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Planning studio in the 21st century: Educating leaders for a complex world

Final report 2016

Griffith University

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List of acronyms used

ALTC	Australian Learning and Teaching Council Ltd
PIA	Planning Institute of Australia
STP	Studio Teaching Project

Executive summary

Context and purpose

Urban and environmental planning has a substantial impact on social, economic and environmental welfare and getting it right is a complex challenge facing governments, the private sector and communities around Australia (Australian Government 2011). Over time, the complexity of planning has grown and planners today are asked to address a wide range of pressing problems in a context of constantly changing community preferences and demands. Some of the issues confronting planners include managing and responding to significant population growth, an ageing population and demographic change, urban congestion, transportation of goods and services, ensuring adequate energy and water supplies, adapting to climate change, managing hazards, responding to disasters, preserving natural and cultural heritage and the growing expectation that residents should be consulted on changes to their neighbourhood (Australian Government 2011: XXI). Planning studio pedagogy (a student-centred, collaborative, inquiry-based/problem-based pedagogy based on a real world project) is the unique, valuable learning and teaching method used to educate young planners. Planning studio pedagogy teaches students how to successfully work, in a collaborative way, with the aforementioned wicked, complex issues. It also enables students to become influential leaders in their field.

Project aims

This project reviewed planning studio learning and teaching and informed the design of an innovative curriculum and planning studio at scale model that was trialled in one of Griffith University's planning studios, at undergraduate level. The project aims are expressed in a key pedagogical question: How to improve learning and teaching practice for enhanced student and professional outcomes and also address current institutional priorities (large class sizes (60+), retention, student experience/engagement/sense of purpose and workplace readiness)?

Project approach

The project approach built upon the scholarship of learning and teaching in planning studio pedagogy, and in particularly the Studio Teaching Project (STP) funded by the Australian Learning and Teaching Council (ALTC) in 2007-09 (Zehner, Forsyth, et al 2009). The STP lists ten benchmark statements (p. 79) for effective studio practice. These benchmarks were used to guide the design and evaluations of this project. An adaptation of Bloom's taxonomy (Balsas 2012) provides an appropriate framework for the synthesis of existing scholarship and the design of the pilot studio. This framework is informed by the literature on inquiry-based/problem-based learning. The project included perspectives from Griffith University planning students and staff (particularly those engaged in studio teaching), alumni, professional planners, staff from the Griffith Institute for Higher Education and

academics from a range of related disciplines to evaluate current and alternative approaches to studio teaching at scale. A number of workshops and a symposium were held to gain valuable insights, perspectives and experience with tried-and-tested teaching practices as well as emergent practices, thus generating strong student outcomes.

The project strategy comprised four stages: 1) Data collection, analysis and contextualisation; 2) Pilot planning studio curriculum and model development; 3) Pilot planning studio curriculum and model implementation, evaluation and revision; and 4) Communication and dissemination of outcomes.

Outputs/deliverables/resources

Outputs from this project include both scholarship and practical deliverables. Most significantly, the project informed the development of an innovative curriculum and planning studio model for larger class sizes (60+) that aligns with institutional priorities and requirements. Key planning studio documents were produced that guide studio learning and teaching practices across all year levels within the discipline. These documents are disseminated through School and Group learning and teaching committees and discipline workshops. Outputs from this project were also disseminated, and new data collected, through conference presentations and research publications.

Impact and findings

This planning discipline scoping project has had significant impact on the repositioning of studio-based courses at Griffith University. Studio pedagogy is at the core of the revised Urban and Environmental Planning Programs, with studios comprising 50 per cent of all core courses. This project has established a specific planning studio curriculum framework for the delivery of all planning studios at both undergraduate and postgraduate level.

Findings from this project demonstrate that planning studios:

- create an engaging, motivating and intellectually stimulating learning experience based on a real world problem or issue;
- encourage the spirit of critical inquiry and creative innovation informed by current research and professional practice; and
- enhance student engagement and learning through effective curriculum design and pedagogy for large studio classes.

In these ways, planning studio pedagogy provides essential benefits for the student experience, retention and professionalisation. It engages with the key goals of the Griffith University *Academic Plan 2013-2017: Transforming the Student Experience* and the principles which promote excellence in learning and teaching practices: retention, the student experience and workplace readiness.

