This is the published version:


Available from Deakin Research Online:

http://hdl.handle.net/10536/DRO/DU:30004184

Reproduced with the kind permissions of the copyright owner.

Copyright: 2004, Cambridge University Press
A studio in which students act as practitioner-researchers brings together communities, local authorities and professionals, offering a case study in design as research.

UrbanHeart: a Design Research Forum

John Rollo

An initiative introduced at Deakin University's School of Architecture and Building, referred to as a 'Design Research Forum', integrates students entering their second degree into a research culture by blending 'atelier' and 'laboratory' models of the studio. It draws from professionally-oriented research models, such as clinical research from Medicine and the Health Sciences, where processes of observation, investigation and exploration are conducted in-situ by the 'practitioner-as-researcher' (Chenall and Maione, 1998). The Forum, which in this case is based around an Architecture/Urban Design programme, allows students to engage in critical discourse by working on strategic design initiatives in three significant areas: 'Metropolitan Urbanism', 'Urbanism on the Periphery' and 'Regional Urbanism'.

Design as research

The question of whether or not design can be considered as research has perplexed schools of architecture since they were first instituted in Universities. It was at the centre of Oxford and Cambridge Union debates in the early 1990s. It formed one of the cornerstones of the Oxford Conference on Architectural Education organised by the RBA in 1958 (Martin, 1958) and came under scrutiny again in the UK following the introduction of the Research Assessment Exercise (RAE) in 1992. Arguments both for and against are considerable (Yeomans, 1995). As Dean Hawkes writes:

'in order to understand the questions and the possibilities of architectural research and to respond to the difficulties that confront us now, we have to have a model which acknowledges what schools of architecture really are, and could be, and then work with that' (Hawkes, 1995: 11).

Recognising the pressure of current UK government policy 'to make the two final years of the five year course more definitively post graduate [...]', Peter Blundell Jones, Alan Williams and Jo Lintonbon at the School of Architectural Studies, Sheffield University followed the lead of John Tuomey and Shelley McNamara from University College, Dublin, to incorporate '[...] studio teaching with real research on the city and its history' (Jones et al, 1999: 235). The vehicle for this initiative was a five-week urban context study involving all students enrolled in the upper school. Using Ordnance Survey maps, the studios combined to develop 1:500 scale models of various UK county centres. The first of the projects worked with the 1889 and 1903 base plans of Sheffield to make an accurate built-form representation of the city as it existed in 1900.

Around the same time that Sheffield began the history studio programme, the School of Architecture and Building at Deakin University started developing an integrated Design Research Forum. Referred to as the 'UrbanHeart Surgery' (Rollo, 2002), the programme borrowed from Hawkes' notion of 'speculative teaching [...] where studio work is collected over a period of time and then represented in a way that it contributes to the development of a discourse' (Hawkes, 1995: 11).

However, rather than constituting a post-rationalisation of a given body of work, the unit chair of UrbanHeart believed that, if the student cohort were deployed effectively and an element of rigour was applied to coordinating the design programme, the studio system could offer inherently an excellent means for explorative and innovative thinking.

Taking into consideration the writings of authors such as Thomas Dutton and attempting to address conventional studio organizational issues – such as: 'hierarchy'; 'competition'; 'teacher-centred experience'; and a reluctance to question 'assumptions' or critically analyse (Dutton, 1991: 181-184) – the decision was taken to blend an atelier model with a laboratory oriented culture. Drawing on professional models, notably from clinical research (Chenall and Maione, 1998), a more directed approach was adopted. This not only addressed similar analytical themes to the Sheffield and Dublin programmes but also included a strong contemporary urban synthesis component. On this basis, the Deakin initiative contributes the fourth year studio for 14 weeks of the academic year, assisting local governments in both metropolitan and regional areas to enhance strategic vision-making in their municipalities.
UrbanHeart surgery

The UrbanHeart Forum engages students with critical discourse through work on high profile strategic design projects in the state of Victoria. Occupying the south-eastern corner of the Australian mainland, Victoria covers an area comparable to that of the UK: 288,600 sq km, as opposed to 244,820 sq km. With a population of 4.6 million people, of which over one third, 1.3 million (DSE, 2003), reside in rural areas and regional centres outside Greater Melbourne, the Design Forum cycles an annual workshop programme on three areas significant to Victoria's future development: Metropolitan Urbanism, Urbanism on the Periphery, and Regional Urbanism [1, 2].

