Aug 11th, 12:00 AM

Enhancing the Student Learning Experience through Engagement with Community: A Transdisciplinary and Collaborative Approach to WIL

Petra Perolini
Griffith University, Australia

Naomi Hay
Griffith University, Australia

Follow this and additional works at: <https://dl.designresearchsociety.org/drs-conference-papers>

Citation

Perolini, P., and Hay, N. (2020) Enhancing the Student Learning Experience through Engagement with Community: A Transdisciplinary and Collaborative Approach to WIL, in Boess, S., Cheung, M. and Cain, R. (eds.), *Synergy - DRS International Conference 2020*, 11-14 August, Held online. <https://doi.org/10.21606/drs.2020.276>

This Research Paper is brought to you for free and open access by the Conference Proceedings at DRS Digital Library. It has been accepted for inclusion in DRS Biennial Conference Series by an authorized administrator of DRS Digital Library. For more information, please contact DL@designresearchsociety.org.

Enhancing the Student Learning Experience through Engagement with Community: A Transdisciplinary and Collaborative Approach to WIL

Petra PEROLINI^{a*}, Naomi HAY^a

^a Griffith University, Australia

* Corresponding author e-mail: p.perolini@griffith.edu.au

doi: <https://doi.org/10.21606/drs.2020.276>

Abstract: LiveSpace is a transdisciplinary work integrated learning (WIL) design studio unit at Griffith University. The studio has worked on a broad spectrum of community engagement projects from its inception in 2014. Design staff mentor students in a scaffolded WIL environment allowing for authentic engagement with community, industry, government and not-for-profit groups for an enhanced student learning experience. As such, collaborative approaches to live projects are examined for potential benefits to learning and teaching, student engagement, and to the wider community. This paper provides an overview of the studio, outlines the team development phase and participant involvement, highlights two highly successful community projects undertaken in 2016 and 2018, and unpacks assessment results, course evaluations, and student and client feedback.

Keywords: work integrated learning; community engagement; transdisciplinary collaboration; socially and environmentally responsible design

1. Introduction

The LiveSpace Studio is an interdisciplinary and collaborative Work Integrated Learning studio established in the design department of Griffith University in 2014, supported by a Griffith University learning and teaching grant to explore student learning on real-world projects in a campus workshop setting. LiveSpace projects provide opportunities for students to work on real projects within the broader community, where they are challenged beyond the limitations of a typical studio environment. Students are provided with opportunities to engage with projects from initial client briefs, early conceptualisation, design development, prototyping, documentation, construction and project administration under the guidance of industry experts and academic staff. (Hay et al., 2015). Working on projects outside of a classroom environment, students are able to gain insight into the complexity of the whole of design process and the interaction of designers, clients, consultants, trades, community and stakeholders in a continuous feedback loop. In working with community

This work is licensed under a
Creative Commons Attribution-NonCommercial 4.0 International License.

on tangible projects, students are further provided with insights into the benefits such design interventions can have within the community itself. (Hay et al., 2015) Students across the design disciplines explore spatial design, urban design, and retrofitting projects with a strong focus upon materials reuse, repurposing, retrofitting and design for disassembly and modification, providing students with an advanced level of knowledge in sustainable design that will equip them with essential skills in a rapidly changing world. The selection of projects, framed within the context of socially and environmentally responsible design further encourage students to develop an inherent ethical framework, recognising the importance and responsibility of their role as future design practitioners. As Carleklev and Sterte (2013) contend, teaching sustainability to students is not simply about providing relevant information but is “foremost about training students to meet the challenges of tomorrow,” which in the context of design means shifting “the focus from material, form and function towards systems, correlation and time as well as about developing an attitude and behaviour towards a more sustainable future.” (p.1454) Further, drawing from the theories of Donald Schon (1985), “reflection-in-action” is embedded in the program as an iterative process, allowing for a circular approach to experimentation, innovation and learning from mistakes (p.27). The projects reviewed in this paper therefore reflect an approach to redirecting design practice through pedagogy, interdisciplinarity, connection with community, and reflective forms of practice (Hay, et al., 2015). Underpinning the program is a commitment to engaging students with ethical and sustainable practice in design and the mentorship of socially responsible emerging design practitioners within the community.