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Chapter 1: Project context

Overview

Planning studios are student centred learning and teaching environments characterised by problem based learning and learning by inquiry pedagogies which emphasise active independent student-focused learning. Planning studios require students to draw upon personal knowledge and experiences as well as their academic learning from all their courses. Students are required to work collaboratively with input from the planning profession and staff. The studio curriculum is project based and provides a balance of theory and professional practice, using multiple teaching and learning approaches, with the aim to equip students with the skills, knowledge and practices that underpin their academic and professional careers. Studio learning and teaching is flexible and innovative to accommodate the studio project and diverse student needs. Properly conceptualised, designed and delivered, planning studios can provide students with confidence, self-esteem, substantive knowledge about planning and a range of generic skills including communications skills, creative problem solving and critical thinking. Studio learning and teaching practices can positively impact retention, the student experience and engagement with professional practice.

The planning studio as a pedagogical concept is as much about the place or physical environment in which learning and teaching takes place as it is about the modes of learning and teaching. The studio environment is characterised by more frequent, longer and more informal contact with peers and teaching staff in a dedicated classroom or studio. The planning studio becomes a space/place of transition into academia and the planning profession. The collaborative, project and problem/inquiry based studio curriculum encourages students to develop collegiality. The studio curriculum aims at capturing and stimulating the enthusiasm of students and channelling this energy into positive learning and teaching outcomes. Students learn from peers by working in the studio and in small groups which actively engages them in teaching and learning and university life, which develops institutional commitment. This environment encourages students to become less isolated learners and to form bonds of friendships (Tinto 2003). The high degree of interaction between staff and student that characterise studio pedagogies, also goes some way to provide students with a sense of belonging and purpose because students feel that staff and peers know them. Staff student interaction is largely structured around feedback on assignment tasks which begin on day one and continue over the studio semester. Formative and summative assessment, supported by continual feedback encourages and supports students and heightens students' satisfaction.

Project aims

This project reviewed planning studio learning and teaching and led to the design of an innovative curriculum and planning studio at scale model that was trialled in one of Griffith University's planning studios, at undergraduate level. The project aims informed a key pedagogical question: How to improve learning and teaching practice for enhanced student and professional outcomes and also address current institutional priorities (large classes, retention, student experience/engagement/sense of purpose and workplace readiness)? This project demonstrated that planning studio learning and teaching can effectively respond to current institutional, sectoral and professional challenges. Specifically, the project built on the groundwork established by the Studio Teaching Project (STP) funded by the ALTC in 2007-09 (Zehner, Forsyth, et al 2009).

Practice as usual (before intervention)

In the initial studio course students' contact hours were six hours per week for 13 weeks (78 hours), plus an additional three hours per week of timetabled self-directed learning (39 hours). The six contact hours were delivered twice a week in three hour sessions, with a minimum of one day between sessions. Each three hour session built upon the previous session and laid the foundation for the following session. Increases in student numbers and diversity of learning capabilities meant the pace of learning within the studio did not match student needs and abilities. Attendance and attrition problems emerged, and failure rates increased. The timetabled self-directed learning sessions were poorly attended. The studio curricula was designed as a stand alone course with little obvious links to the degree program overall. Also many students did not understand what a studio was, nor its value as a learning and teaching environment.

Innovative practice (the intervention)

As outline in the next section major changes have been made in curriculum approach and teaching. The contact hours have remained the same however the delivery mode has changed and the curriculum has been restructured using an adaptation of Bloom's taxonomy (see Table 2.1). The new studio was designed as an integral component of a student's studio teaching and learning journey over the course of the degree program (see Table 2.2 and 2.3). The six contact hours are now delivered consecutively on one day, with an hour for lunch and the three hour self-directed session is directly tied into required work to be completed before the next week's studio class. Attendance, including the self-directed learning sessions, was 95 per cent for the 13 week semester and retention and pass rates have improved. A deliberate approach to marketing what a studio is (see studio policy, culture and guidelines in Chapter 3), aimed at students, has helped students to understand the pedagogy behind the teaching and thereby made their learning more relevant to them.