The aim of the programme is to identify and analyse various factors that make up a precinct's existing conditions and to develop a range of generic planning strategies and design proposals that address a set of predetermined issues and parameters. Developed with local planning authorities prior to the start of the semester, these issues often involve the consolidation of suburban sprawl, the resolution of areas of discontinuity, or the development of options for stimulating urban renewal – often a key focus for many local governments. With regard to predetermined parameters, the constraints considered usually involve demographic and socio-economic issues such as significant versus limited population growth, or diverse versus narrow socio-economic profile.

UrbanHeart introduces seven objectives to the students at the start of the semester, to:

- Develop an understanding of the place of Architecture within the context of the city and become familiar with the preparation of an 'Urban Design Framework' (UDF). Urban Design Frameworks are design tools that focus on managing change, identifying opportunities and constraints across a broad range of issues including areas of change, areas of high potential for improvement, strategic opportunities to change the image or function of an area and areas of significant character or interest. They draw on the skills of professionals from several disciplines to rigorously analyse a local situation in consultation with the community to identify strategic projects that can be implemented over time (http://www.dpi.vic.gov.au/).

- Assist local governments in anticipating change and enhancing the (UDF) brief development process by presenting the studio as a platform for explorative strategic thinking.

- Engender a sense of social value and receptiveness through a community consultation process.

- Understand the current and future requirements of an integrated urban culture and the significance of the regional city in the state of Victoria.

- Establish a forum that breaks down piecemeal development between neighbouring municipalities and facilitates a landscape of decision-making that stimulates an integrated approach to design within the urban context.

- Enhance community awareness of the architectural profession.

- Become familiar with the building and construction industries' current action agenda by developing architecture and building through collaborative and inter-disciplinary design or development initiatives.

Students are first introduced to Urban Design as a multi-disciplinary process involving a wide range of stakeholders both within a municipality and across adjacent precincts. They are also made aware that it not only involves thinking about opportunities and visions at all scales but, in particular, their implications and consequences both now and long term. By treating study areas with varying levels of objectivity, the aim of the Forum is not to resolve a ‘finite’, ‘optimum’ or ‘ideal’ solution but to collectively identify a broad range of opportunities.
Since its introduction in 1999, the Forum has developed into a successful teaching, research and public/community relations programme. It has not only secured an ongoing relationship with various planning authorities, but its core of industrial partnerships has expanded to include four regional councils (Bendigo, Ballarat, Geelong and Warrnambool), three metropolitan municipalities (Melbourne City, Port Phillip and Wyndham) and close links with various branches of the state government.

The programme receives significant media coverage on a regular basis, exposure to a large number of building developers and architectural firms, and students have had the opportunity to present their strategies to state government at a ministerial level on a number of occasions.

Teaching and delivery
Involving representatives from the architectural profession, state government and local planning authorities in conference-style learning, students are provided with a large body of knowledge at the early stages of the programme. Students conduct their project work in teams of three, referred to as ‘design collaboratives’. Following a two-week period of preliminary research, involving site/precinct investigation, context analysis and SWOT (Strengths, Weaknesses, Opportunities and Constraints) assessment, tutorial groups generate a large range of ideas and ‘what if?’ scenarios. Working within a set of frameworks, based on socio-economic and demographic projections, ideas are pooled across the whole studio and classed within a matrix of permutations [3]. Each design collaborative adopts one of the permutations and resolves their respective strategy into a highly developed proposal [4, 5].