2. The Benefit of WIL Programs

The importance of Work Integrated Learning (WIL) programs in developing graduate employability skills and an ability to understand the interconnections between theory, practice and life experience has been widely observed (e.g. Cooper, Orrell, & Bowden, 2010). The Australian Government commissioned *2017 Good Practice Report -Work Integrated Learning (WIL)* identifies that effective, successful student learning in WIL programs is “both a process and end-orientated concept encompassing a range of approaches, practices and strategies that integrate theory within the practice of work” (Sachs, Rowe, & Wilson, 2017, p.28). Good practice in WIL aims to provide high-quality student learning experience, improve graduate employability, develop active citizenship, enhance university standards and profiles, and provide mutually beneficial relationships with industry and community (Sachs, et al., 2017, p.28). The benefits of such practice have been increasingly embraced by Australian universities, with many including Curtin University, Swinburn University of Technology, University of Wollongong, Deakin University, Macquarie University incorporating WIL as part of their whole of organisation strategic plan. Some of these institutions focus upon student employability, some on developing industry and community links with the university, and others on enhancing the student learning experience (Sachs et al., 2017, p.13).

In design education, the benefits of WIL are significant, with the relationship between institutions, industry and community critical not only for the development of student skills, but also as a mode of integration, innovation, research and reflexive practices, bringing innovation and positive change to all parties (Camacho & Alexandre, 2019). Designers operate within a complex network of actors

with competing interests and agendas. The importance of learning the intricacies of negotiating relationships between the designer, the client, consultants, trades, regulators and the community *in situ* cannot be underestimated. Cuff (1992) contends that design schools regularly separate the “primary professional activity of design from its context,” whereby “what is learned in the laboratory (read: studio) is valuable basic knowledge that bears little direct relevance for the way we act in the environment (read: practice)” (P.66). Lawson and Dorst (2009) agree, contending that situated learning is of particular relevance to design which itself is an “intrinsically situated activity” (P.280). Therefore, the best place to educate design students for practice is within practice itself (Lawson & Dorst, 2009, p.214). Situated learning can be viewed as a “highly social, even anthropological” mode of learning, highly relevant to the way in which designers learn from and through projects, beyond the more simplistic view of “learning as doing,” where learning takes place best not in the formal classroom but in the context in which it is to be applied (Lawson & Dorst, 2009, p.280).

There are multiple examples of art and design schools globally embracing such situated learning practices over the past decade. One such example, ‘The Design Agency Project’, located at the Edinburgh College of Art was established in 2008 within the BA (Hons) Graphic Design Program. Each year, senior year graphic design students establish multiple design agencies, and interview and appoint junior students within their design teams. The projects undertaken are profit generating commercial projects, with industry experts appointed as mentors. The project is experimental and evolving in nature and therefore not tied to specific employability criteria, funding criteria, or “pedagogical imperatives,” allowing for a fluid creative process (Sharman & Patterson, 2013, pp.1803-4). Upon completion of the four-year degree, students have concurrently undertaken three years of work experience (Sharman & Patterson, 2013, p.1788). Inspired directly by this model, Nottingham Trent University formed ‘The Consortium’ in 2013, applying the concept to students of product design students who were academically strong, yet lacked confidence to secure work placements themselves (Watkins & Clarke, 2018, p.147) ‘The Consortium’ was designed as a “safe risk-free space within the University to engage in entrepreneurship and enterprise,” using facilities of the business start-up incubator ‘The Hive,’ whilst securing funding, support and existing projects from the European Regional Development Funding enterprise ‘Future Factory’ over three consecutive years (Watkins & Clarke, 2018, p.147). Whilst currently on hold, the authors (and facilitators) contend the project could easily be restarted, having offered strong opportunities for students unable to gain placement, and enhanced skills in entrepreneurship, networking and leadership. However, a concern raised by the authors was the initial program had not appropriately provided an authentic “experience or environment that mimicked working in larger organisations.” (Watkins & Clarke, 2018, p.149)

