or simply 'ticking boxes' for research funding calls. As architects we acknowledged our 'all-rounder' interests and happiness in moving between areas of knowledge that were not our specialism, but questioned the appropriateness of this approach within the research sphere, where expertise in one defined area is valued.

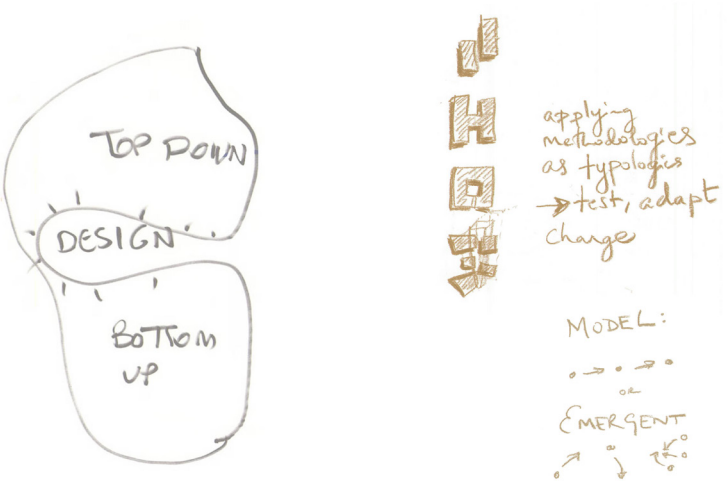

Fig. 3. Diagram, 'amateur' research interests vs. the master of a particular field, 2011

Commonalities... Architecture in the context of other disciplines

One of the first things that emerged from the workshop was the idea that there might be research experiences specific to the architect as researcher. We propose that this may be due to the role of 'design', both in terms of our learning and the ways in which we build knowledge. Amongst the workshop participants there was a strong personal link between research and practice, with all either currently involved in both practice and research or with practice experience prior to beginning the PhD. It was felt by all that the two activities are strongly related and inform one another, yet as researchers and as practitioners we struggled to articulate this connection or reciprocal relationship clearly.

Two students at the event had their background in architecture but were undertaking their studies in other disciplines or academic departments: for one student this had raised a whole range of concerns; activities and approaches common to the undergraduate architecture student were thrown into question when seen from the perspective of a social sciences ethics committee. Her account of the extremely cautious approach her

department took to the site visits and walks through the city which made up her methodology raised questions about the assumptions those of us with a design training hold about the way we carry out study in architecture. In Undergraduate and Masters study, and to some extent in practice, we as architects are always going, doing, seeing, 'visiting site'. It is part of our received understanding of research. To be there bodily - to climb over fences, to walk across the uneven ground - is a way of understanding that particular space, its relations and its boundaries, both visible and invisible. The questions which arise from seeing this from the perspective of other disciplines or norms make visible the power associated with the role of the architect as professional – the 'permission' to go anywhere, the respect that we perceive. From the earliest stages of study we find that *if you tell people you are an architect you generally get access to things and places*; this is also true in practice where we often have conversations in and about people's homes, or places of work or play, their ways of life and their desires and values. As a researcher this has distinct ethical implications: should we consider our access not just to people's data, but also to the data we extract from places and space?

We were also prompted to consider the values that we develop through approaching 'site' in such a way: by experiencing sites like this we are also aware of people who don't or can't or who think doing this is problematic...

Discussion ranged from the practice theory of Bourdieu (2005) – the kind of knowing that comes from 'doing', and Giddens' 'practical knowledge' (Giddens 1986; Schneider and Till 2009) to types of embodied knowledge. For a number of participants who were studying spatial practice and action on community projects it was important that these kinds of knowledge were very often (if not always) collaborative. Many of us shared an interest in 'knowing' which was constructed and developed through relational practices and was situated both spatially and socially amongst the groups creating and using it. We had the realisation that we are doing research for the 'purpose' of developing spatial practice and drawing on and contributing to collaborative, situated and relational knowledge. We therefore questioned how this might change our approach in terms of theory and practice.

... and Common Grounds

A crucial outcome of the event was a growing awareness of the importance for PhD students and researchers of developing and discussing ideas together, taking the *workshop approach* which is common to architectural practice and the design studio but seems missing in the research/academic environment. We ask the question *what could a research studio be?* It was felt that there should be space in our research for more group approaches to working – both on shared projects and on our individual projects, perhaps informally, around themes. Most obviously there are the benefits

of sharing references and discussing approaches to research gleaned from other disciplines, as we all felt we were in different ways working beyond our discipline. Contesting the individualist approach we have found in academia, we state the belief that it is empowering and constructive to help one another and important to develop shared resources at the same time as pursuing particular research topics.