The Design Research Forum differs from a conventional studio in both programme structure and method of tutoring. Many conventional studios operate largely on an ad-hoc principle. While students are allowed to pursue individual initiatives irrespective of their peers, convergence of thought (Guilford, 1968) and ‘design fixation’ (Jansson and Smith, 1991; Purcell, Gero, Edwards and Matka, 1994)
often leave significant gaps in complementary design solutions. Even during professionally coordinated workshops, both 'Convergent Thinking' and 'Design Fixation' often give rise to limited or unresolved development options which fall short of providing a balanced response to the expectations and needs of different stakeholder groups within a municipality. The Forum attempts to counter this deficiency by introducing students to a logic of ideas based on exploring different generic options, or families of alternative design scenarios. This is loosely akin to, but not as rigorous as, computational design theory (Knight, 1994; Stiny, 1980). By investigating a large range of ideas and understanding their implications and consequences, all students become familiar with a more extensive set of outcomes and problem solving abilities. As the Forum operates within an inclusive environment – the more minds actively pursuing and pooling thoughts on a common problem, the greater the range of possible outcomes and depth of inquiry – learning becomes accelerated on the basis of shared discovery and teams are able to progressively address more complex issues (Tucker and Rollo, 2002). Even simply changing the nomenclature of 'Design Studio' to 'Research Forum' appears to develop a collegiate sense of purpose within the student cohort. When challenged by a series of immediate issues presented by community groups, design professionals and government representatives, students soon switch from being self-focused to societal-focused and believe that, collectively, they are able to make a contribution by advancing a body of applied design research. Performance is assessed within the Forum and is based on how well ideas are advanced, executed, and critically assessed with respect to an existing context.

The design matrix and generic strategies are disseminated through public exhibitions held in various municipalities across the State of Victoria, and the results of the Forum often become vehicles for promoting discussion and informing communities and councils regarding future planning/design considerations and policy issues.
The work developed is digitally captured and deposited in an on-line web based repository (www.urbanheart.net). Operating as a teaching, research and public interface resource, the repository is used by students, the community, and state and local government authorities [6].

**Community architecture and urban design**

The ability of local governments to explore strategic planning options is severely limited in time, money, and resources. In the process of attempting to fill this gap, UrbanHeart has developed into a platform where metropolitan and regional municipalities are, briefly, able to engage in positive discourse between members of the architectural profession and construction industry, local communities and both state and local government. Execution occurs on two levels: first within the studio through interim and final review sessions; and second through the installation of a number of public exhibitions [8].

The panels of regular review sessions comprise a mix of discipline groups, including architects, planners, councillors, landscape designers and community representatives. With the students and their proposals acting as facilitators, the review sessions become a two-way feedback and critique process. While students are able to gauge the competence of their work, many of the proposals act as yardsticks for review panels to re-assess municipal and council objectives. In order to facilitate strong discourse within cross-discipline juries, all submissions consist of: pre- and post-scenario analytical diagrams [8a]; solid and digitally enhanced models [8b]; sketch overlays, photomontages, and collages [8c] and 'Serial Vision' sequences [8d].
Often enhancing a community consultation process, a selection of project work is exhibited in a local gallery or town hall at the conclusion of the studio. The exhibitions inform the public about the vital role that architects can play in moulding their built environment, and councils are able to use the work in testing community responses to both the type and degree of change which their community is willing to embrace.

**Contributions to research**

Research outcomes directly relating to the studio operate on two levels: non-funded and funded. The non-funded initiatives are usually the direct result of the studio programme. In other words, they comprise the ability of a cohort of students and tutors to impose a degree of rigour on the process of design exploration and investigation, and to formalise and delegate the resolution of a number of outcomes within a range of quantifiable permutations. When presented in a format that addresses a series of problems within a given set of parameters, the projects stand as a body of sound investigative work. This can be disseminated through hard copy journal publications, public exhibitions or online repositories, and can also act as a primer for further investigation by graduate research students at Honours and Masters levels.

By imposing a comparatively ‘clinical’ approach to the studio, and directly tying the project work with the strategic planning objectives of local governments, critical discourse resulting from the review sessions and community feedback often leads to the distillation of more generic issues. These are either current, or forecast impact on the community and profession in the mid to long-term future. Hence problems, relating to questions of demography, future infrastructure needs and the quality of the built environment, become the drivers of the UrbanHeart design...
research group in forming partnerships with other professional and community-based organisations.

