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The Pedagogy of the Planning Studio: A View from Down Under

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Abstract

Major shifts in tertiary education and professional practice are taking place that are threatening the future of studios as a traditional pedagogical tool within planning education. The University of Auckland, New Zealand, has recently undertaken a major initiative reviewing studio teaching within the planning curriculum. This article, based on that work, explores the role of studio as a teaching and learning tool for planning students. It begins by examining the 'what' and 'why' of offering studio in a planning programme, including what is meant by 'studio' and its role in planning education. Summaries of focus groups with current students, recent graduates and planning practitioners confirm the value of studios in promoting skills and knowledge demanded by planning practice. Using the notion of connections, the paper reflects on issues framed as the five 'Cs' – namely, creativity, criticality, contemplation, collaboration and citizenship as key formative elements that underpin the education of the planning graduate in the future and which can be learned effectively in studios. Two case studies are explored, where these qualities are specifically developed within the curriculum. The paper concludes that strong arguments can be made for the continued enhancement of studio as a learning and teaching method, a pressing imperative given the challenges of complex and rapidly changing professional contexts.

Keywords: Studio Teaching, Planning Pedagogy, Creativity, Interdisciplinarity

Introduction

Studios, meaning practical projects with workshop-type classes and tutorials, have long been a mainstay underpinning professional planning education. However, the role of the planning studio is coming under increasing scrutiny as a tool for teaching and learning. Major shifts in tertiary education and professional practice are taking place that pose significant threats for the future of studio. These shifts both challenge the role of studio as traditionally taught, as well as enhance its purpose as a key tool for preparing planning students for a very different professional future.

The purpose of this article is to examine critically the role of studio as a teaching and learning tool for planning students. Informed by a literature review, it proposes a series of key principles to guide effective studio teaching in the future, using the notion of connections. These are then tested in relation to two innovative and challenging case studies. Although this article focuses on studios within the planning curriculum, its findings are relevant for other disciplines within the built environment, as they all prepare students for professional practice where practical skills development is crucial.

This article has been prompted by a review of the studio programme at The University of Auckland, New Zealand, where it has remained a strong component of both the undergraduate and postgraduate professionally accredited planning curricula. The School of Architecture and Planning lies within the Faculty of the National Institute of Creative Arts and Industries (NICAI), along with music, art and dance. A current NICAI initiative is promoting good practice in studio learning and teaching. Within the Faculty, there is a particular emphasis on the pedagogy of studio as well as the development of creativity, a key skill for planners and other built environment professionals (Higgins and Reeves, 2006) as well as artists. This must be seen against the backcloth of "a dearth of experience amongst teaching staff in how to promote students' creative potential" (Frank and Buining, 2007, p. 9). The Faculty initiative provided resources for a number of activities which formed the research methods underpinning this article. A postgraduate student was engaged to carry out an international literature review about studio teaching. An academic and former planning practitioner from the United Kingdom who has researched and published in the areas of work-based learning and creativity facilitated an intensive three-day workshop with staff focusing on good practice in studio teaching. Focus groups were held with current undergraduate and postgraduate students, recent graduates and planning practitioners from the private and public sectors, to discuss their direct experience of the value of studios and skills development. The Faculty initiative afforded the time and space for both staff and students to reflect on the value of a particular teaching and learning method, including lessons from cases where they had been directly involved.

At Auckland, the studio programme was developed in a department that sat alongside a School of Architecture with staff who were grounded in practice. Inevitably there was a strong focus on design and community engagement. Although modified over time, this philosophy has underpinned the studio programme as it has been taught for more than 30 years. Given the value accorded to studio in terms of its learning outcomes and the level of resources committed to its delivery, it seemed highly appropriate to begin a review of the studio

programme with the parallel ‘what ’ and ‘why’ questions. For too long, advantages of a project-based approach have gone unchallenged, with few academics researching the pedagogical benefits and effectiveness (Brand and Rincon, 2007, p. 41).

The ‘What’ and ‘Why’ of Studio

Studio has a long history in planning education and originally took an apprenticeship ‘design on the job’ approach (Dalton, 2001). Many programmes were born out of architectural administrations that reflected a strong focus around design and drawing (Dalton, 2001; Frank, 2006, p. 22). Planning studios, compared with the traditional architectural studio, tend more often to emphasise group work and include ‘live’ projects carried out in the community (Forsyth *et al.,* 2000). Hence, collaboration is a feature that has tended to distinguish the planning studio, emphasising process as a professional skill.

However, the dominance of social sciences from the 1960s onwards that underpinned the design of planning programmes placed increasing emphasis on research and scholarship, the role of the planner as an agent in decision-making, and less on the vocational and design aspects of planning. Post-1990s, there is a rethink of the role of studio as a tool for learning, particularly for collaborative problem-solving and creative learning (Higgins and Morgan, 2000) and an opportunity to re-engage theory and practice (Bailey, 2005; Baum, 1997). Conversely, some authors document the decline of studio or its limitation to specialist streams within programmes (Frank, 2006; Roakes and Norris-Tirrell, 2000).

There are different approaches to studio. The conventional studio model is typically a workshop course where students develop design solutions to a planning problem that may be defended in a classroom or real setting. It places emphasis on guidance of student learning by the instructor. This model contrasts with those studios that take the class into the community and work with a client group to solve real world problems (Aitken-Rose, 2001; Higgins, 2005). In both models, learning is problem-based and may also comprise elements of student-centred approaches where students exercise choice about topics and project outputs (Shepherd and Cosgriff, 1998; Kumar and Kogut, 2006). Studios have often centred around urban design issues at various spatial scales, but The University of Auckland also employs them to teach policy analysis and writing and transferable skills such as academic referencing, report writing, oral presentation, teamwork, quantitative methods and public engagement.