Fig. 4. 'Common Grounds' colloquium: workshop/studio approach to research, 2011

What worked...what didn't?

A particular success of the event was in its informality; this was enabled by the small size of the workshop, the variety of sessions and the method of presenting and discussion, and also the event location. The programme of events moved between individual presentations, group discussions and small group tasks; presentations were short and were given without

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'PowerPoint' or slides, so that they would be less daunting to produce for those early in their PhD studies.

On Day One the sessions took place in a meeting room with a large table around which we sat, facing one another. This enabled easy group discussion (though it was less useful for facilitating breaking out into small groups) and made presenting work less confrontational. A criticism of not having more formal PowerPoint presentations was that it made it difficult to convey information which could be easily put across in images of drawings or photographs. Also those with more visual memories found it difficult to process or 'take in' abstract concepts without the information being displayed on screen.

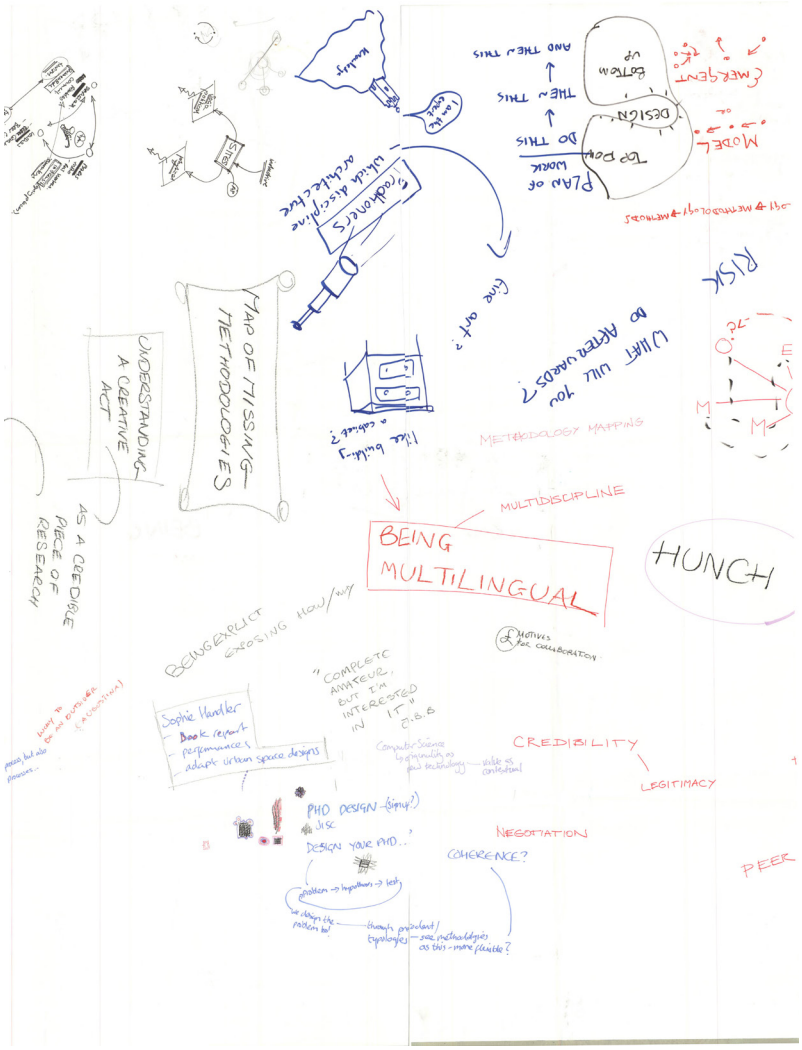

Fig. 5. The big piece of paper, 2011

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We covered the table around which we sat with a big paper 'cloth', and encouraged, through talk and example, the use of this as a way of note-taking, recording ideas and developing discussion with diagrams. After a little initial reticence, the group welcomed this mode of working – it was particularly successful for the large group discussions, developing more abstract concepts of how research processes mirror or differ from design.