In Australia, The University of Western Sydney’ professional design studio, ‘The Rabbit Hole’ aims to provide a “unique learning environment, incorporating participatory design methods and a work integrated learning framework that facilitates situated learning experiences, where live projects with real-world outcomes bridge the gap between academia, community and industry.” (Edwards-Vandenhoeck & Sandbach, 2013, p. 1538). The program runs as a year-long capstone course of the four year Bachelor of Design Degree. The teaching team, students (primarily graphic design) clients, industry, alumni, work together on live projects, with graduates encouraged to maintain

close links with the studio upon graduation. Projects are sourced both internally at UWS and within the local community, with working budgets, real timeframes, and clients (Edwards-Vandenhoeck & Sandbach, 2013, p. 1540). The aim is to provide an environment for “responsible, inspired, work-ready emergent designers with an understanding of how their actions can positively impact change in their communities, and the world at large.” (Edwards-Vandenhoeck & Sandbach, 2013, p. 1552). Programs such as these reflect new modes of learning and teaching emphasising work readiness and employability, collaboration, real world experience and the interconnection of theory and practice (praxis). Further, in times of growing global challenges and complexity, the need to engage in transformative models of learning and teaching in design becomes increasingly important. Rooj and Frank (2016) contend that design educators need to facilitate co-creation skills development in the face of global challenges of sustainability which no stakeholder can tackle alone. We are therefore in need of trained design professionals who co-create in transdisciplinary environments with community to develop “plans and policies for sustainable and just” built environments (P.477). Fry (2009) contends that design intelligence is critical to informing education and practice and must occupy a larger frame, with the designer as a redirective practitioner taking on a leading role in the initiation of sustainable projects with viable ideas and practical solutions (p.13, p.172). Barnett (2004) adds that to design a curriculum for “supercomplexity” in times of uncertainty, the process must be imaginative, high risk and transformative, engaging students in a process of forming their own responses to challenges faced, making “interventions in an already pre-structured world” (p.257).

WIL programs adopting radical and transformative curricular have the potential to be instrumental in addressing uncertain futures through new modes of interventionary design thinking in the co-creation of sustainable built environments. Engaging students in the authentic learning experience in the classroom is no easy task. Educational theorists have explored the effect on student engagement of authenticity – the alignment between classroom activities and goals that are personally meaningful to the student, that matter to the community outside of the classroom, or which reflect ways of thinking within an established domain (Shaffer, 2004). In providing learning and teaching environments that are both “risky” and “transformative” (Barnett, 2004, p.257) carefully constructed WIL programmes can provide avenues for the co-creation of knowledge meaningful and beneficial to the student, industry, and to the wider community.

3. LiveSpace: An Experimental Learning Environment

Much of the literature on WIL programmes focuses upon a “singleton model” (Orrell, 2011, p.10) with students from singular disciplines working in industry placements. However, design problems, described as “wicked problems” by Rittel and Webber (1973, pp.155-169) are a complex negotiation of multiple actors, perspectives and conflicting interests. Transdisciplinary learning can help to break down perceptions of predefined boundaries between design disciplines thereby opening a path towards making further sense of complexity in ever changing global scenarios (Hay et al., 2015). Rooj and Frank (2016) contend that transdisciplinary teaching is still relatively rare, experimental, and lacking a strong theoretical underpinning (p. 483). LiveSpace aims to address these limitations through the provision of a cohort-based, transdisciplinary, simulated professional design studio in the classroom and workshops, which can potentially also present an opportunity to “transform what

constitutes...occupational practice” (Billett, 2014, p. 100). Students across studio majors of Interior and Spatial Design, Product and Industrial Design, Graphics and Visual Communication Design and Visualisation and Immersive Design work together in teams, alongside industry experts, consultant’s government, community, business representatives and not for profit organisations to see projects through to completion. In creating an “experimental learning environment” (Shaffer, 2004) LiveSpace aims to prepare graduates for future work practices, as well as engendering a disposition to lifelong learning and social justice. The LiveSpace program further aims to prepare graduates to be leaders in the design field by becoming knowledgeable and skilled transdisciplinary designers and design researchers, effective communicators and team members, innovative and creative critical thinkers and strategists, and socially responsible practitioners in their communities with a focus upon:

- Enhanced collaboration with community, regional, and industry partners. By bringing authentic, real world design projects into a learning studio the project provides an opportunity for students to learn *in situ* and provides local organisations, not-for-profits and community-based groups with an opportunity for greater engagement with university students and researchers.
- Enhanced employability skills of students through structured, practice-based WIL experience: greater confidence, risk taking, critical reflection, self-evaluation, learning from mistakes and adaptation of theory and practice to workable solutions.
- Improved quality of the student experience through participation in socially and environmentally responsibly focused community-based projects and research, whilst exploring new thinking in sustainable design, construction practices and technologies: design for disassembly, modification, transportability, re-use, re-purposing and recycling are design strategies that can be sustainable and provide competitive advantage in a rapidly changing industry. In doing so the studio aims to address a major concern shared among leading institutions in design research and pedagogy; that of a lack of critique of un-sustainable industry practice (Fry, 2009).
- Providing a scaffolded learning environment for students to connect theory and practice (praxis), allowing smoother transition into the workplace and for industry to test future practices.

3.1 Project Sourcing, Development and Team Formation

LiveSpace projects are selected with an ethical design practice, social justice, and sustainability focus including community projects, non-for-profit projects and local and regional government projects. The majority of projects fall within 100 kilometres of Brisbane to optimise the capacity for *in situ* collaboration on projects from project conception to completion. A number of projects have been undertaken in remote rural areas and interstate, in which case the project team has travelled to conduct research on the ground, undertake community consultation, attend client briefings and complete comprehensive site analysis. The project is then followed through to completion in the studio, with video

conferencing utilised in lieu of face-to-face meetings on site. Projects costs are typically covered by the university, funded in-kind by client/community, or funded through modest grants to cover purchase of materials for prototyping and travel and accommodation costs. Many projects are brought directly to the studio, with external partners interested in working with students making contact with the course convenor directly. Other projects are sourced word-of-mouth through the multiple industry, government and community networks maintained by the design staff team. After an initial briefing, the studio convenor meets with the stakeholders to discuss an approach, expected outcome, level of engagement of the University and any possible limitations.

LiveSpace is open to 3rd year design students from four majors; Interior and Spatial Design, Product and Industrial Design, Graphics and Visual Communication Design and Visualisation and Immersive Design. Whilst there is no minimum Grade Point Average (GPA) requirement, students must have demonstrated required competencies in the completion of their 2nd year design major studies. Enrolment numbers have consistently been at capacity (25-30 students) since the studio's formation in 2014. Typically, three to four projects are offered in one semester, all of varying complexities and time durations. At the commencement of the semester, enrolled students are briefed on available projects and provided with the opportunity to meet potential clients face-to-face for initial project briefings in in week one where possible, or via video conferencing. In the initial ideation phase, multiple proposals are conceptualised and presented to clients/stakeholders, either individually by students on smaller projects, or in small working groups. Concepts and return briefs are submitted to the client for consideration and a single concept is selected for further development.

A skills audit is then undertaken with the students, and project teams are formed based upon levels of skills, interdisciplinary mix, and project preferences. Whilst student project preferences are always considered, experience has demonstrated that the success of a team depends upon achieving a balanced mix of skills, diverse interests, and a cohesive and collaborative mix of participants. The course convenor also identifies specific project needs, the needs of student learners, and any time and scheduling limitations. Collaboration and teamwork are standard practice for most professional design activities, even for the smallest projects. This collaborative design process invites input from a variety of stakeholders and laypeople and brings together divergent thinking around common goals, vision and approaches agreed upon through a consensus. Community-based design, participatory design or design of public interest, is critical in the development of LiveSpace projects. Typically, one team consists of four to five students. The teams are required to select a team leader, maintain an online progress blog, and attend a minimum of three hour-long weekly studio sessions at the university, where a tutor will be appointed as mentor. Students are further required to work on the projects individually for an additional ten hours per week minimum outside of the formal contact time. Peer evaluations required from each team member are submitted in weeks four, eight and twelve. Students are asked to evaluate their peers on dependability, quality of contribution, accuracy and quality of completed tasks, and overall commitment and contribution to team progress. The tutor consults individually with

each team member to provide feedback and a summary of the evaluations received. The purpose of the evaluations is two-fold. They facilitate the identification of potential problems within the team dynamic early in the project, providing tutors the opportunity to address this in a timely way, and are incorporated into the student's final grade as a self/peer assessment component. Team leaders also take on responsibility of informing the convenor and tutors of the project progress, team dynamics and any potential issues, along with maintaining the team progress blog and obtaining approvals from the course convenor for any occurring expenses for travel and purchase of consumables.