Studio provides a quasi-real world situation not offered by taught courses. It focuses on planning-related tasks or issues that involve creative thinking and critical analysis to produce a practical solution or outcomes. It offers opportunity for students to acquire skills in managing other people, themselves and their time as well as the project. It promotes learning outcomes that focus on process, involving both individuals and groups, alongside the application of skills (Grant and Manuel, 1995). Importantly, it provides an opportunity for reflection on the interplay between group dynamics, outcomes, and individual learning. Given the potential benefits of studio learning, it was concluded that it is relevant for design teaching within programmes as well as a number of other subjects where the practical

application of theory and knowledge and skills development are at the heart of learning goals.

The underpinning pedagogy offers a consciously engineered, safe and supportive environment where learning can be tested out in a practical context. However, the 'why studio' question requires exploration of its value as a learning method. There are a number of features that can be identified in the literature which attest to the value of studio. It provides opportunities for multiple forms of learning that makes it different from other types of learning and teaching pedagogy. This includes learning by doing, as a Socratic method of open-ended enquiry and active learning that tends to be more immediate and meaningful than more passive classroom-based teaching. Student and instructor work together on a professional level (Fisher, 2004; Higgins, 2005) where their relationship changes as students become more self-directed. The pedagogical shifts towards more student-centred learning as opposed to teacher-focused instruction place renewed significance on the studio as a method where student and teacher engage in a simulated learning experience to promote learning by doing and reflection.

Studio enables the application of theory and knowledge to practical problems (i.e. knowledge to action) so that the two are not perceived as separate from each other (Baum, 1997). It provides for synthesis through the opportunity to integrate and apply learning from various courses (Fisher, 2004). Studio affords an opportunity to identify issues and develop solutions to problems through creative exploration and interactions (Higgins and Morgan, 2000). In addition, it enables the teaching and learning of new skills and knowledge in informal and flexible ways. This style of working enables iterative learning that gives students opportunity for feedback to improve the quality of their work during the lifetime of the studio.

The process of engagement in studio can form relationships that assist student learning and which can extend later into professional networks (Harris, 2004; Higgins, 2005; Roakes and Norris-Tirrell, 2000), building bridges between university and the profession. Skills for practice such as teamwork, collaboration and interaction, negotiation, dispute resolution and oral and graphic communication can all be acquired in studio. By integrating professional skill development into the curriculum, it provides a form of quality assurance for employers and the community.

Fisher (2004) sees the future for studio as more electronic, flexible, tolerant and permeable and argues that disciplines need to move to the next stage of existence and delivery. New models are now emerging in response to changing trends. These include the virtual studio where students work remotely, as an exchange between universities in different countries, or are replaced with other models such as case study research (Watson, 2002) or work-based placements. As at Auckland, the conventional design studio has been reformed into various hybrids such as policy or strategy-oriented workshops in response to particular demands for skill sets (Frank, 2006). A new trend is to design briefs that involve students from a variety of disciplines in order to foster greater interdisciplinarity, mirroring the demands of professional practice.

The following table summarises the key characteristics of planning studios.

Table 1: Key characteristics of planning studios

Learning outcomes	Pedagogical approach	Learning and teaching methods	Assessment methods	Skills commonly developed
Application of theory and knowledge to a practical problem Development of professional skills emulating practice Emphasis on both process and product and inter-relationship between the two	Experiential learning Problem-based learning Student centred, active engagement Reflective learning	Project-based, often in groups Informal and flexible, not lecture based: may include tutorials, workshops, field work, interaction with practitioners and communities	Individual or group or a combination Formative assessment: feedback informs final outcome May include oral presentation Not exam-based	Urban design Plan and policy making Teamwork Negotiation Management: time, self, others Public engagement Oral and graphic presentation, including IT Critical analysis Creative thinking

Threats to Studio Learning and Teaching

Internationally, there are increasing pressures from various sources threatening the studio culture that has proved so successful in Auckland, as shown below. The shifts are drawn from different professional and pedagogical contexts. A recent survey of literature analysing planning education acknowledges the general trend of moving way from architecture studio-type approaches, a shift to the social sciences, with an emphasis in favour of knowledge and technology as opposed to vocational skills development (Frank, 2006, p. 21). An increasing emphasis on research has further threatened studio methods. As planning educators are increasingly required to have PhDs and active publishing records, recruitment from the practitioner community becomes more and more rare. There is a danger that many research-oriented planning academics do not have the experience, confidence or interest to organise and carry out studios (Forsyth *et al*., 2000). In an academic culture where research outputs are increasingly prized, studios are regarded as resource intensive in terms of preparation, organisation and delivery. The focus on research performance with its linkage to budgets increases pressure on staff to reduce time-intensive teaching methods in order to focus on the production of research outputs (Kunzmann, 2004). As Streetsweeper (2009, p. 61) observed, in regard to the United Kingdom's Research Assessment Exercise (RAE), "...If you want to do well in the RAE, work in an area that doesn't involve that much teaching commitment...Don't teach real life projects. Don't leave the classroom to teach. Don't teach

one-to-one or even attempt to improve a student's skills." Studio teaching requires continuously searching for new projects and partners. Leaving the safe, controlled classroom environment for more experimental and unpredictable territory inevitably involves an element of risk that some staff might prefer to avoid, particularly within a culture that is increasingly risk averse. The very value that studios offer in terms of emulating the uncertainty and ambiguity of real life practice can be off-putting to staff.