The location of the workshop – on 'neutral territory' in a new location with which no-one was familiar, meant that the group could explore and 'claim' the space together. Having meals and a plentiful supply of tea and cakes available in-house meant that discussions could flow over the meal table, and sessions could continue out of their time and place boundaries. A residential workshop in a little village kept the participants together and focussed for an intensive two days – though we were exhausted by the end, it was felt that this was a good format.

Our initial idea for recording and disseminating the event had been to co-produce a small document in the course of the workshop, but with the amount we had tried to fit into two days, it became clear that this was too ambitious. However, we found that collecting information from participants after the event was difficult, as everyone has so many competing demands on their time. The 'big piece of paper' worked well for capturing emergent knowledge from discussion sessions, but there was work to be done decoding it and developing it into something that might disseminate the experience of the event to others. We are keen to look at how methods of recording and disseminating knowledge in the course of discussion and action could be developed in future events.

What next...? A proposal for development of networks and conferences

This colloquium was based on an intuitive notion that architecture as a subject may suit other forms than the traditional conference; this was developed during the weekend through discussions of what is particular to architectural research. It was agreed that due to the propositional nature of design, the non-linear ways of thinking and the range of 2-d and 3-d representation that are used to explore and convey ideas we may need to rethink the format of conference events. Image and text are frequently paired; however it should not be assumed that the text does the critical work and the image or design is purely illustrative, often this can be the other way around. In this respect architecture as a research subject could be understood to be closer to music or fine art.

Architects often have to move between a series of subjects whilst designing; be they social, technical, or aesthetic, and understand the relation between them all. This requires knowledge of a range of subjects,

but also crucially a certain set of skills to negotiate the relationships between seemingly disparate things. During this colloquium we used collaborative drawing techniques to draw out ideas and find productive relationships between our subjects. We felt this was very useful and would like to take this even further in the future, evolving and refining these techniques.

Further to these discussions we also looked at what was particular to our approaches within the field of architecture and how these might inform future events. We all had a preoccupation with ideas of participation, activism, site and situatedness and felt that approaches we took forward should acknowledge and build on these themes. Some of those attending the workshop were carrying out PhD by Design, so were specifically interested to explore what it means to frame design as research.

Propositions and ideas for developing event-based, collaborative architectural research

1. Site:

One proposal was to explore the same site from the perspective of each individual's research. The work should develop the themes and ideas the researcher is exploring but respond to the 'particularness' of a place. This could allow links to be drawn between topics and facilitate discussion about the relationships between subjects, whilst emphasising the differences between approaches. The invitation to contribute should be limited so that it is achievable but allow for creative interpretation in terms of format- so could be a walk, a talk, a drawing or an activity.

2. Collaborative knowledge; generating and recording:

In order to address the issue of getting to grips with the interrelationship between ideas presented at the workshop it is crucial that the exploration and recording is collaborative. It was raised that some conferences publish papers but fail to pick up on the emergent collaborative knowledge.
At Common Grounds we addressed this through the creation of a 'big drawing', which was very useful in terms of generating and sharing thoughts together, but needed to be reformatted and summarised for dissemination. The second proposal is the creation of a 'zine during the conference or colloquium that allows us to explore our ideas collectively through text and image. This will then be a useful format for dissemination amongst those who attended and others who are interested, both electronically and as a paper copy.

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In order to carry these ideas to fruition we propose meeting again as a group to develop them collaboratively. Proposals from other researchers are actively solicited: please contact the authors or contribute to discussion via our weblog: http://exploringcommongrounds.wordpress.com/

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Review of Scottish Architecture Students' Assembly (SASA) Week 2011

Dele Adeyemo

The Scottish Architecture Students' Assembly (SASA) was founded by a group of young architecture graduates and students in 2010. The editors invited co-founder Dele Adeyemo to reflect on the first few years' of SASA's existence.

The following report and recommendations have been generated principally from our first hand experiences in three key areas:

- Our personal experiences of the benefits as well as shortcomings of our architectural education as recent graduates setting up our own enterprise fresh from university in September 2010.

- Our perspective of setting up organising and running the Scottish Architecture Students Assembly (SASA) and lessons learned co-ordinating with students, schools of architecture and the Scottish Government.

- The impressions and opinions received on the structure of the architecture education from students of architecture, tutors and full-time staff in schools of architecture during the SASA events.

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Why we need a Scottish Architecture Students Assembly

Scottish students of architecture face unprecedented challenges in finding employment when they graduate. We estimate that around four hundred students of architecture at Part I level and a further two hundred and fifty at Part II are graduating from Scottish universities each year. A recent survey of the RIBA Appointment website revealed only 6 Part I and 16 Part II jobs were advertised, not one of those jobs being in Scotland. The architectural profession in Scotland is suffering like never before. The inescapable reality is that the property boom that sustained the industry for over a decade has now ended.