Significance

This project is critical in establishing a discipline-specific curriculum framework for the delivery of all existing and new Griffith University planning studios (16 studios in total) at both undergraduate and postgraduate level. The new curriculum framework (shown in Chapter 3), drawing upon the STP, responds to the particulars of the planning studio, which differ from design-based studios like architecture and art. Studios in all other disciplines focus on individual student projects and one-on-one learning. Following Vidyarthi et al (2012: 625), planning studios differ from design studios in that they are an: "holistic integration of disciplinary knowledge, inclusive combination of political savvy, public relevance, and technical competence; and practical collaborative learning for composing useful, adaptive and feasible [solutions]." Students see the relevance of their learning to professional practice and thus engage, which in turn has positive effects on retention. For these reasons, planning studio teaching is growing overseas, particularly among American universities (Long 2012).

Despite the utility of studio teaching, in Australia this pedagogical mode is under threat because of declining staff/student ratios, tight competition for teaching space, increasingly large class sizes, lower/different student academic aptitudes and students' time constraints. As identified by Tippett, Connelly and How (2011 p. 28) the challenges for studio teaching are primarily: staff and student contact time, a high level of summative and formative feedback on assignments, dealing with the complex and messy problems relating to a real site, staying up to date with rapidly changing environmental, political and urban contexts, working in a collaborative environment and a context of institutional resources scarcity. Within increasingly constrained institutional contexts accompanied by increasingly large class sizes (from 12-20 pre-2011 to 60+ post 2011), this project demonstrates that through an innovative curriculum framework, planning studios can maintain their distinct learning outcomes.

Properly conceptualised and delivered, planning studios with large class sizes (and at scale model) can provide students with confidence, self-esteem, substantive knowledge about planning and a range of generic skills including communications skills, creative problem solving and critical thinking. Greater coordination of teaching and learning through planning studios can offer substantial savings to institutions, managing quality and scaffolding content and outcomes across courses and year levels within a planning degree. Such a framework is necessary and timely as all planning discipline programs face cost-cutting measures and the national accreditation planning body, PIA (PIA 2011), demands the teaching of creative real world problem solving, collaborative, inquiry-based skills and workplace readiness. The planning studio curriculum framework designed as part of this project will thus be applicable to planning educators at other national and potentially international institutions.

Chapter 2: Project approach

Overview

The project approach built upon the scholarship of learning and teaching in studio pedagogy, particularly the STP. The STP lists ten benchmark statements (p. 79) for effective studio practice. These benchmarks were used to guide the design and evaluations of this project. An adaptation of Bloom's taxonomy (see Table 2.1) provides an appropriate framework for the synthesis of existing scholarship and the design of the pilot studio. This framework is informed by the literature on inquiry-based/problem-based learning (Balassiano 2011). The project included perspectives from Griffith University planning students and staff (particularly those engaged in studio teaching), alumni, professional planners, staff from the Centre for Learning Futures and academics from a range of related disciplines to evaluate current and alternative approaches to studio teaching. A number of workshops and a symposium were held, as outlined below, to gain valuable insights, perspectives and experience with tried-and-tested teaching practices as well as emergent practices, thus generating strong student outcomes.

The project strategy comprised four stages: 1) Data collection, analysis and contextualisation; 2) Pilot planning studio curriculum and model development; 3) Pilot planning studio curriculum and model implementation, evaluation and revision; and 4) Communication and dissemination of outcomes.

Table 2.1: Pedagogy and practice (Bloom, adapted from Balsas 2012 p.10).

Bloom's taxonomy		**type**	**Studio deliverables based upon PIA and Griffith University context**
1	Knowledge	GW	problem identification: site, context and desk-top analysis
2	Comprehension	GW	creative problem solving: understanding the relationships between research, theory and the problem to be solved
3	Application	GW & IW	Prepare interim plans and urban designs to communicate (written, graphic and oral) the problem and the proposed solution
4	Analysis	GW	Assessment of individual plans urban designs
5	Synthesis	GW	Preparation of professional planning documents based upon outcomes of stage 4 Analysis
6	Evaluation	IW	Assessment of final product: Peer, formative & summative student evaluations

GW - Group Work; IW - Independent Work

Stage 1: Data collection, analysis and contextualisation

The following data was collected and triangulated to evaluate the strengths, weaknesses, opportunities and threats of existing studio models and curricula and highlight innovations for the pilot studio. Analyses focused on retention, student experience and workplace readiness:

a. A review of existing scholarship on studio pedagogy, and in particular planning studio and STP benchmarks 1, 4-6 & 8 relating to student experience, workplace readiness and thus retention.