In addition, there are institutional pressures for more efficient use of space and resources, as student numbers have risen and not been met by commensurate increases in budgets. Internal budgeting practices can make it difficult for faculties to retain large teaching spaces for the use of particular groups of students. Studio teaching is often regarded as resource-hungry in terms of both space and teaching resources; even the spaces that exist might not be high quality, eroding the important feeling of ownership of the space amongst both staff and students (Duggan, 2004). In the UK, recent changes within the Royal Town Planning Institute education requirements have reduced the standard postgraduate planning programme to one year, thus squeezing time out of the curriculum. Evidence from Australia is that one-on-one contact time has been reduced by funding cuts (Tucker and Reynolds, 2006 p. 40). The costs of delivering studios are beyond the capacity of some planning programmes so not all planning students are exposed to the studio experience. In New Zealand, only one of five accredited planning programmes offers studio courses.

The use of technology opens up previously unimagined possibilities, such as the growth of cross-global contacts as a learning tool and the prospect of pod casting material in place of lectures. Similarly, developments in technical software mean that the outputs from studio are often very different from those of the recent past. The changing demographics of the student population, with the growth of students enrolled on a part-time basis, are creating demands for more flexible delivery of education, such as distance learning through use of the internet. Students are becoming more mobile and with the changing financial costs of higher education, more students need to work part-time. Given the costs and societal trends, students are becoming more demanding that their individual circumstances should be accommodated (Duggan, 2004, p. 71). These trends can challenge traditional approaches to classroom-based forms of instruction and intensive studios.

In parallel, more demands are being made of planning practitioners against a backdrop of declining resources and a shortage of qualified staff. This can mean that practitioners are less likely to have time to get involved with university projects. In professional practice, and particularly in local government, tighter financial pressures have resulted in higher expectations of the skill level of new planning graduates to maximise productivity and minimise supervision demands. As a consequence, some managers look increasingly towards tertiary education as a means of filling these functional 'how-to' gaps where studios can play a key role.

However, there can be a mismatch between the demands of 'now' and the 'future'. Looking ahead at the needs of planning education in the future suggests that planners will require quite different skills to engage with creating alternative futures and to anticipate large social and institutional forces of change (Dalton, 2001; Sandercock, 1997). Planners will need to

work alongside stakeholders and other professionals in new ways (Dixon, 2001), have the courage to do things differently, and exercise purposeful leadership and strategic vision. Studios must therefore not just replicate practice; they must make sure that best future practice is developed (Hague, cited in Higgins and Simpson, 1997, p. 4). Experiential learning carries with it the potential pitfall that unhelpful norms can be perpetuated through a process of socialisation. Students and teachers therefore need to be aware of the dangers of over-acceptance and retain an openness and questioning of goals and behaviour, not just slavishly follow custom and practice (Cell, 1984, p. 161).

Dilemmas and Tensions

During the studio review process at The University of Auckland, a number of tensions within studio teaching were identified by staff, some of which accord with the threats identified in the above literature review. Resource issues can be broken down into time, staffing, space and material. In Auckland, studio courses are timetabled for longer than more traditional 'taught' courses and have a higher credit rating. Studios are typically timetabled for eight hours a week in the first two years of the four-year undergraduate programme; this reduces in the third year to four hours a week, and in the fourth to three hours a week. In the two-year professional postgraduate programme, ten hours are timetabled for studio in the first year and six hours in the second. While taught courses contribute between 10 and 15 credits per course to the annual total of 120, studios vary from 10 to 30 credits per course. Studio constitutes 50% of the overall credits in the first two years of the undergraduate programme, reducing to circa 21% and 17% of the credits in the following years. In the postgraduate programme they contribute 29% of the overall credits in the first year and 12.5% in the second. Timing can pose problems for both staff and students. For staff, these longer student contact times carry obvious demands, particularly in a culture with increasing research and administrative pressures and rising student numbers. It has been the tradition in Auckland to include a 'studio week' at the end of every semester, devoted to final preparations, tutorials, presentations and reflection. Student feedback shows that it is often unclear exactly what they were meant to be doing during more informal sessions, both throughout the semester and during studio week. Students, too, suffer from competing demands such as paid work and caring responsibilities, which can strain team relationships. Mature and part-time students often suffer time pressures. However, research has shown that mature students can particularly benefit from student-centred experiential learning applying knowledge to practical problems (Sherwin, 2003).

Studio teaching can mean intensive demands for staff in other ways, including the need for continuous feedback on practical work. In Auckland, limited use is made of postgraduate students with the requisite knowledge and skills, both in teaching and assessment. In other contexts, some use has been made of senior students tutoring junior ones as they work on different aspects of studio projects (Grant and Manuel, 1995). Research from Griffith University in Australia shows that using senior students for peer tutoring and building in opportunities for interactive reflection can lead to professional capability in both groups of students (Lizzio and Wilson, 2004). Although acknowledging that universities can never fully emulate the world of practice, the research found that dealing with ambiguity involved in

group ‘live’ project work was effective in building confidence and ”achieving the meta-learning goals of critical reflection and learning from experience” (Lizzio and Wilson, 2004, p. 472).

In the planning programmes at the University of Auckland, undergraduate Years 1 and 2 share a large studio room, as do Years 3 and 4 and postgraduate Years 1 and 2. Studio courses are timetabled for different days of the week to accommodate shared space. The studios include flexible seating allowing for classes as well as small group work. Each studio is well provided with computing resources. Room sharing needs to be well managed, especially during studio week, and can lead to conflicts. Budgets are allocated for extra teaching resources for studios at a ratio of one staff member per 15 students. Budgets include sums for necessary travel expenses for field work and payments for outside speakers from practice. Residential study visits could be included as part of studio courses but this would be an additional cost to the student.

Assessed group work can cause particular problems in higher education (Tucker and Reynolds, 2006; Grant and Manuel, 1995). Weaker students can be carried by stronger ones, who in turn can feel disadvantaged. The University of Auckland has a policy that no more than 20% of a course can be assessed through group work, so this limits cause for complaint. Nonetheless, tensions can exist in some groups when students feel unfairly affected and this requires careful management. Research on group projects has shown that if the process is carefully designed and managed, it can serve a very useful function, thereby exploding the usual ‘myths’ surrounding the concept in higher education (Livingstone and Lynch, 2000).