Government schemes to boost the construction industry have been announced but these will take time to come through and they are based on the fortunes of the economy. We are in the midst of a crisis, we therefore cannot afford to wait until the construction industry picks up again. Imaginative thinking is required now. Never before has it been so important for students of architecture to be aware, organised and speak in a collective voice about their future.

The Scottish Architecture Students Assembly provides that opportunity. SASA is Scotland's only national forum for students of the built environment that is endorsed by Architecture and Place Division of the Scottish Government; the Royal Incorporation of Architects in Scotland (RIAS) and Architecture & Design Scotland whilst retaining an independence from any academic institutions. SASA stands out from other student forums as it strives to move beyond discussion and takes action to affect change. Beyond this current crisis there exists many potential upheavals in the near future such as the threat of tuition fees; further cuts in funding to architecture departments; changes to the course structure to fall in line with the UK or Bologna model and; the possibility of a split from the RIBA were Scotland to become independent from the UK. SASA therefore could be an invaluable forum for students to cut through the inertia of large institutions and tackle the issues at hand.

Origins of SASA

SASA was founded in August 2010 by Dele Adeyemo and Marc Cairns of Pidgin Perfect and a number of other students, notably Becca Thomas. SASA was conceived as an annual festival of architecture and design between students from the five schools of architecture in Scotland.

SASA was a product of a desire we perceived within architectural education to restore an empowered and self-actuated student attitude, the likes of which first sprang into life in the nineteen-seventies through figures such as Cedric Price, with his infamous PolyArk Bus tour, and Geoff Haslam

and Richard Murphy founders of the European Architecture Students Assembly (EASA). Through hosting a series of events consisting of guest lectures, interactive seminars and design workshops, through SASA we hope to show the merit and importance in bringing students from different schools and backgrounds together, proving that collective thought creates a more powerful response.

The inaugural SASA event took place in Glasgow on 20 August 2010, at which students from every school of architecture in Scotland discussed the theme A Collective Urban Identity?. Despite the tough financial climate SASA received sponsorship from many local architectural practices including Collective Architecture, Gordon Murray, Page/Park and Nord Architecture, as well as support from the social network Central Station and other local businesses.

SASA 2011

In late 2011 SASA received financial support from the Scottish Government through their Skills & Education programme to deliver SASA Week 2011, alongside continued support from the practice Collective Architecture.

For five days in December, students collaborated to tackle head the crisis of employment within architecture and discuss the changing professional landscape by exploring the theme of Architecture and Social Enterprise. If there are too few traditional job opportunities within architecture, how can students imaginatively adapt the skills they have developed during their architectural education to work to improve the built environment in Scotland and prevent the 'brain drain' to London and further a field?

SASA Week 2011 took the form of a road tour, traveling to the students in each of the five schools of architecture in Scotland, starting in Aberdeen on the 5th of December, followed by Dundee on the 6th, Edinburgh on the 7th, Glasgow on the 8th and finishing with an exhibition launch and discussion evening on Friday 9th at the New Glasgow Society. One of Scotland's most successful graduate start-up practices Icecream Architecture spoke in Aberdeen, while in Dundee a similarly young practice Dress for the Weather addressed students. In Edinburgh students heard from Kuan Loh, Development Manager from Parc Craigmillar and in Glasgow they were inspired by presentations from Christina Cerulli of Studio Polpo and Sheffield School of Architecture, and Ian Grout, Lecturer in Product Design at the Glasgow School of Art.

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SASA 2011 Debate - 'So you think you'll be an Architect?'

The general format for each day in SASA 2011 started with a brief introduction to the background of SASA and its aims. Followed by a presentation on The New Wave: Doing things differently making a difference, a series of articles written by Pidgin Perfect for ScottishArchitecture.com. Outlining the new trends emerging and opportunities out of adversity for graduates, the series gathered contributions from some of the most innovative young and start-up practices in Scotland, as well as key figures in Scottish Architecture including Chris Stewart (Founder of Collective Architecture); Christopher Platt (Head of the Mackintosh School of Architecture) and; Alan Pert (founder of Nord Architecture).