b. A review of quantitative data from Griffith University planning studio evaluations.

c. Interviews and four focus groups with students, academics and planning professionals to identify perspectives on the relationship between professional practice and planning studio education. This knowledge improved content relevance, graduate work-readiness and process-product alignment.

d. The first of three institutional planning discipline studio learning and teaching workshops was undertaken to scope existing teaching and learning practices of planning staff. This data contributed to the internal transferability of the pilot studio.

e. A session of the Australian and New Zealand Planning Schools conference was convened to scope planning studio practice across institutions in Australia and New Zealand. This contributed to the transferability of the pilot studio across institutions.

Stage 2: Pilot planning studio curriculum and model development

Drawing upon the proposed planning studio curriculum framework and the outcomes of Stage 1, a pilot studio was designed. It addressed student and employer needs and provided the basis for ongoing personal and professional development for students. The curriculum design integrated content relevant to the discipline with innovative learning and teaching strategies e.g., e-learning and group learning and teaching strategies. Innovative models of assessment and reporting of student achievement were also incorporated. Drawing upon the STP guidelines for studio teaching and the model for holistic assessment in studio (p. 89), emphasis was given equally to process, product and the student.

The second institutional planning discipline studio learning and teaching workshop was held to evaluate the pilot studio. The results of this workshop contributed to the revision of the curriculum, model and transferability of the pilot studio within the discipline.

Stage 3: Pilot planning studio curriculum and model implementation, evaluation and revision

The pilot planning studio curriculum and model was trialled in the Urban and Environmental Planning Program on the Gold Coast campus at first year level. It replaced the current studio based course: *Introductory Planning Studio*. Qualitative (two student and staff focus groups) and quantitative data (teaching and course survey evaluations and assessment data) were collected and triangulated through the semester/study period to evaluate the strengths, weaknesses, opportunities and threats of the pilot studio. This data was used to undertake a comparative analysis with the quantitative data collected in Stage 1. The outcomes fed back into the redesign of the pilot studio curriculum with the aim of delivering a revised model in

2015. The third of the institutional planning discipline studio learning and teaching workshops will evaluate the project outcomes. The results of this workshop will feed into the redevelopment of the planning studio teaching and learning journey and curriculum scaffold (see Table 2.2 and Table 2.3) and contribute to its transferability across institutions.

Table 2.2: Planning studio teaching and learning journey [Adapted from Healy (nd). Development map to guide pedagogic practice, p.9]

First Year **Intensive academic support**	**Second Year** **Increasing student independence**	**Third Year** **Competence and confidence building**	**Fourth Year** **Bridging to professional work**
Build student agency; group work; peer assessment; concept of self as learner and teacher	***increase*** independent and collaborative activity	***innovate*** pedagogies for professional activity	***practice*** professional work placement
introduce multiple lenses on learning, teaching and diversity	***develop*** teaching and learning models that support diverse learners and contexts	***plan substantively and appropriately*** for professional tasks and sites	***feedback*** from students and the profession based upon student practicum
Locate the roles and place of professional practices and graduate capabilities	***connect*** content, learner diversity, pedagogy, theory and practice	***synthesise learning*** from across the program	***meet*** academic and graduate outcomes and professional protocols
scaffold analytic and reflective practices; tertiary, professional and personal illiteracies	***raise expectations*** for analysis and reflection; for tertiary, professional and personal literacies	***apply*** tertiary, professional and personal literacies with accuracy	***exit*** as a planning professional

Table 2.3: Studio curriculum scaffold

	Scale	**Process**	**Priority**
First Year	Local	Site analysis	Basic communication, conceptual thinking/analysis, awareness building and mapping
Second Year	City	Project development	Advanced communication, development process and project management
Third Year	Regional	Strategic	Professional communication and policy development
Fourth Year	State/ National	Innovation	Leadership

Stage 4: Communication and dissemination of Outcomes

Project outcomes, methodologies and resources will be communicated and disseminated as reported in the follow chapters.