When projects are undertaken in conjunction with local communities, there are dangers that they might raise false hopes that can’t be delivered or that the quality of student work might be substandard (Forsyth *et al*., 2000). We would agree with Grant and Manuel (1995) that, as a response to these dilemmas and tensions, strong organisation and management are imperative in both the planning and execution of studio projects, representing a major commitment. Objectives, resources and timing must be realistic. Expectations and responsibilities need to be clarified for students, teachers and outside clients alike.

Evaluating the Effectiveness of Studios: Focus Group Results

One of the research methods employed to evaluate the learning outcomes of studios at Auckland was the conduct of focus groups with current undergraduate and postgraduate students, recent graduates and more senior practitioners, in other words, those with direct experience of the results. 27 people participated in the four focus groups. Of these 15 were current students (eight men and seven women) and 12 were graduates (seven men and five women). All the groups addressed structured questions about the role of studio as a learning tool in developing professional skills. Current students traversed questions about their understanding of the purpose of studio; its effectiveness as a learning tool and aspects most and least enjoyed; the way it is structured in the planning programme; its integration with taught coursework and transfer of knowledge; emphasis on group versus individual work; quality of studio spaces; and the value of studio week. Recent graduates and practitioners

explored the skills and knowledge needed by planners entering practice and how they had been, or could be, promoted by studio teaching; the role of studio in a practice-oriented curriculum, its value as a learning tool; its distinctive qualities within the wider programme; influential pedagogical practices; effective engagement of practitioners in studio projects; and the critical qualities and skills for planners in the next decade. The response represented consistent triangulation, proving the very positive value of studios amongst students themselves and planning employers who experience the results of the educational experience.

Participants acknowledged the importance of practical, hands-on learning, applying theory to real-life practice, promoting 'what can't be taught in a lecture'. The nature of the learning experience was recognised as being different to other classes and a variety of professional skills were developed. Students had to take more responsibility for themselves, engendering creative thinking, although continuous feedback from teachers was an important part of the learning. Group processes taught teamwork, conflict resolution and organisational and management skills. Studios demanded independent critical thought and deepened analytical and problem-solving skills, helping understand the broader picture and synergy across the curriculum. Dealing with stress and developing the ability to work under pressure were also mentioned by all groups. Oral, written and graphic communication skills were deepened, and confidence improved.

The less structured, more open and informal environment of studios was considered the "fun side of planning" and helped promote students' professional identity. Studios were seen as useful vehicles to further university-community partnerships and to engage practitioners in teaching. As well as generic skills, studios were seen to develop technical knowledge and skills in relation to design, planning policy and applications for development. They were acknowledged as useful in promoting learning about both process and outcomes on the ground. It was accepted that studios had time and resource limitations and could never be exactly the same as practice. Students valued the intensity of studio teaching and the studio resources, including having their own studio rooms, which felt like their "home" within the University. Overall respondents were enthusiastic about studio-based learning, with students identifying the need for equitable assessment and provision of consistent advice and guidance in team-taught formats as the major issues. Practitioners acknowledged that employers needed to be realistic. Studio learning could only offer a circumscribed taste of real-life practice. It provided the preliminary foundation for professional development that could only be gained through ongoing life experience.

Building on the literature review and the strengths identified through the focus groups, the following section distils key principles that should underpin studio pedagogy.

Making Connections for the Future: the Five 'Cs'

If studios are retained in planning curricula to meet the demands of the future, as opposed to simply emulating current practice, what might the key ingredients be? How can learning be maximised through studio learning to ensure its continuation? A number of societal trends have increased the imperative to develop future practitioners who can respond to new

demands brought about by globalisation, new technology, sustainability, regeneration, urban design and diversity agendas. Sandercock (1997) argues that planning graduates need a set of literacies for the future – technical, analytical, multi-cultural, ecological and design. Based on a survey of practitioners in the United States, key skills to be developed are communication, analysis, design and management as well as knowledge about history and theory, with an emphasis on involvement and communication:

> a balance throughout the curriculum between our university-based desire to define the discipline as a discrete, defensible intellectual territory and the facilitative, cross-cutting role actually played by planning in the field… a map of our world that links the realms we intersect with (Ozawa and Seltzer, 1999, pp. 265-266).

Studios are a vehicle that can help navigate that map, fulfilling these diverse functions. Teaching practices can reward qualities sought by employers, weaving substance and values back into the curriculum, combining a strong communicative competence built on a base of analytic skills (Seltzer and Ozawa, 2002).

Building on these imperatives, the following principles, the five 'Cs', summarise key ways that studio teaching in particular can help prepare students for the challenges of the future. They could guide the design of the overall curriculum, individual courses, learning outcomes and assessment criteria and be made explicit in teaching sessions and materials.

A. Creativity

The ability to find fresh responses to environmental and design issues is increasingly required of built environment professionals; creativity is both a skill and a mindset that can help deal positively with change (Higgins and Reeves, 2006). Imagination is central to the mental agility required of effective practitioners (Jackson, 2006). Creativity includes searching for the right question as much as the right answer. Questioning of assumptions and overcoming blockages can be promoted by breaking out of confining thinking habits. A recent review of skills required to shape the built environment stressed the importance of "creative thinking, making lateral connections, thinking outside the box" (Egan, 2004, p. 103). A recent article in *CEBE Transactions* discusses an example of how creativity can be built into the planning curriculum, illustrating how an element of risk-taking was certainly involved (Frank and Buining, 2007).

