Community Resilience, Climate Change, Sustainability & Engagement: Adventures in Creative Project-Based Education on the Eyre Peninsula

David S Jones
School of Architecture, Landscape Architecture & Urban Design, The University of Adelaide, Adelaide, SA, 5005, Australia

KEYWORDS:
Sustainability; Eyre Peninsula; Community Resilience; Climate Change; Project-Based Education

ABSTRACT
Teaching sustainability ethics and creative practical technological applications holistically, in a multi-disciplinary ethos, with real community engagement is fraught with pedagogical and logistical issues. This paper reviews a highly community-acclaimed tertiary course/project, offered at the School of Architecture, Landscape Architecture & Urban Design at the University of Adelaide, undertaken on the Eyre Peninsula in 1st semester 2009. The course successfully enhanced student appreciation of rural community capacity building and economic fragility issues while undertaking a project-based approach to interrogating and working with rural communities to devise and demonstrate potential micro-relevant design and planning initiatives that could strengthen community resilience, climate change adaptiveness, and validate natural resource management aims within townships. The project involved some 120 students in 6 host communities through 6 local municipalities with the full support of the Natural Resource Management (NRM) Board and Local Government Association (LGA).

The paper reviews the project, its historical evolution, aims, objectives, learning strategies, community aspirations and outcomes, and positions such against various professional education accreditation frameworks. The methodological learning process, including its philosophical, pedagogical and instruments outcomes are reviewed and interrogated. The student learning outcomes, University reputation impact, and community impact, professional practice knowledge and skill attributes, and instrumental outcomes are also reviewed drawing upon evidence derived from extensive meetings, questionnaire surveys, synergistic NRM-sponsored research projects, student evaluation of teachings (SELTs), and local media coverage of the project.

The project has received applause from the Australian Institute of Architects (AIA) and Australian Institute of Landscape Architects (AILA), and preliminary endorsement from the Planning Institute of Australia (PIA), as being integral to the School’s curriculum that achieves their professional accreditation expectations of key learning experiences relevant to climate change, master planning and design, and community engagement. The project offers a possible educational model that enriches student experience and learning and addresses recent generic university community engagement policy expectations.

INTRODUCTION
This paper reviews the professional peer acclaimed ‘Design for Sustainable Communities’ course that has been offered to 3rd year students at the University of Adelaide’s School of Architecture, Landscape Architecture & Urban Design since 1997, in South Australia (SA). The course is pedagogically a multi-disciplinary practice-in-action experience that has successfully embraced community engagement, sustainability theory and practice, micro-scale design + planning, and field interrogation through successive applications in rural SA that is now considered by Australian Institute of Architects (AIA), Australian Institute of Landscape Architects (AILA) and the Planning Institute of Australia (PIA) as an integral core educational requisite as part of their normal professional accreditation processes at the School, while garnering considerable acclaim from the SA Farmers’ Federation (SAFF) and host local councils and Natural Resource Management (NRM) Board’s in SA.

PIA deemed the course integral to “tertiary students to concepts of urban design, community planning, and landscape design with economic implications, woven around the concept of sustainability as contained in the State Government’s [Sustainability] Agenda 21 Strategy” (Anon 1999: 19). But, “much to the planners’ surprise” it won the 2000 PIA state and national Student Award in a School that did not host a planning program at the time (Dexter 2000: 81).

I. SUSTAINABILITY + CLIMATE CHANGE + EDUCATION

The Rio de Janeiro Earth Summit, and the subsequent SA Agenda 21 initiative, focuses upon advancing sustainability holistically in both policy and practice. This course focuses upon rural communities as a vehicle to involve community and council representatives actively, to expose students to both theory and practice, and to serve as an introduction to creative and robust design and or planning principles at the local level.
The concept of ‘sustainability’ is now a vexed term appropriated by spin-doctors and political rhetoric far from its original ethical meaning. Notwithstanding this, the notion remains the same echoing the following quotation, placing an ethical responsibility upon us individually and collectively to ensure the conservation and preservation of the Earth’s resources and qualities. Designers cannot divorce themselves from this obligation, and certainly students need to establish an ethical position to address this issue. Designers are constantly faced with ethical choices about materials, design performance, interaction and communication with the community, and their role in articulating innovation and vision.

The first principle adopted at the Rio de Janeiro United Nations Conference on Environment and Development [Earth Summit] in June 1992 was:

Principle 1
Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature (United Nations 1992: np).