Where possible, the ultimate aim is for students to work on a project from conception to construction documentation, administration and completion, though this is not always possible during the period of student enrolment on larger projects. LiveSpace has been running for six years and completed over 32 projects to date. Some projects were conceptual, others required students to produce digital or physical solutions, and nearly all resulted in making prototypes of systems or objects in the workshops. Six spatial design projects were taken from conception through to full construction - a regional art gallery, a student lounge and four community spaces. In each case, students were responsible for the conception, design development, and production of complete construction documentation, specifications and schedules packages, along with continued project administration. Learning through first-hand experiences with clients and stakeholders whilst receiving continuous feedback throughout the process is critical to student's sense of preparedness as graduate designers ready to join a highly competitive industry. In gaining valuable experience working on live projects in the LiveSpace studio, students are better prepared for practice by acquiring effective specialised and transferable skills required for transition from classroom to industry.

Table 1 LiveSpace Selected Projects 2014 to 2019

Projects	Client	Type	Duration	Year Comm	Year Completed	Completion Status
Charleville Gallery	Murweh Shire Council	Design and Construct	5 semesters	2014	2018	Construction Completed
Charleville Streetscape	Murweh Shire Council	Design	2 semesters	2014	2015	Proposal under Consideration
Adeline House	Sisters of Mercy	Design and Construct	2 semesters	2015	2016	Concept
Reverse Garbage	Recycling Non for Profit	Design and Construct	1 semester	2015	2015	Under Consideration
Bills Bar Woodford	Woodford Folks Festival	Design and Construct	1 semester	2015	2015	Construction Completed

Sidewalk Bar Woodford	Woodford Folks Festival	Design and Construct	1 semester	2016	2016	Construction Completed
Compass Connection Cafe	Compass Connection	Prototype	1 semester	2016	2016	Prototype Completed
Commonwealth Games Seating	Gold Coast City Council	Design and Prototype	2 semesters	2017	2018	Prototypes Completed
Endeavour Learning and Lifestyle Centre	Endeavour Foundation	New Typologies	1 semester	2018	2018	Typologies for new Lifestyle Centres Completed
Goanna Lounge -sticky space	Griffith University	Design and Construct	1 semester	2019	2019	Construction Commences early 2020

4. Community Engaged Projects

The following section outlines two projects that demonstrate Livespace success by working closely with stakeholders and the community. The Compass Connections Café, completed in 2016 and the Endeavour Foundation's Learning and Lifestyle Centre completed in 2018, generated positive and supportive responses from clients, community and industry partners. The projects were specifically designed to give students opportunities to become industry ready through experiential learning, offer valuable opportunities for learning through reflection-in-action (Schon, 1985, p.27), enrich student learning experience, and increase employability skills.

4.1 Compass Connection Café

The Connection Café is Compass Institute Initiative's newest social enterprise in Nambour, Queensland. The coffee shop offers a full food and drinks menu operating from Monday to Friday. The primary goal of the café is to provide people with disabilities with real work experience and flexible employment opportunities. In 2016 the recently opened café planned an extension to provide the local community and employees with a shared 'usable' outdoor environment utilising the grassed areas surrounding the main building. The plan sought to provide the local community with more open room for gatherings, activities and community meetings whilst facilitating a more meaningful relationship between Compass Connection's workers and the broader community. Though only newly opened the café was already a local favourite for breakfast and lunch due to the friendly staff, excellent service, quality of the food and relaxed atmosphere. Compass Connections asked [Withheld] to provide a future vision of how to develop the adjacent area to the café to provide the local community with an engaging and interactive outdoor seating environment. One of the primary challenges was a lack of funding, resulting in a decision to source as many materials as possible for the seating through charity-based tip-shops and salvage yards free of charge.