B. Criticality

Planners are required to analyse and synthesise many diverse issues in making decisions about appropriate changes in the environment, including social, economic, physical sustainability and design aspects. Strategic thinking in evaluating options to solve very complex problems is crucial. Finding the right information and guarding against problems of information overload are key requirements. Projects that promote active and deep learning give students increased responsibility and tend to lead to better long-term understanding about complex issues (O'Neill and McMahon, 2005). Although they will never be exactly the same as real life practice, 'live' projects can emulate what graduates will face when they leave university, honing the ability to make professional judgements and decisions synthesising complex issues.

C. Collaboration

As well as steering a course through diverse topics, planners need to learn to collaborate closely with many different stakeholders, including diverse communities, other built environment professionals, elected representatives, developers, and other public, private and voluntary agencies. Skills of efficient and effective mediation, negotiation and engagement are increasingly sought (Office of the Deputy Prime Minister, 2003). Studios can expose students to the issues involved when working with others and give them a chance to apply facilitation skills (Dewar and Isaac, 1998). Teamwork, consensus building and conflict resolution are skills much sought in practice and need to be underpinned by personal qualities, values and commitment.

D. Citizenship

Projects, including working with diverse members of the public and other stakeholders, can foster a sense of citizenship, meeting wider goals of education (Aitken-Rose, 2001; Reardon, 1998). Service learning takes the above points one step further, stressing citizenship, promotion of the public interest and professional ethics relating to care/responsibility/justice to the community and links with the planning profession (Roakes and Norris-Tirrell, 2000; Forsyth *et al.,* 2000). These links can apply equally to both staff and students, cementing links between universities and communities more generally. Student projects can help build capacity within communities in the longer term. “Ultimately, core planning curricula should articulate clearly and persuasively what planning does for society, rather than simply how planners can choose to do their work” (Seltzer and Ozawa, 2002, p. 84).

E. Contemplation

The planning curriculum can instil a reflective approach in individuals to both professional practice and personal career development (Seltzer and Ozawa, 2002, p. 84).To realise the full potential of experiential learning, reflection is critical and is often the most deficient element (Boud *et al.,* 1985, pp. 7-8). A central feature of experiential learning is *purposefully reflecting* upon active encounters, integrating the outcomes of the processes into new ways of knowing and acting (Weil and McGill, 1989, p. 248). Three stages of experiential learning are crucial for its success: *preparation*, outlining the aims, structures and resources; *engagement* in the activity itself; and *processing* what was experienced (1989, p. 9). Reflection can actually take place in all three stages, but particularly at the end, it can help evaluate and make sense of what was learned in relation to a wider context. Reflection is a complex process and not a simple linear sequence: it involves association (relationships to wider context), synthesis (integration and discrimination), validation (testing reality) and appropriation (relationships to aspects of the self) (Weil and McGill, 1989, pp. 30-33). Recently, there has been an increased emphasis within higher education on encouraging students to reflect explicitly on their own learning in the creation of some type of Personal Development Plan (PDP) which is often related to professional requirements. Reflections on learning are at the heart of PDPs and link to skills that employers are increasingly seeking in graduates, such as self-awareness, motivation, willingness to learn, self-evaluation and self-management (Moon, 2004).

Case Studies

The following two case studies are drawn from recent experience at The University of Auckland. They illustrate the application of the five 'Cs' and how learning was promoted when both students and staff pushed themselves out of their comfort zone in particularly innovative ways.

Learning about urban design collaboratively with dance students

A third year undergraduate planning studio with 35 students run in 2007 built on one of the lecturer's research into how mind-body connections can promote creativity in higher education (see Higgins, 2003). The opportunity was taken to work jointly with third-year dance students within the Faculty to consider how our bodies interact with three-dimensional physical space, including our senses. The planning students were working on a 'live' project designing a new neighbourhood centre for a suburb of Auckland and public open space design was one dimension. The five 'Cs' were included in both learning outcomes and assessment criteria and were therefore embedded in the course aims and structure.

To get students more explicitly focusing on what our bodies can tell us and more comfortable with working with our bodies, the lecturer led chi gung exercises (similar to t'ai chi) at the start of every class, from the first week of the semester. At first, students were very self-conscious, and found the teaching method unorthodox but they all joined in. As the weeks went by, the discomfort lessened and as the exercises became a regular feature at the start of class, the students started having more fun. At the last reflective class session, the lecturer had not planned on doing the exercises, but the students themselves demanded it and led it themselves.

There were two workshops with dance students, near the end of the semester. Students were placed in small mixed groups and given tasks using their bodies to move through inside or outside spaces within the Faculty complex. In this context, and in line with the teaching philosophy of the dance department, the word 'dance' is used loosely for activities using one's body, which facilitates inclusive participation, regardless of one's artistic talents or shape. Students were asked to think about how people use and move through space, concentrating on the relationship between physical bodies and feelings. The activities themselves were not assessed but students were encouraged to reflect on what they learned to help them design the public spaces in their neighbourhood project. Each group 'performed' at the end of each of the two sessions for the rest of the class.

Figure 1 Photo of planning and dance students interacting in the courtyard

Verbal feedback from students was elicited immediately after each activity plus in writing at the end of the course on a standard evaluation form. During the last session of the semester, students also completed a 'medicine wheel' to reflect on what they had learned throughout the semester, which contributed toward a small percentage of their final mark (see Figure 2). The medicine wheel is derived from Native American culture and is a creative thinking tool that helps analyse any particular issue from different perspectives (see Thromond, 2003). A circle is drawn as a template with an issue written in the centre, in this case, what each individual student learned from the studio course. The circle is divided into eight segments, each labelled with a different heading representing an angle from which to analyse the central issue. Prompt questions for each heading help deepen the thinking (see Higgins and Reeves, 2004). Because this was a new technique for the students, the lecturer completed her own medicine wheel about what she had learned from the course, acting as a role model. During a final feedback session, the students agreed that using this technique was a much more effective and creative tool for reflection than writing standard paragraphs.