The concepts of ‘sustainability’ and ‘Agenda 21’ are least understood in the rural sector of SA, and especially by rural councillors, yet their community engagement networks and land-ethnic values are strong. In addition, there is a much higher expectation and participation in community consultation initiatives – if handled properly – in rural areas than there is in urban areas. The historical failure of rural process structures in urban contexts in the United States (US), and in Australia through this project supports this assertion (Foster pers. comm. 2000; Goodwin pers. comm. 2000; Hopkins pers. comm. 2000; Jones 1999, 2000).

Allied to sustainability is how to approach climate change as a credible topic given conflicting scientific and community views and quality information in the media and scientific community. In this course the strategy has been take climate change as a given but to demonstrate the variation of interpretation of potential impacts and credible measurement tools that can aid a translation of the rhetoric and discourse that can inform, arm, and enabled the student to appreciate the scope of possible impacts of climate change without assigning clear year scenarios.

This approach has proved successful as it has enabled equity and variation of student opinion without compromising skepticism and belief systems. In fact, there has been no critique of this strategy in student SELTS whereas in other university classes there has been some critique of the opinions and strength of several academic viewpoints being expressed.

Adopting a community participatory approach in rural areas enables more far-reaching design and planning outcomes in this sector. This argument is based upon conclusions that, having regard to the SA archetypal ethos, whereby: users have the same work-home places, a ‘company town’ notion persists, land ownership and use are much more strongly tied to place, community organisations possess continuity and holistic strength, and the notion of ‘democratised’ planning is still rife in rural areas. The latter point is extremely prevalent in SA where the mythos of the socio-democratic landscape dreamt by philosopher Edward Wakefield, standardised by surveyors William Light and George Goyder, celebrated by planners Charles Reade and Stuart Hart, and driven by visionary politicians like Don Dunstan, persists today. In contrast, in SA urban areas there is more often no work-home relationship, no ‘suburb’ community or ‘village’ community, land ownership is fragmented and anonymous, community organisations are more fragile, fragmented and interest-driven, and the notion of ‘democracy’ is subverted by numbers and political agendas (Jones 1999: 76).

There is a lack of substantive and practical literature upon rural community sustainability examples. Instead, rural communities are presented with urban or peri-urban architect-designed homes or designed wetland systems, thereby stifling rural appreciation of sustainability and longevity of ‘insider’ knowledge credibility. Scepticism continues to arise where ‘town folk’ come into a rural community and are seen as trying to impose urban ideas that are not sympathetic to their townscape. There are numerous examples of this pattern that come to mind, and it has been the chief apprehension of a township hosting this course although word-of-mouth reputation has severely lessened this apprehension in the last 10 year whereby there is now a demonstrable eagerness to host the course.

Community-based service teaching in design has only a few long-term examples to draw upon. There have been a series of long-term courses in the US and Canadian universities with communities that alternate between using the same town, thereby consolidating knowledge but not outcomes, or moving the project around, thereby dispersing the value of the project and seeding greater outcomes. Case points are Ian McHarg’s now-ceased 501 ecological planning studios at the University of Pennsylvania (McHarg 1964) or Kelleann Foster’s continuing rural settlement projects at Pennsylvania State University (Foster pers. comm. 2000) or the Creative Associates Studio (Armstrong 1997). A scatter of (US) Council of Educators in Landscape Architecture (CELA) conference proceedings in the last 10 years have touched on this topic, but none to the depth of Jones (1999) in ‘Participation and Community at the Landscape Scale’ (Thayer 1989).

In Australia, the now defunct RMIT Outreach Program, instigated in 1985 under Jim Sinatra, used the approach in structuring design studio experiences in the Western District of Victoria and at Broome-Beagle Bay in Western Australia. The Victorian AIA’s Environmental Designers in Schools initiative, now also defunct, also touched on this approach albeit at a practitioner level. The Creative Village Studio initiative under Helen Armstrong, run for several years at UNSW using different communities each time, has parallels and maintains a strong reputation despite its demise in the late 1990s (Armstrong 1997) as it is also with an outreach initiative under Glenn Thomas and Gini Lee at QUT. In contrast, this course is richer and more robust, and has been able to maintain a momentum and relevance despite the ‘tyranny of distance’ in SA and university budgetary machinations.
II. DESIGN FOR SUSTAINABLE COMMUNITIES PROJECT