A guest speaker was then invited to give a lecture on their experiences setting up a socially minded practice. The morning's presentations were capped off by an open debate held amongst the students, provocatively entitled So you think you'll be an Architect? This debate was designed to stimulate discussion around the key issues raised, to begin the investigation into what might be the future for architecture graduates and how they felt their architecture education would need to adapt in order for them to get there. During the debate a live feed on twitter (#SASA2011) was conducted to minute what was said and open the debate to a wider audience.

Emerging Ideas from Debate

Whilst the results of these debates can in no way can be measured scientifically, they have certainly begun to reveal recurring impressions and views amongst all students.

When faced with the question, 'so you think you'll be an Architect?' not one student said that they didn't want to become an architect, yet there was a general anxiety amongst all students about future prospects. Almost none of the students we spoke to approaching either their Part I or Part II graduation knew what they would do when they left university, suggesting a worrying trend that students are not being prepared for graduation into a jobless market place. In Aberdeen, when asked why she was not going to attend the afternoon workshop, one third-year student responded she was just worried about her review next week, but conceded she had no idea what she'd be doing during her year out. This was a common response even amongst the students attending.

Most students had a great appreciation for what they were learning, even though the typical architecture curriculum remains incredibly demanding. However, in the debates students from all universities were keen to stress

they would enjoy the opportunity to participate in more live projects, and an opportunity to gain more 'hands-on' experience of construction. As examples of some of the live projects being undertaken in the Scottish schools, several Aberdeen students had undertaken urban activism under the guidance of tutor Neil Gillespie and the issues they were tackling were similar to those touched on by Glasgow School of Art Students in another live project in Milton.

From these conversations and our general observations when in schools of architecture, we believe that the priority of students and tutors is still to perform well academically. Obtaining good grades will always be important to students. The danger is that students are looking to succeed within a curriculum largely designed for a different economic paradigm, rather than being prepared for a reality in which the role of the architect is changing. We believe that many will not be able to practice architecture when they leave university without being able to think innovatively about their skills. However, since SASA 2011 it is clear to us that universities are recognising the need to offer more support to the students. Pidgin Perfect, alongside some of the other young emerging practices mentioned here, are increasing being invited to speak at the Scottish schools of architecture about our experiences of setting up practice. Whilst welcome, these moves don't go far enough.

SASA 2011 Workshop - 'Architecture IS Social Enterprise'

From our perspective as aspiring architects setting up Pidgin Perfect, and studying other forms of enterprise with the goal of creating a sustainable business in the long term, it seems clear to us that the basic business model employed by so many architecture practices is flawed.

From our cursory analysis it would seem that for many practices the basic model has been a type of Fordist system where the cutthroat free market laws of supply and demand dominate. The more contracts a firm wins, the more staff they can take on and the greater the production the greater the profits for the directors or partners at the top. Once a practice reaches a mature level contracts are issued at roughly the same fee scales regardless of the number you are doing and employees are taken on at roughly the same wages so the only way to improve profit margins for the owners is through the volume of production. So the role of many architectural employees becomes streamlined to be as productive as possible and when a crisis of demand comes about, the first people to suffer are the 'workers'.

Yet at its crux architecture is a social endeavour, and most buildings and spaces created have an impact on the collective public regardless of whether they are private property. So if more practices employed this ethos in how they structured their companies using models such as the co-

operative they may be more stable. And if employees were free to engage a wider range of their skills then architecture practices business models would perhaps be able to be more diverse.

As students of architecture we are trained to be design thinkers to solve problems. Our education covers research into networks, infrastructures key to societal development and it gives us a perspective on culture heritage and planning for the future. Yet it seems to us that as a profession we struggle to communicate convincingly the value to clients of investing in these related services.

In our view amongst architects, clients and the public in general, there is an over emphasis on the final design outcome without an understanding of the processes required to achieve it. The debates around the reasons for this are far too great for this essay, however we suspect that the answers lie in three areas. Firstly, we feel that on an individual scale, many graduates who were architecturally trained fail to value the diversity of skills that they have acquired or realise the diversity of contexts they can be applied in, so at a time of crisis where there is a shortage jobs in the sector they struggle to reimagine their professional abilities. Secondly, on a company level, many businesses fail to package the diversity of services well enough into separate definable tasks, seeing them only as part of the greater whole of designing good buildings, so when it comes to a time of crisis in building they find it difficult to find ways of being remunerated for these activities. Finally it seems that many are simply handicapped by the desire to build at all costs, neglecting other related skills to profit from their skills.