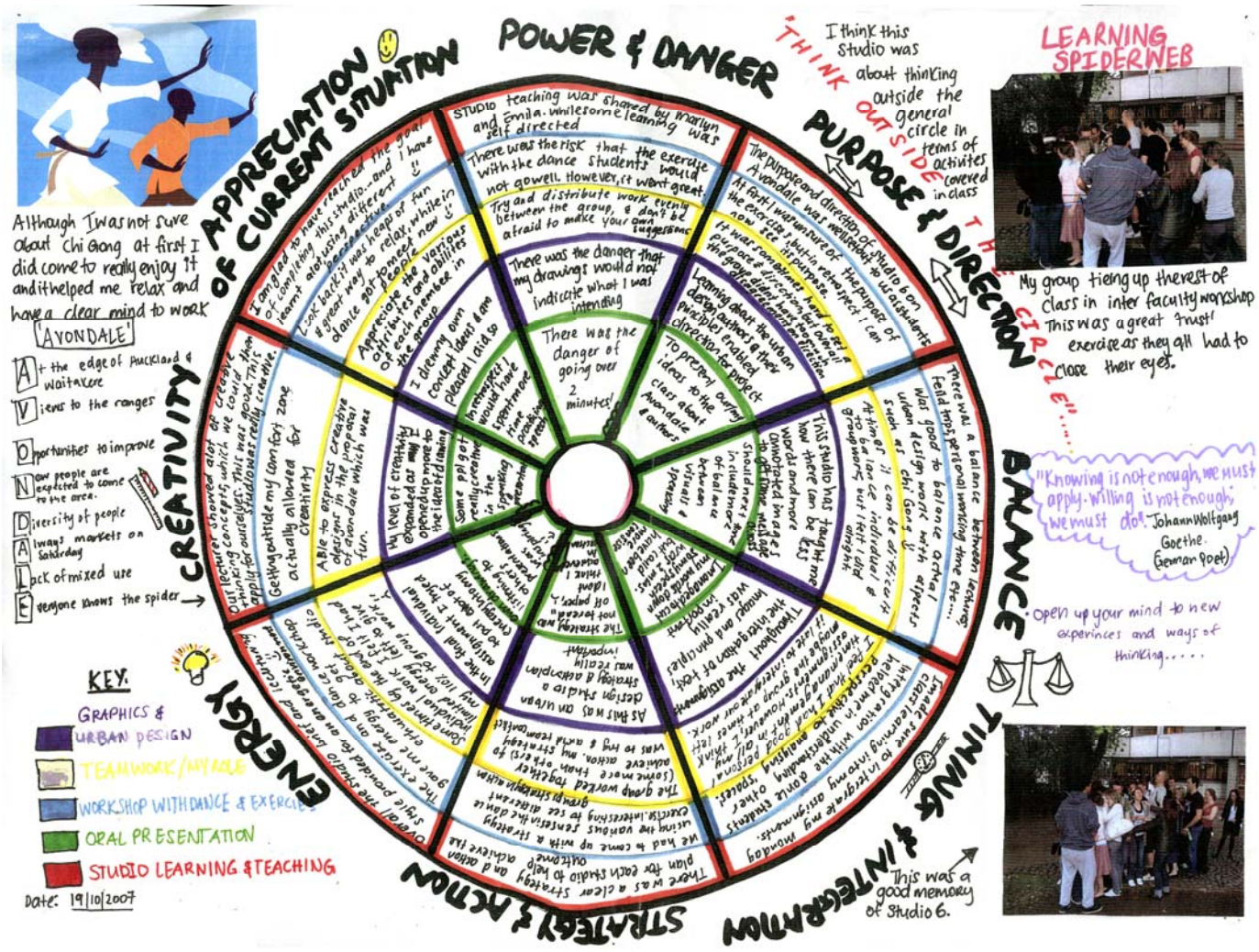

Figure 2 Example of a student's medicine wheel reflection

The student feedback from all these sources was overwhelmingly positive and the biggest value seemed to derive from working with students from another discipline in a fun and radically different way to the norm:

> "The studio and dance workshops were inspiring and energising physically, mentally and creatively."
>
> "Openness to new ideas and different viewpoints is the key to creativity. We came from different perspectives, but complemented each other."
>
> "Getting outside my comfort zone allowed for creativity."
>
> "It made us think more deeply about what is dance? What is planning? We shape and manipulate space and it manipulates us."
>
> "We became more confident and more crazy as we used all the space and thought more deeply about our senses, including what disabled people experience."
>
> "It was fun to work with new people and it helped us think more deeply about space and how to alter it."

> "Mind/body exercises at the beginning seemed strange but now, on reflection, they were very helpful. They boosted energy, concentration, body awareness and creativity. The focus on reflection at the end was different than usual and a valuable component. I am now instinctively reflecting on other classes and activities to see what I have learned."

Assessments throughout the course included community profiling, neighbourhood analysis, the production of an urban design strategy and a reflection on the learning, as referred to above. Student work exhibited evidence of all five 'Cs' as intended. Class attendance was good and students were generally well engaged, with a strong set of marks at the end. The major disappointment was that the work with the dance students was not more fully incorporated into the urban design strategies produced. With hindsight, this element should have been more explicitly embedded in the project brief, promoting better integration between the two themes. Inevitably, some of the groups gelled more than others. The course limit of 20% for group work assessment, plus the studio culture engendered from first year, promotes individual engagement. Lecturers encouraged discussion about group issues, using it as a learning tool, and in allocating the 20% group marks, students peer-assessed the contributions each other made on a confidential form. This allowed for variation in the marks, which was not necessary in this case.