Structurally ‘Design for Sustainable Communities’ arose from an internal renovation at the then School of Architecture & Town Planning that enabled the establishment of the School’s landscape architecture pathway and a re-design of the 3 year undergraduate Bachelor of Architectural Studies into the Bachelor of Design Studies. The original course nomenclature, ‘Issues in Landscape Sustainability’ of 1996 was re-crafted into ‘Design for Sustainable Communities’ in 2000 when AIA requested that all prospective architecture students satisfactorily complete the course as an assessment hurdle for their entry into the 2 year AIA professionally accredited postgraduate Bachelor of Architecture program, jumping enrolment numbers from @15-20 to @80. The increase in enrolment numbers necessitated additional communities to be involved as well as increased transport and accommodation logistics.

In addition, once the course reached @80 in numbers it became infeasible to transport 80 push-bikes which was the original sustainable town transit mode for students as SA lacks the railway infrastructure system present in all eastern states to enable easy mass transport. The course now caters for some 120-140 students necessitating some 6-7 communities annually in one region and a huge accommodation, community meeting and media, and transportation logistical exercise and the gracious assistance of a faithful contingent of tutors dedicated to the spirit and ethos of the learning experience in deference to course budget cuts.

Conceptually the course was originally seen as a distillation course that drew upon ethics and the role of designers, that introduced a design-studio environment, a vehicle to discuss and interrogate ‘sustainability’ and an entity ‘wrapped’ around project-based learning. The latter underpins the School’s pedagogical approach. Historically, these elements still drive the ethos of the course design and experience, but in the last 2 years an increasing trait of triple-bottom line economics and integrated natural resource management has been woven into the experience to keep it timely and relevant to changes in state government planning and land management systems and expectations. Thus, timely amendments have occurred to keep the course experience very practice-relevant without compromising its integrity. While still positioned in the precipitous 3rd year of studies, from which students make career choices into the postgraduate architecture, landscape architecture and planning degrees, it remains a profession-neutral course, a cornerstone course, and one integral to student career choice which strengthens their ethical knowledge base.

The course is nested in six phases, which progressive assessment throughout, with each stage an element in the overall holistic design process mirroring professional practice:

1: to obtain an appreciation of the nature and layout of the town, and its environmental context, having regard to photograph, digital, plan, and published information, and to express this appreciation in a three-dimensional form. It involves construction of an abstract cardboard model of the town at @1:2,500 scale having regard to contours and ensuring the inclusion of all SA MapLand + google® + google streetview® aerial-photograph documented structures.

2a: to undertake site analysis documentation and information mapping into a logical professional-style document that serves as the information inventory for the town but also the template to insert additional information by the class as it is prepared and completed. It involves the preparation of a report that records the work of the class in analysing, assessment and envisioning the town including summative design work, and it is the ‘product’ that would otherwise be produced by a consultant team for a client.
2b&c: seeks to measure and appreciate community attitudes to and knowledge of sustainability and issues facing the town, including community thoughts as to the town’s qualities and characteristics. It includes the preparation of a short environmental policy and character vision statement for the town having regard to the extant Development Plan, and Council policies as published on their www site, that considers and proposes sustainability visions and performance criteria/indicators.

3: preparation of an individual draft design concept or plan/policy for an identified problem or issue or theme in the town having regard to the preceding site analysis, questionnaire outcomes, field activity trip investigations, past and current associated individual research, vision statement, and the general environmental context.

4: the economic costing of the individual draft design concept and is intended to force a detailed exploration of income streams, costs and sources of funding in order to produce an economically sustainable (feasible) scheme.

5: preparation of an individual final design concept for an identified problem or issue or theme in the town having regard to: the preceding site analysis; questionnaire outcomes; field activity trip investigations; past and current associated individual research; vision statement; the foregoing economic feasibility assessment; and, the general environmental context drawing upon comment and critique from the draft design concept.

6: finalisation of the master report together with an individual 2 page executive summary of the student’s design proposal inserted into the master report, and for the master report’s completion as an electronically accessible document. Strategically, the report records the work of the overall class per town in analysing, assessment and envisioning including
summative design work, and is a ‘product’ that would otherwise normally be produced by a consultant team for a client.

Fig. 7. Coffin Bay town from a Google® aerial photograph.