These partnerships in turn become the basis on which we are able to facilitate specialised funded research with organisations such as the Australian Research Council. For example, alongside funded PhD students, the UrbanHeart Design Research Group is currently involved in a cross-discipline programme linking three core knowledge bases: socio-economics, demographics and physical infrastructure. In association with a number of collaborators, this research focuses on developing indicators and benchmarks for assisting local governments in understanding the future needs of their communities.

Conclusion
While many tutors prefer an ad hoc and loose approach to studio teaching and supervision, as opposed to a more collaborative and directed structure, the UrbanHeart programme offers significant vision-benefits to local government authorities; applied teaching benefits and shared learning outcomes for students who take part in the development of a diverse range of proposals; and research outcomes which derive from addressing current and forecast architectural and urban issues. While the tutors who work in the UrbanHeart Design Research Forum believe that this blend of atelier and laboratory studio models could be applied to a range of project-based subjects, including a more building-specific agenda, it would probably be inappropriate to activate all studios along such lines. Nevertheless, introducing students in the early stages of the upper degree to a design research culture based on exploratory investigative principles and critical discourse appears to offer a range of generic skills for developing a more informed and 'definitively postgraduate' design based intuition.

References

Toussaint, C. and Rollo, J. (2002). Developing Benchmarks to Determine both Relative and Sustainable Levels of Infrastructure for the Aged within Regional Victoria, ANZASCA 76th Australian and New Zealand Architectural Science Association Conference.

Illustration credits
arcq gratefully acknowledges: Frank Apostoli, Tom Drascic, Angela Kendall, Matthew Smith, 6b Author, 1, 2, 3, 8, 8a Clair Brookman, Luke Stanley, Andrew Tucker, 3a Daniel Coomber, Jeremy Skues, Peter Sullivan, 6b Chin Meiow Chee, Edward Chew, Shawn Lim, June Yap, 4b Jerone Daksiewicz, Adam Janusz, James Wilson, 6a Richard Denby, 8d Sandra Forko, Betty Petrov, Fatma Seker, Earl Tantengco, 4c Shem Kelder, Lee-Anne Manski, Jeremy Schluter, Davin Smith, 5c, 8b Shona McCleary, Jesmond Ong, Jenny Wong, 4a Alexander Thonissen, Jesse Uren, 8c

Acknowledgements
The author gratefully acknowledges all students who have taken part in the UrbanHeart programme, John Stabb, Shane Warren, Marjorie Timberlake, and in particular, Yolanda Esteban. Thanks must also go to both past and present tutors: Craig Toussaint, Paul De Ponte, Peter Fisher, David Vernon and Anthony Worm, and to the Professional Reference Group: Kate Kerkin; Jim Holksworth and Phillip Loone from Port Phillip; Marg Allan and Phil De Araujo from Bendigo; Peter Reeves and Anne Waters from the City of Warrnambool; Mark Marsden from Ballarat; Kelvin Walsh from Maribyrnong; Rod Duncan and Stuart Niven from the Department of Sustainability and the Environment; Stephen Sully from Planning by Design; and Daryl Jackson from Daryl Jackson Architects. The UrbanHeart Design Research Forum also acknowledges the following government departments and municipalities: The City of Port Phillip; The City of Bendigo; The City of Ballarat; The City of Maribyrnong; The City of Warrnambool; The City of Wyndham; The City of Geelong; The City of Melbourne; The Department of Sustainability and the Environment.

Biography
Dr John Rollo is a Senior Lecturer in Design and Communication with the School of Architecture and Building at Deakin University and coordinator of the UrbanHeart programme. He is a researcher in architectural composition and coordinates a number of funded and non-funded projects in three areas critical to Victoria's future development: Regional Urbanism, Metropolitan Urbanism and Urbanism on the Periphery.

Author's address
Dr John Rollo
School of Architecture and Building
Deakin University
Waterfront Campus
1 Gheringhap Street
Geelong Victoria 3218
Australia
john.rollo@deakin.edu.au

UrbanHeart: a Design Research Forum | John Rollo