The chi gung exercises in class had been a useful preparation to the collaborative work with the dance students and it was agreed that they were a key ingredient to the success of the project. There was also evidence that they brought wider benefits to students as a technique to help deal with stress and also to think creatively. The lecturer's reflection showed that it took a considerable amount of confidence, trust and openness in the first place to initiate the exercises at the start of class. She had to be un-selfconscious and have the courage of her convictions, as well as being willing to take a risk to do something radically different to the norm. Having been involved in previous higher education workshops and research helped build confidence. The combination of enthusiasm and caring contributed to the success of the whole studio, these qualities bring out the best in students. A couple of supportive colleagues also involved in the studio course helped, as did a willing dance teacher who shared an openness to new collaborations. This project in turn led to memorable, fun and positive student learning outcomes, which in turn builds more confidence for the future. These particular skills might not be easily replicated in others but are used as an example to encourage teachers to build on their own unique qualities and experience.

This case study is a good example of how an unusual interdisciplinary collaboration stimulated creative thinking about a planning issue from a new perspective. Building in iterative reflective processes, including employing creative techniques, helped students think more deeply about their learning and lessons for the future. However, there is no doubt it was intensive in terms of staff time, much more so than a formal lecture course, in terms of setting up the project and dance workshops, gathering information about the neighbourhood, giving formative feedback and marking several different individual and group components. On reflection, the course was over-assessed.

The role of young people in sustainable development

Another third year undergraduate studio at The University of Auckland has involved a successful collaboration developed over several years with a primary school in a deprived area of South Auckland, where a large majority of the students were Maori or Pacific Islanders. The studios explored the role of young people in sustainable development, with the five 'Cs' shaping the desired learning outcomes and assessment methodologies. Students worked with upper level primary school children to identify, design and implement practical projects to improve the children's quality of life and promote sustainability issues, with linkages to the school curriculum. It gave them a greater understanding of the opportunities and obligations imposed by international and local conventions and policies such as Agenda 21, the United Nations Convention on the Rights of the Child and the Resource Management Act 1991. Students developed skills in child-sensitive community participation processes that had to specifically address the target group, including issues to do with difference and diversity.

In the first year, a series of projects were developed in the schoolyard, including painting a mural, building an edible garden, worm-farm and compost bin. These were documented on a web site and formed part of a sustainable development resource kit on CD-ROM. The projects attracted the attention of the local and national media.

Figure 3 Planning and primary school students paint the future in a collaborative mural celebrating sustainability

Subsequently, projects situated in the local town centre required a more sophisticated understanding of public realm issues. Responding to the lack of child focused activities in the centre, planning students and children designed a new playground. The students

presented the plan to the local authority and local community groups and secured the funding necessary to construct the facility. More murals were created, along with a cycle track and stormwater trail emphasising urban water management. Children and their parents were invited to spend a day on the University campus. The children's drawings were subsequently exhibited on campus.

An explicit aim of these studios was to develop citizenship skills in both the university students and school pupils. The studio also honed skills in project development and implementation, facilitation, presentation and time management.

Again, feedback from the university and school students and teachers was extremely positive, illustrated by the following evaluation responses from the planning students:

> "Due to the fun we'd had and the friendships we'd made, we owed it to ourselves and to the children to really try and make something happen."
>
> "This was by far the most participatory, informative and challenging paper I have taken part in. It is rare that we are given the opportunity to take risks, challenge ourselves and benefit others in the process."
>
> "Really eye opening stuff, like nothing we would have ever done/learnt/appreciated in a classroom."
>
> "It utilised a wide range of our skills like never before (i.e. animated movies, slide-shows and other forms of technology we touch upon but otherwise never use) and allowed us to use our creativity."
>
> "It was important that having fun was stressed from the outset."
>
> "Doing something 'real' has a feeling so much different from those classroom assignments we do. Being able to go out and know that we affected change, even on such a small scale, was important and uplifting to us."
>
> "Teamwork, risk-taking, cooperation and innovation featured more highly in the final outcome for our group than the actual success of the proposal. Brainstorming, consensus and trial and error all played significant roles, as we found that our plans seldom reflected perfection, but more integration of diverse yet complementary ideas."

The lecturer's reflection was strikingly similar to the previous case study. A "naïve blundering" in respect to the enormity of the task paid off. The experience had "awakened both the students and lecturers' imaginations to possibilities". A huge effort had been required to organise the project, but it had reaped benefits in the end and was certainly worth it. Non-traditional forms of learning and teaching had meant accepting risks and took continued courage. The collaborative aspect produced excellent results for both primary and tertiary students. Liaising with an energetic and open staff member at the primary school had proved critical to success. When that particular teacher left, collaboration floundered. It was easy for people to say they were too busy when they did not see the potential benefits. It is important to appreciate that community based studios can also be risky and taxing for

community stakeholders, who may have to move beyond their comfort zones and established employment responsibilities.

This case study also raises important issues about the nature of 'live' university projects. Bridging the gap between education and practice is complex and academic timetables are very rigid, a 'war against time'. Students are good at coming up with imaginative ideas, but not as good at turning them into reality. The timeframes involved are often overly ambitious and some projects required substantial fundraising. This can be instructive but onerous, particularly given competing demands from other coursework. Problems often arise with group work when students do not pull their weight, causing disruptive tensions and conflicts. Conscientious students feel letdown by their peers, but lack the authority to impose discipline, as might be the case in an institutional context. A small component of peer assessment diffused issues relating to equitable assessment in this case, but again the University's requirement that final grades be largely individualised undermined the team culture and holistic intent of the brief. Realisation of the project itself was largely rewarded through the lesser group mark. The individual assessment entailed a reflective journal on process, outcome and relationships between theory and practice. Those who engage fully with the practical aspects of the project can resent others who use the time to polish better-rewarded personal evaluations. Equitable assessment is essential, but may increase staff workloads. Studios are resource-intensive and students require adequate technical support. Being explicit about limitations when studios are being designed can help smooth the path, including discussions with community members when the limitations and pitfalls need to be discussed openly. The ethical dilemmas in community engagement are complex, particularly where children are involved, and need to be carefully identified and addressed well in advance.

