

B12. Building sustainability skills into a landscape architecture student design project

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This case study is based on a major design project for postgraduate landscape architecture students. The one square mile site in East Bristol was chosen for them to concentrate on complex urban design issues connected with planning new physical development and fitting it in with retained settlements. Within the Local Plan, the area chosen is designated for light industrial use, but because of its location, fragmentation and under-utilisation, it possesses huge latent potential as a vibrant mixed-use piece of the city. The approach was to integrate sustainable thinking into the design process at all stages from the sub-regional down to the local area and then to the site, and ultimately its proposed construction and long term management. 'Sustainable' is defined in this context in relation to the Rio Declaration on Environment and Development, 1994, which has guided the Government's approach to sustainable development: 'human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.'

Aims

The activity was developed in order:

1. for students to develop an appreciation of the opportunities to build in sustainable policies into the masterplanning process for cityscapes
2. for students to demonstrate the ability to apply sustainable development knowledge to a problem-based scenario
3. for students to demonstrate the skill to present and explain the justification for their designs, including an emphasis on sustainability.

Rationale

The activity was developed to respond to a growing demand within the profession for graduate environmental design students to have a good

grasp of the knowledge and skills associated with sustainability, as they apply to the functioning and aesthetics of city planning. This is evidenced by the perceived need to form the Academy for Sustainable Communities (ASC) set up by Government to deliver the Sustainable Community Plan, in response to the Egan Review, 2004.

The particular site was chosen because it represents a potentially real and imminent development activity where students can get as close as possible within a university environment to tackling the issue as though it were a professional commission. Student feedback from previous years backed up by comments from External Examiners indicated that this would add a much welcomed dimension to the postgraduate year and assist with the progression on and distinction from undergraduate studies. By choosing such a large site and allowing students to specialise in developing plans within that for specific sub- areas, it encouraged a co-operative team spirit in terms of initial information gathering, pooling, and the setting of a broad contextual agenda. These too are appropriate personal attributes for graduates seeking to take sustainable principles into professional practice.

Implementation

A module guide or brief was given to all 30 students that set out the approximate site boundary and requirements to produce:

- A feasibility study report (survey, analysis, brief, policy context, options)
- An illustrative masterplan for a chosen site within the overall area
- A detailed masterplan for a sub-area
- Associated illustrations (sections, perspectives, three dimensional images)
- Planting and construction sample details from the detailed masterplan
- Written documentation samples including costing, management, risk assessment or related specification.

There were two staff working together to brief students, accompany them on a site visit, give associated lectures (for example, one on permaculture was given by a visiting expert), tutorials and final presentation assessments, with three hours of student contact each week for 24 weeks. Preparatory activity included some tutor research into the background of the site and the project's feasibility. Additional resources included visiting

outside professionals and stakeholders who contributed to tutorials and a one-day *charrette* (see definition below). This gave it more of a real client or community consultation feel. Tutorials and presentations were facilitated by a mix of traditional exhibition screens and digital screens and overhead projectors. The *charrette* was divided into two activities: a relatively adversarial client style critique with a clear hierarchy, and a more democratic group session where all were treated as equals. These tutorials were given periodically throughout the 24 weeks, the *charrette* at about week six and the final presentations at the end of each work submission stage.

Sustainability focus

This activity contributes to student's knowledge and skills of the three principal aspects of sustainability by asking that they redefine a broad brief to indicate how they will address these issues. This then sets an agenda on which they base their design principles. When the project is complete, the outcomes (or results) are then tested against the brief and, at the verbal presentations, a 'reflective' student design statement.

The act of masterplanning a large site of this nature requires an invention of the proposed relationship of new buildings, open space, and transport connections. This is knitted into the existing layers of use and artefact on site. The successful completion of the project requires a demonstration of a process that holistically combines all this linking it with context and resources, and strategies for proposed energy and material needs and waste production and disposal. Ultimately it defines itself as being about creating places with identity where people want to live, that are 'green', have an appropriate social balance, are safe, have local employment and creative wealth opportunities.

By involving other professionals in the *charrette* and tutorials, such as environmental managers, it enhanced the students' appreciation of the role of other disciplines in an innately multidisciplinary process and debate. The proposed exhibition of the student work at a public space in Bristol and at the Cityscape exhibition and conference in London, Earl's Court will hopefully contribute to the understanding and awareness of sustainability beyond the University.