Chapter 3: Project results

Resources

This project addressed the question of how to improve learning and teaching practice for enhanced student and professional outcomes in large classes and also addressed current institutional priorities (retention, student experience and workplace readiness) by delivering:

1. An innovative curriculum and planning studio model (see studio documents included below and Tables 2.1-2.3) that engages with the key goals of:
    a. The Griffith University *Academic Plan 2013-2017 Transforming the Student Experience* and the principles which promote excellence in learning and teaching practices; and
    b. The discipline accrediting body, the Planning Institute of Australia (PIA) Education policy.
2. A session on planning studio learning and teaching as part of the Australian and New Zealand Planning Schools Conference.
3. Three institutional planning discipline workshops on planning studio learning and teaching.
4. Three key studio documents have been produced to guide studio learning and teaching practices within the discipline. These are:
    a. Studio Policy (staff focused)
    b. Studio Culture (student focused)
    c. Studio Guidelines (student focused)

Studio Policy (for public acknowledgement)

1. Studio Pedagogy: Planning studio pedagogy is a student-centred, collaborative, inquiry-based/problem-based pedagogy based on a real world project that provides a unique and valuable learning and teaching method used to educate planners. Planning studio pedagogy teaches students how to successfully work, in a collaborative way, to explore wicked complex issues and develop evidence based and ethical solutions. In this context, wicked problems are those that are difficult to definitively describe, are resistant to solution, where no single stakeholder has control and that involve multiple actions by various actors. In the studio environment, the development of practical, problem solving skills, professional communication and collaboration also enables students to become leaders in their field.

Planning studios require students to draw upon personal knowledges and experiences as well as their academic learning from all their courses. Studio learning and teaching practices can positively impact retention, the student experience and engagement with professional practice. In line with Griffith University policies studios they:

- create an engaging, motivating and intellectually stimulating learning experience;
- encourage the spirit of critical inquiry and creative innovation informed by current research; and
- enhance student engagement and learning through effective curriculum design, pedagogy and assessment strategies.

2. Studio facilities and timetabling: Planning studios require dedicated space and sufficient time for staff to support students in their learning. Students require computers and usable desk space to work both individually and in groups. Studios are typically timetabled for six hours of supervised studio and three hours of self directed learning per week. Overall totalling 78 supervised hours and 39 self directed hours per semester. Students are required to work collaboratively with input from the profession and staff (optimum staff to student ratio is 1:17).

3. The studio curriculum: is project based and provides a balance of theory and professional practice, using multiple teaching and learning approaches, with the aim to equip students with the skills, knowledge and practices that underpin their academic and professional careers.

Studio learning and teaching is flexible and innovative to accommodate the studio project and diverse student needs. Properly conceptualised, designed and delivered, planning the studio curriculum empowers students by providing them with confidence, self-esteem, substantive knowledge about planning and a range of generic skills including communications skills, creative problem solving and critical thinking.

Studio Culture (to be included in all studio course profiles)

Studios underpin the planning program because they give you the knowledge and skills you will need for all your courses and they are where you will develop the skill sets and capabilities you require to be a professional planner. Studio learning and teaching brings together all your knowledge, whether it be from home life, school and life experiences or your other courses.

All studios are 20 credit points which means 20 hours a week of your time will be spent on doing studio activities. This equates to three full days of commitment.

Respect and consideration of others in studio is paramount. The studio sessions can be long and intensive.

The studios are your places and keeping them clean and tidy is essential. It shows respect for others and demonstrates that you are being responsible and considerate. Importantly studios are informal and social environments where you learn as much from your peers as you do from staff. Working together in groups and in the studio is part of the studio culture.

Studios are student centred which means you are the life and soul of the studio. This means you have to participate in the studio and engage with all activities. Your success in studio depends upon your commitment and your engagement with the studio activities.

Attendance is essential. Each studio is a building block; if you miss a studio it is very difficult to keep up to date with activities. What you learn in one studio you build upon in the next, so every studio is absolutely necessary to attend.

Student guidelines : getting the most out of studio (a 1 pager, with images, that can be given to students at orientation)

What is a studio and why is it so important?

A studio is both the physical environment and/or place in which teaching and learning takes place as well as the mode of teaching and learning. Studios are very different from your other courses because they are project based and you learn the theory and the practice of that theory in a holistic and professional way.