These last two points appear to be borne out by a recent report produced by the RIBA's think tank Building Futures that revealed the shocking statistic that only 50% of UK architects have a business plan.[1] This over emphasis on the final product of the building to the detriment of so many other skills and processes is perhaps institutionally ingrained. Despite recent moves to make the ARB criteria more flexible in response to the current climate, they still remain amongst the tightest in the world. In many European countries, for example, after completing the equivalent of the Part II qualification, all that is needed is a short statutory period working in practice and perhaps a short exam.

Of course there are good reasons why ARB accreditation is so stringent, however the downside is that this can hamper the progress of young practices like ourselves to becoming registered even though we are deeply involved in running projects within the built environment, with complex contracts, whilst liaising with range of design consultants, working at the strategic to the detailed level, encompassing everything but creating permanent buildings.

1 Jamieson, C., 2011. The Future for Architects. London: RIBA.

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Beyond institutions, in the majority of the architectural press, we see fetishized images of newly-completed buildings and spaces, which only acts to reinforce to ourselves as a profession and the rest of the public the importance of the final product and diminish the skills and processes required to arrive there.

Surely and particularly at a time when there is a scarcity of building work we should be arguing promoting a broader definition of what architecture is? The afternoon workshops during SASA 2011 titled, Architecture IS Social Enterprise were therefore proposed to encourage students to think of their skills in broader terms than that of the master builder, and to use their skills as architects to think as social entrepreneurs.

They were asked to identify 3 key points, a community or locality; a problem or opportunity and; a social benefit. Whereas the final product of SASA 2010 was derived from agitprop workshops the tangible results from SASA 2011 would be derived from strategies for turning a theoretical student project into a live one.

In order to get the students thinking about how to turn the project they had in mind into a real sustainable enterprise key questions were posed:

- Who will be your clients?
- Who do you need—workforce, contacts and expertise?
- What do you need —support, additional training and investment?
- Who would be your competitors?
- How does your training in architecture give you an advantage?
- How is your proposal sustainable—economically, environmentally and socially?

The general format of the day had to become flexible to adapt to the different students who were present. For many students we used a recent or current studio project as a basis for the workshop. This was particularly interesting to postgraduate students working on their theses, giving them a confidence structure as to how to take their project forwards into the real world.

There were many exciting outcomes and the start of interesting new collaborations. One particular breakthrough came to students running the Mackintosh Architecture Student Society (MASS) when they started talking to a student who had travelled all the way from Aberdeen to the Glasgow workshop. The Mackintosh students who are currently revitalising their student society were able to find out more about how the '57° 10' student lecture series in Aberdeen were structured. Soon this knowledge opened up the possibility to fund the self-actuated live projects

the students were keen to undertake and the concept of MASS Design Studio as a vehicle for Part I students was borne.

The discussions that took place will be invaluable to the students as they begin their next academic term and look forwards to graduating. Many of the students that we spoke to displayed a keen interest and expertise in a particular area from bicycle repair to treatment for cystic fibrosis which, they were interested in continuing after university and the workshop 'Architecture IS social enterprise' gave them the first glimpse that what they were researching could make a difference in the real world and become a real source of income.

Concluding thoughts on SASA 2011

SASA 2011 was conceived as a week-long road show in order to reach the most students possible. Whilst we spoke to many more students than at SASA 2010, synchronising timetables between Universities made it difficult to engage the maximum number of students in each city and attendances in Dundee and Edinburgh were particularly poor.

Getting the institutions not just to support the event but to clear space in the calendar remains a challenge. From the students feedback we heard of an importance on academic assessment of standard criteria but little in the way of preparation in applying these skills beyond university in a challenging market place and little or no recognition for related extra curricular activities. The impression is that schools of architecture have done little to adjust their curricula to the changing times. Current academic systems result in students working competitively more often than not when perhaps they need to be encouraged more and more to work together collaboratively.

As was learned in the New Wave series, people working in collaboration, co-operatives and collectives are producing typologies for students and graduates to generate work, gain valuable experience and making a difference through these difficult times. In Scotland we have only five Schools of Architecture, which poses a unique opportunity for us to collaborate.