Despite the challenges, this case illustrates the value of community based studio pedagogy. Student feedback in the reflective journals and course evaluations asserted that it expanded knowledge, developed new skills and built confidence in an unfamiliar and initially intimidating environment that could not be replicated in the classroom. For some it was a life changing experience, subsequently driving research agendas or opening up new professional opportunities.

Conclusions

Given the rapidity and complexity of change, planners increasingly require not only technical knowledge but a range of interpersonal and management skills including the five 'Cs' above to do their jobs effectively. It is precisely these pro-active skills and personal qualities that can be fostered through studio projects as part of the planning curriculum if they are carefully designed and integrated. It is important to have an overview of the whole academic programme so that studio projects can build on more theoretical and knowledge-based courses as well as each other over time. As can be seen from the above case studies, a sixth and seventh 'C' might be added, confidence and courage. These qualities are needed to put the others into practice, particularly when people are breaking new ground. They are not things that necessarily 'just happen', they need to be positively promoted by teaching staff, who can serve as powerful role models. This perspective relating to skills and qualities

demanded of educators is one which is often ignored in the literature relating to planning research and pedagogy and the current ethos within higher education. Teaching studios can be more resource intensive than other courses and the uncertainty involved with 'live' projects in the community demands a willingness to deal with ambiguity. Therefore, studio teaching and learning require confidence, openness and taking risks, underpinned by the eighth 'C', institutional commitment. Universities need to recognise this, as well as individual educators and make sure that studio teaching is appropriately resourced in terms of staffing, space, organisation and materials. Recruitment procedures should recognise the special qualities demanded of studio teachers and training needs should be recognised. The model of teacher as 'interactive facilitator' as opposed to 'spouter of knowledge' is one that can be more difficult and stressful.

There is a dichotomy between the university's classical academic orientation and disciplines with an academic and vocational purpose. This resonates with the tension between the broader currents now driving universities – research orientation, credential inflation, distance learning making use of new technology, pressure on resources, risk aversion – and pedagogies such as those fostered through studio engagement which are resource hungry, experimental, and require input from experienced practitioners rather than ivory tower scholars. Although studios have been a feature of many planning programmes for a long time, they are increasingly threatened, just at a time when more research is showing that they can promote the educational goals sought by planning practice.

Both the efficiency and effectiveness of studio teaching within planning and other built environment courses provide fertile ground for future research. Longitudinal studies recording practitioners' reflections about what elements of courses promoted learning would provide useful data building on that in this article. More studies analysing students' views on the value of experiential learning compared with other educational methods would also be revealing. Monitoring the amount of studio courses within various programmes as well as resource requirements in terms of time, space and equipment would provide valuable information for both universities and professional bodies. It would be interesting to study the contribution of studio courses to new demands of professional practice. For example, in New Zealand, the government has been promoting urban design and in the UK, planning reform is predicated on more effective public engagement. With the greater emphasis on research, do lecturers have the requisite skills and knowledge to run studios and is this reflected in recruitment and promotion criteria? Opportunities also exist in the interdisciplinary study of innovative studio-based learning models, such as the 'Studio Teaching Project' being undertaken by the Australian Learning and Teaching Council. A collaborative initiative engaging four leading Australian universities, it aims to document the properties of studio learning in architecture, art and design, and identify best-practice examples of teaching, towards enhancing the experience and outcomes for staff and students.

The University of Auckland serves as a useful example from which others can learn. In the face of pressures including a shortage of finance and a push for increased research, the University made resources available for what it sees as an important pedagogical tool, including the sharing of international experience and the upgrading of studio facilities, which

are now equipped with cutting edge hardware and software. While studios, through the 'Cs' discussed above, work towards generating the competencies required by the planning profession, they also contribute to the general capacities The University of Auckland expects of its graduates, arguably more so than conventional lecture/tutorial based pedagogies: "specialist knowledge and general intellectual and life skills that equip graduates for employment and citizenship and lay the foundations for a lifetime of continuous learning and personal development" (The University of Auckland, 2003). These attributes are now also the goals of a major reform in New Zealand secondary education, a brave attempt to break away from the tradition of rote learning and "one-right-answer" methodologies. The changes seek to prepare students for the 21st century and are littered with 'Cs' type language, e.g. confident, connected, inclusive, learning to learn, community engagement, innovation, enquiry and curiosity, ecological sustainability, managing self, relating to others.

In summary, studio learning and teaching provides an opportunity to have a broad view of the development of planning knowledge and skills in multiple and diverse ways. It is the 'glue' that brings the planning curriculum together through the development of professional and personal skills. While studio can never fully replicate practice, and can be resource-intensive, we argue for a strengthening and enhancement of the position of studio in the planning curriculum. Staff should be encouraged to experiment with creative ways to organise studios to make them efficient as well as effective. This means careful management of learning, teaching and assessment strategies, timetables, rooms, budgets and staffing. Underpinning pedagogy should be explicitly discussed with students to deepen their understanding of its value. Given the increasingly complex and multidisciplinary world that planners occupy, with its requisite skills and competencies in critical and creative reflection, management and teamwork, and community engagement, the studio has probably never been so important and timely in planning education. Rather than be regarded as an 'old-fashioned' method of learning and teaching anomalous to current culture of higher education, it could be considered as a pedagogical tool ahead of its time offering a mode of educational delivery best able to prepare students for careers and life beyond.

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