Studios are important because the teaching and learning relates directly to professional planning practices; you learn what it takes/means to be a professional planner in a supportive environment that is designed to mimic the professional workplace.

How does a studio differ for a lecture /tutorial?

Studio courses and studio learning and teaching require you take responsibility for your own learning, you need to be engaged and take the initiative in your learning process. You will not be told right from wrong; this you will have to work through for yourself. You will be guided and supported in all your decision making; YOU HAVE TO MAKE THE DECISIONS in studio. For this reason attendance and participation in studio is essential. The studio is first and foremost your space, you, the student, are the focus of the learning and teaching. Learning and teaching revolves around you so you have to participate if you are to learn.

What is expected of me in a studio learning and teaching environment?

- The teaching team expect that you will attend studio and participate in all studio tasks and activities.
- You are expected to spend a minimum of 20 hours per week on your studio tasks/activities.

- The teaching team expect that you will access the learning@griffith site regularly. We also expect you to access your email regularly as this will be our primary mode of communication with you outside of timetabled studio hours.
- You are expected to be considerate and respectful to staff and your fellow students.
- We expect you to leave the studios tidy and the desks neatly arranged as per the diagrams in the studio.

What can I expect in a studio learning and teaching environment?

- Respect and consideration from staff and your fellow students.
- Help and support in learning from staff and your fellow students.
- An informal, sometimes noisy, learning and teaching environment.
- A fun, challenging and practical approach to learning and teaching.
- An environment where you can ask questions and get feedback on your work in progress.

Griffith University and Discipline specific priorities and linkages

Most higher education institutions, including Griffith University, require effective, efficient and relevant teaching methods and content to achieve well-rounded, critical thinking, employable leaders in their profession. To ensure professional graduate outcomes the professional body, PIA, implements a stringent accreditation policy. The objective of this policy (PIA 2011: 4) is "to encourage and support students … to become planning professionals, who can think creatively, analytically and critically, undertake independent research, communicate effectively, and act ethically." In addition the accreditation policy (PIA 2011: 11) demands that students graduate with the "capacity to apply theoretical and technical planning skills to unfamiliar or emergent circumstances, even with incomplete information." All of these skills are embedded in planning studio learning and teaching. Using the jargon of the institutions, planning studios:

- create an engaging, motivating and intellectually stimulating learning experience based on a real world problem or issue;
- they encourage the spirit of critical inquiry and creative innovation informed by current research and professional practice; and
- enhance student engagement and learning through effective curriculum design and pedagogy.

In these ways, planning studio pedagogy provides essential benefits for the student experience, retention and professionalisation. It engages with the key goals of the Griffith

University *Academic Plan 2013-2017: Transforming the Student Experience* and the principles which promote excellence in learning and teaching practices: retention, the student experience and workplace readiness.

Literature review

Studio courses originated in schools of architecture and design, but became a dominant part in educating planning professionals in the early 1900s (Long, 2012). Following a shift away from planning as a form of design and towards a more social science orientation, universities substantially abandoned studio courses in the 1960s and 1970s (Forester, 1983; Heumann & Wetmore, 1984; Long, 2012). However, studio courses experienced a resurgence in the 1980s and 1990s and are now common elements of professional planning university programs due to increased emphasis on experiential and practice-based learning (Hoellwarth et al., 2005; Kotval, 2003; Long, 2012; Lusk & Kantrowitz, 1990; Nemeth & Long, 2012; Tyson & Low, 1987; Wetmore & Heumann, 1998).

A number of theorists argue that the underlying intent and value of studio courses is that they provide planning students with exposure and experience of planning issues, and processes, while fostering practical skills necessary for professional planning practitioners (Balassiano, 2011; Gunder, 2002; Kotval, 2003; Lusk & Kantrowitz, 1990; Schon, 1987; Shepherd & Cosgriff, 1998). However, the definition of studio courses is inconsistent and varied throughout the literature (Nemeth & Long, 2012).

Three broad types of studio courses are described in the literature, including design-oriented planning studio courses (e.g. Senbel, 2012), planning process-based and problem solving studio courses, and virtual planning studio courses (Hollander & Thomas, 2009; Lobo, 2004; Mathews, 2010; Thomas & Hollander, 2010). Consequently, there are significant variations in the format, time requirements, objectives, content, and pedagogical approaches to studios courses discussed in the empirical literature (Balassiano & West, 2012; Balsas, 2012; Gunder, 2002; Hollander & Thomas, 2009; Senbel, 2012). Despite this diversity, planning studio courses are recognised as distinctly different from lecture-based courses, which tend to be more theoretical, rather than practically oriented (Kotval, 2003; Long, 2012; Wetmore & Heumann, 1998).