Fig. 8. Example of the Coffin Bay statistical analysis.

Fig. 9. Example of the Coffin Bay housing stock analysis undertaken at allotment scale.

Fig. 10. Example of a Coffin Bay final design axiometric proposal drawing.

III. EYRE PENINSULA: ‘TYRANNY OF DISTANCE’

Fig. 11. Kimba information sign: half way across Australia. Photo: author.

While Geoffrey Blainey’s (1966) ‘tyranny of distance’ epithet is apt, it must be appreciated that there are huge distances involved in SA with this project. To travel to
Ceduna from Adelaide is further than travelling to Melbourne from Adelaide.

During 2009 the course used the Eyre Peninsula (EP) as a regional study venue with direct assistance and part-sponsorship from the EP NRM and the EP LGA. The course had never previously studied the Peninsula simply by virtue of ‘distance’. The impact of the course however was felt right across the Peninsula, amongst communities, civic leaders, local councils, and the media, resulting in an invitation to return in 2010 again with a part sponsorship package.

IV. STUDENT LEARNING OUTCOMES

SELTs are the typical university measuring tool for student knowledge acquisition and experience. This course consistently maintains 75%+ student satisfaction and enjoyment rating despite 75% saying the workload was heavy. In terms of field camps, the 83% students stated that field camps were “important for [their] learning and 88% stated that the field camp gave them a “valuable” understanding of “sustainability and design issues common in rural” SA and the same 88% stated that “field camps are valuable for enhancing academic learning.”

The tradition of this course has now evolved to such a level that if a student or graduate is seeking work experience or employment in many practices in Adelaide, many employers will ask specifically about which town the candidate went to and the nature of their design/planning proposal.

V. CLIENT PROJECT OUTCOMES

The client for the course is the local community and not specifically the local District Council (DC) although the latter clearly recognises the merit and value of the course.

As an outcome, Ceduna DC selected three students and their designs “to enable [the town of] Thevenard to be sustainable well into the future,” and flew them across to Ceduna for a full-Council public meeting presentation, and are now seeking funding to implement these proposals (Irvine 2009: 1). For Streaky Bay, “the student body was highly professional in their approach to research, fact finding, community consultation, and the final presentation” such that “the design concepts produced … will be an important resource and a valuable sustainable planning agent of thought, for the future” (Jennings 2009: 1). For Lower Eyre Peninsula, “we were quite excited about the opportunity to have some ‘fresh eyes’ looking at … [Coffin Bay and] the outcomes of the course are likely to play a major role in the future direction of Coffin Bay as a destination” (Blacker 2009: 1).

For the EP NRM, the “course is innovative and challenging and presents a significant opportunity to influences the extent to which natural resources management can be incorporated into development planning and urban design in rural communities within SA” (Noack 2009: 1). In particular, the EP NRM saw a benefit in the course in “raising awareness of sustainability (ecological sustainability) in a real life context both within the communities and participating councils and also in the professional development of the students” fulfilling items F1 and G1 of their Draft Plan, being “community has increased knowledge to maintain natural resources sustainably by 2014” and “Cooperative cross institutional arrangements are maintained and increased from 2009 levels” (EPNRMB 2009; Foster 2009: 1).

For the EP LGA, “this innovative opportunity has enabled smaller Councils to receive a professional viewpoint of the issues facing their development as a community … Importantly, this has provided a look at communities through the fresh eyes of students who have had no previous contact with them” (Laube 2009: 1); a conclusion was also drawn by Kimba DC, such that “Council has nothing but praise for the concept being used by the University and feels that their program should be supported because many communities like ours could benefit” (Cearns 2009: 1).

ACKNOWLEDGMENT

Special acknowledgement must be given to the tutors who strongly believe in the value of this course and who do “it for the love of the course” as well as all the host councils, Local Government Associations and Natural Resource Management Boards, as well as the South Australian Farmers’ Federation, together with all their staff, and all the associated bus companies and ferry companies and their staff, the various media outlets, government departments and private practices in Adelaide, to their generous support and involvement in making this annual logistical possible and realisable, but also thanking their continued commitment to this unique educational venture that they individually and collectively see as exceeding valuable to the host communities and the future generation of planners, designers, natural resource managers, and policy makers.

REFERENCES

Emergent Paradigms in Design Education: 45-53. Sydney: Faculty of the Built Environment, University of NSW.