Recommendations for Building a Strong SASA Network for the Future

The Benefits of Running SASA throughout the Year Versus the Importance of an Annual Festival

SASA provides an important forum for the introduction of students and individuals from different Universities who wouldn't otherwise have met. By bringing people together in direct face-to-face contact SASA is the catalyst to initiating lasting working relationships and a platform for knowledge exchange at student level across the architecture and design communities in Scotland. Yet the question of what format would best achieve this remains. Both SASA 2010 and SASA 2011 were effectively one-off events. In both instances, as the organisers we had to overcome a general lack of awareness in students and institutions of the benefits of participating.

One of the greatest challenges to creating a forum for students across several universities remains the co-ordination of timetables. The format of SASA 2011 as a week-long road show across the five institutions proved inflexible to these variations with some set of students being free and others in the middle of exams. In addition the late timing of the confirmation of the funding gave institutions only one month to prepare.

By contrast, the format of SASA 2010 (held in one central location in Glasgow during the summer vacation) had the different challenges of being less accessible for students at some of the remoter universities. It also had to compete with out of term commitments, such as students' necessity to work full time or to return home for the vacation.

Running SASA throughout the year could provide the flexibility for even greater numbers of students to get involved. And whilst a one off annual event that was fully supported and co-ordinated between the schedules of all five schools of architecture would be desirable we feel that generating networks and relationships might be more successful as series of smaller events throughout the year that fit well with the university timetables twining groups of students from different institutions. We feel that these smaller events throughout the year would create closer more personal networks between students across Scotland, enabling them to learn from each other throughout the year and equipping them to better respond to topical issues and gather momentum towards a final festival or event.

Why Should the Scottish Government Support SASA?

SASA is an entity existing out with the architectural curriculum and from our perspective as organisers of SASA we have seen how students enjoy being free from such worries as being assessed or being required to meet certain criteria for accreditation.

There are currently very few opportunities for students of architecture to gain experience putting their knowledge skills and learning of Architecture

into practice in the real world free from these worries. And whilst work experience in practice provides this opportunity, from our personal experiences, we have found it to focus putting into practice a narrow set of skills such as focussing mainly on drawing, making models or working on visual presentations. Students rarely tackle broader issues outside of the academic bubble.

SASA has been found to be most successful in providing a vehicle for proactive and enterprising students to take charge of a project and to see it realised together. When students were encouraged to think of how a theoretical project they'd been working on in university could become a real life social enterprise, they became really excited about the opportunities and began to make a connection between the value of their research to real lives. SASA is therefore an important forum for students to step outside of 'student mode' to understand how their skills they've learned in architecture school can be used to change the world around them.

SASA also provides a direct link between the Scottish Government and students of architecture. This creates the opportunity for the Scottish Government to provide better advocacy over student issues, such as with stressing the desire for more live projects, as seen from the section SASA 2011 Summary. In addition it is our goal as founders of SASA that the Scottish Government could use SASA as a medium to talk directly to students and create a dialogue on important future issues such as the content of the curriculum or changes to course structures.

These objectives for SASA create opportunities that the architectural curriculum will traditionally struggle to meet providing the student with a well rounded education as possible. They are therefore in line with the Scottish Government's commitment to tackling the barriers to good quality development, through education, skills and advocacy.

Why SASA should remain a Separate Entity from Schools of Architecture

SASA's independence as a separate entity is important to students gaining experience at employing skills they've learned in university outside the academic mind-set. If, as proposed, SASA is to be the medium for dialogue between the Scottish Government and students of architecture then independence from the academic institutions is crucial. Each school of architecture in Scotland have differing approaches to architecture to varying degrees. Further to this, within each institution there are individuals such as heads of year, professors and course directors who have their own similar and competing visions for the future direction of the architectural education. It is therefore important for SASA to remain as an

independent student voice so that no one institution or individual's vision takes precedence. The more independent a SASA the more confidence the Scottish Government can have in the ideas and issues promoted as being the genuine wishes of the student body.

Why SASA Needs the Support of the Scottish Government

Considerable work and forward planning is required in order to facilitate SASA events as well as the money required to purchase workshop materials and hire venues. SASA 2010 funds were raised primarily through industry sponsorship such as local architects. With SASA 2011 because of the worsening financial crisis support from Scottish architects was significantly reduced. In addition the ambition for SASA 2011 was far greater in embarking on a road tour to each city with a school of architecture across five days. Without funding from the Scottish Government it would not have been possible to dedicate the required time to working on SASA 2011.

Irrespective of the detail of the future format of SASA we believe that there will always be a need for a similar amount of tasks to be done. Spreading these tasks throughout the year would give Universities and students greater time to integrate SASA events into their schedules. The lack of sufficient lead-in time organising the events was a significant factor in the poor turnout in Dundee and Edinburgh. A steady source of funding (as with any organisation) would allow SASA to better plan ahead.