Studio pedagogy, content, and its value in developing reflective and practice ready planning professionals have been widely discussed in the literature. Planning studio pedagogy is commonly characterised in the literature as including:

- Projects grounded in reality using real-world projects, problems, and/or clients (Gunder, 2002; Heumann & Wetmore, 1984; Kotval, 2003; Mathews, 2010; Nemeth & Long, 2012);
- Peer learning through small group exercises or projects (i.e. usually between 4-8 students) (Kotval, 2003; Thomas & Hollander, 2010; Yabes, 1996);

- Problem-based learning and learning by doing (Forester, 1983; Long, 2012; Nemeth & Long, 2012; Schon, 1987; Viswanathan et al., 2012);
- Ongoing peer and instructor feedback (Lusk & Kantrowitz, 1990; Schon, 1987); and
- High levels of peer to peer, and student and instructor interaction (Kotval, 2003; Nemeth & Long, 2012; Thomas & Hollander, 2010; Yabes, 1996).

Project reflections and review

Collaboration

This project has been important to the discipline at Griffith University and also in building a collective of planning studio academics from different institutions interested in furthering and developing this scoping study project.

Time management

Working in an environment that is subject to ongoing changes means time management can be challenging. Because the studio model is still (2015) undergoing adjustment and amendment not all the stated outputs have been realised in full. For example recommendations to the PIA education committee will only be made at the next meeting which will be held after the project closure date and the two publications are currently in progress and not yet in print.

Flexibility

Things do not always follow the intended plan. There was a change in the program structure soon after the project was established. This impacted the teaching load for the lead investigator, and therefore her ability to ensure deadlines were met in accordance with the original plan. It is important to be flexible and creative in order to achieve project aims.

Overall the project achieved its aims and objectives. The project identified and evaluated and implemented new and alternative approaches to planning studio teaching that have served to better address current and emerging institutional contexts and improve student outcomes for professional practice.

Transferability

The outcomes of this project will be transferable to program-specific studio courses and others, in a range of institutions, disciplines and across all year levels. Because planning studio pedagogy is collaborative and based on problem/inquiry-based learning, it is by nature interdisciplinary. Students are required to work across all disciplines in order to effectively deal with the complexity of the current planning issues outlined earlier. This contributes to its transferability across disciplines.

The project is sustainable because it has strong inter- and cross-disciplinary support. The Head of Discipline (Planning) is a member of the project team, the Head of School and Dean (Research) have given their support for this project and Associate Prof Leigh Shutter (Architecture) is a member of the project team. The project outcomes are now embedded in the planning program and inform studio learning across all year levels and are a key point of innovation within the higher education discipline sector.

Chapter 4: Project impact, dissemination & evaluation

Overview

The STP lists ten benchmark statements for effective studio practice. These benchmarks were used to guide the design and evaluations of this project. As stated in the previous chapter, not all the stated dissemination outputs have been realised to date. The studio model is still (2015) undergoing modifications and some of the items listed here will only be realised after the closure of the project. The importance however is that this is a live project that will never really come to an end; it will be continually evaluated and revised to align with student, professional and institutional needs, requirements and trends.

The impact of project is evidenced by the focus on studio teaching with the planning program at Griffith University. It is also demonstrated by the uptake and interest in studio pedagogy by colleagues and academics from other intuitions.

Dissemination of the project includes:

a. At an international level:

* Publish an extended paper in the *Journal of Planning Education & Research*.

b. At a national level:

* Publish outcomes in *Australian Planner*.
* A presentation to the PIA education committee.
* Present project at the Australian and New Zealand Planning Schools conferences in 2014 and convene a planning studio session as part of the conference.

c. At a state level:

* Present at professional and academic planning and urban design forums.

d. At the university level:

* Present progressively to the Planning Discipline's annual staff retreats.
* Present to the program's Professional Advisory Board.
* Convene and present at three cross-disciplinary workshops on studio learning and teaching.

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