Active learning

Using such potential 'live' projects as vehicles for student exercises will continue to embed active learning in teaching, and make learning more relevant and exciting. The active involvement of stakeholders contributed to making the link with the existing community. For example, the local authority, local business owners, the Environment Agency and residents were consulted as part of the initial survey. It is expected that the exhibition will help illustrate how innovative thinking and ideas within this university project can link to and influence real 'live' practice. For example, in some exhibited student masterplans it was demonstrated how creative lateral thinking on common problems such as urban development in a flood plain can overcome the stalemate of previous planning policies and offer a vision of future settlements that are more in harmony with and integrate such natural cycles. This is in line with recently published Planning Policy Guidelines.

The style of learning session, as opposed to traditional 'crits' or tutorials is common to architectural studies in the USA and Australia but considered relatively innovative in the UK. Design is a form of research by enquiry and the results of the student work will continue to inform the studies and practice of other students.

Feedback

Feedback from students through module evaluations and initial consultation indicated that they welcomed the project being based on a focused approach to a single large site, with sub-choice within that. The greater emphasis put on developing real life connections and solutions to a near professional standard was a progression beyond their design thesis that was welcomed as a more difficult challenge that helped prepare them and their portfolios for job seeking. It was also felt useful that several of the visiting tutors were also potential employers looking for graduates, willing to give informal interviews based on the project results they saw. These visitors were also invited to give recruitment talks.

The work produced is also likely to form the main piece in students' degree show, which is yet another opportunity to share the results with external agencies, the public, businesses and the University community.

The External Examiner, at the mid way point in the project, commended the professional standards of the work and nature of the project. Teaching

colleagues also felt that it had achieved its aims and would potentially contribute to the distinctiveness of the course.

In working with outside organisations, the positive feedback from the national exhibition demonstrated that the outcomes were in line with national thinking on cityscape and ecological settlement planning. This bodes well for projects like this to have influence on local planning and regeneration policy and prioritisation of certain regeneration areas that students may target for investigation.

Strengths and weaknesses

The approach used requires intensive tutorial input in order to achieve innovative and consistent results from a large group. This can be a weakness if the resources are not available or the abilities within the student group vary too widely. The strength is in choosing one site and harnessing the energy of the whole group in a joint vision, whilst allowing individual creative originality on sub-site choices.

Some students felt more comfortable with traditional individual tutorials whilst others saw the benefit of varying approaches to idea development. The group tutorial or *charrette* sessions certainly allowed the opportunity for students to develop a helpful critical approach to each other's work. This is an important skill that develops student's ability to go beyond the clichéd master-servant trap that can develop with such work. Students who fell behind tended to gravitate towards the camp needing highly demanding one-to-one last minute tutorials rather than engaging with the spirit of the project. This can be countered by introducing a greater number of intermittent deadlines and reinforcing the benefit of full attendance.

Time is an obvious limitation to such ambitious teaching objectives: with more of it, more connections externally could be explored and in greater depth. However, the benefit of exploring such possibilities at university is that there is often less commercial pressure than in professional practice on researching new ideas, associated theory, current technology and precedents. This, if developed properly, should benefit the wider profession and the realisation of live and sustainable developments.

Key words: sustainable urban design; *charrette*

Definitions:

Crit: student project assistance through pin-up and presentation in conjunction with constructive criticism from other students and tutors.

Charrette: a 'round table' rapid conveyor belt brainstorming of visually expressed ideas and solutions to a set problem, where all participants are treated as equals and as many stakeholders as possible are involved.

Masterplan: a drawing to illustrate the main principles of a design concept.

Green: not necessarily the colour, but more relating to the integration of the ecological elements.

Resources: found on site may include water, soil, light, air, people, habitats.... Found within the university may include staff, IT and extra funding.

Permaculture: an integrated, evolving system of perennial or self-perpetuating plant and animal species useful to man. A complete agricultural ecosystem.

Mixed Use: an urban area composed of a balance of self-helping functions, for example, residential, business, education.

Local Plan: The planning authority publication setting out local policy, and designations

Planning Policy Guidelines (PPG): Central Government planning directives to Local Government and others. PPGs are now being replaced with Planning Policy Statements (PPS)

Urban Design: the integration of the disciplines of landscape architecture, planning and Architecture.

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