Finally the funding from the Scottish Government demonstrates the support of its 'Architecture and Place' Division for SASA, and cements a relationship binding the two together to the goals of creating as well rounded an architectural education as possible by tackling the barriers to good quality development, through education, skills and advocacy.

Building a Strong SASA Network for the Future

The ultimate goal is for SASA to become an autonomous network continuing to act as a catalyst for initiating lasting working relationships and a platform for knowledge exchange at student level between students of architecture in Scotland and beyond. As with any network design of its infrastructure and investment will be necessary. The founders of SASA have already put in place the basics of a network infrastructure in creating and running SASA websites, blogs, Facebook and Twitter accounts.

Our strong understanding of social media was one of the major factors in the success of attracting students to the very first SASA event, where

students from every school of architecture attended, and it has continued to enable us to effectively communicate the activities of SASA. In the process the debates starting within SASA have broadened out to even wider audiences that have been able to attend our events as can be seen in the impact of the twitter feed explained in the SASA 2011 Summary.

However maintaining a network of blogs, posts to discuss the issues requires a core of dedicated contributors. The creation of Steering Group made up of students from each University would strengthen the SASA network in each institution and empower more people to help generate the discussions and encourage more people to get involved in SASA events.

Furthermore the Steering Group could be consulted on issues concerning the future role of SASA, such as in facilitating 'leaning exchanges'. The Steering Group would inform that initial step to building relationships between students from different schools of architecture as well as looking to build relationships beyond such as in Design and Planning.

Finally it is the intention of the founders of SASA to pass on responsibility as directors to the next set of students. The Steering Group would provide a natural pool of individuals to select from so that SASA might continue to have a life beyond its creators.

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Robert Brown is Head of Architecture and Associate Head of Architecture, Design and Environment at Plymouth University. He is a Senior Fellow of the HEA and Fellow of the Pedagogic Research Institute and Observatory at Plymouth University. He has been awarded various teaching awards and fellowships, including from Plymouth University and

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Patrick Clark is an Associate Lecturer in Architecture at Plymouth University, where he teaches in the BA Architecture design studio. He graduated with distinction from the Master of Architecture Programme at Plymouth, where he earned the Design Prize during both years of his studies. In addition to teaching he is currently working in private practice.

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Rosie Parnell is a Senior Lecturer at the University of Sheffield School of Architecture. Her research and practice focus on architectural education, engaging children and young people with architecture and design, and childrens environments. She was part of the CEBE special interest group on Supporting Student Diversity in Architectural Education and worked with the Stephen Lawrence Charitable Trust to help facilitate and evaluate their Architecture for Everyone programme. Rosie is Director of Learning Enhancement and programme leader for the MA in Designing Learning Environments.

Rachel Sara is Programme Leader for the Master of Architecture at the University of the West of England where she is director of the Architecture Research Group. Her current research work explores two areas: architectural education (more specifically the role of the crit and the use of live projects in architectural education); and 'other' forms of architecture; specifically exploring architecture without architects through investigations of the performed architecture of the carnival and the transient architecture of the campsite. Both research areas influence her studio teaching, where she runs 'live', community-based projects, as well as exploring the relationship between architecture and dance. She was part of the CEBE special interest group on Supporting Student Diversity in Architectural Education.

Ashraf M. Salama is full professor and founding Chair of the Department of Architecture and Urban Planning at Qatar University and was a reader in architecture at Queens University Belfast. He has authored and co edited seven books on architectural education, design studio teaching practices, and emerging cities in the gulf region, and has published more than 100 articles in the international refereed press. Currently, he is working on a new book entitled "Emerging Paradigms in Design Education: Toward Trans-Critical Pedagogy in Architecture and Beyond" to be published by Ashgate in 2014. He is the chief editor of International Journal of Architectural Research, associated editor of open house international, and serves on the international review and scientific boards of many international journals and associations.

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over the last twenty years. He is currently an elected professional representative on the Board of the ARB (Architects Registration Board), Chair of the Standing Conference of Heads of Schools of Architecture (SCHOSA) and an Expert Advisor to The Department of Culture Arts and Leisure (NI) on architecture and the built environment. Alex is a recipient of several teaching prizes including the Leadership in Learning and Teaching Award presented by the University of Bath in 2009.

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