A small university-based grant allowed students to purchase additional materials needed for prototyping.

Table 2 Project Process - Compass Connections Café

Compass Connections Café Project	Project Process
Site briefing August 2016	The first briefing on-site in August 2016 allowed students to meet with Compass Connection's representatives and employees whilst obtaining valuable site information and a thorough project briefing.
Teams formation and virtual meetings	Three five-member transdisciplinary teams commenced conceptualisation of the project collaboratively. The Compass project relied upon flexibility in communication and collaboration, as site visits were limited due to distance. Meetings therefore often occurred through video conferencing. Students further conducted mixed methods research through a series of interviews and focus groups with Compass Connection employees and café staff.
Concept proposals and design process August - October 2016	Initial concepts were introduced to stakeholders at a symposium held in the studio. Subsequently, the concepts were reviewed and shortlisted to proceed into the final design phase involving prototyping the outdoor seating designs. After sourcing materials appropriate for their conceptual design responses, student teams developed technical specifications and construction drawings for their prototypes.
Challenges and limitations	Teams faced many challenges as they engaged in a process of making-as-learning, determining the limitations of recycled materials as they are often fraught with complexity and contradictions. Initial limitations included issues of matching the functional and aesthetic design intent with availability, affordability and appropriateness of materials from salvage yards. A further reoccurring issue was high toxicity levels in available treated timbers, which were therefore deemed inappropriate as a material for the furniture. Students were supported by tutoring staff and skilled workshop technicians, with many of the activities centred around sorting, dismantling and assessing the condition and constraints of the materials.
Final prototype presentations October 2016	The final four prototypes were presented to the client and community representatives at a symposium in October 2016. The overall feedback received from all stakeholders was positive. The benefits seen by the community were a strong indication of the impact of this project, particularly in the inclusive strategy of public engagement that offered significant opportunities for participation. The involvement of the community also allowed for cost and time savings whilst the participatory process underpinned sustained community interest in the project.

Figure 1 Compass Connections Café - LiveSpace students working on prototypes using campus workshops, image by author.

Upon completion, the furniture elements were seen as central show pieces at the opening of the new Compass Connection Café community space in early 2017. The furniture pieces provided the building blocks for community engagement throughout the process and as such, they were not only functional, but became ongoing conversation pieces. The community partnership encouraged and engaged students as learner/makers, who were not only recognised for their skills and knowledge but were encouraged to take on design leadership roles during the development and implementation phase. As the feedback (Table 5) reflects, the project has successfully demonstrated that by adopting practices of making-as-learning, teaching-by-doing, engaging with community, and encouraging networking and mentoring on live projects is highly beneficial to the student learning experience.

Figure 2 *Compass Connections Café prototype of outdoor table made from recycled materials by LiveSpace students, image by author.*

4.2 Endeavour Foundation Learning and Lifestyle Centre

The Endeavour Foundation's Learning and Lifestyle Centre (LLC) is a centre-based program where clients take part in a range of flexible learning programs, recreation and social activities. Learning and Lifestyle services follow a person-centred support model, helping people with intellectual disabilities to develop independence, confidence, self-esteem and social interaction skills. Centres promote individualised programs to develop personalised plans to meet clients' goals and aspirations, whilst striving to work together to build the confidence needed to achieve them. There are currently over thirty-five Learning and Lifestyle centres in Queensland and a limited number of additional centres throughout Australia (C. Beaumont, personal communication, March 12, 2017). In 2018, the Endeavour Foundation was seeking to improve their Learning and Lifestyle centres to make them inclusive, welcoming, modern, and flexible state of the art facilities where clients and families feel supported, encouraged and inspired. The Endeavour Foundation and LiveSpace worked in partnership on future typologies for their Learning and Lifestyle centres.

Figure 3 Endeavour Foundation Learning and Lifestyle -Brisbane Centre. LiveSpace site visit, March 2018. Image supplied by Endeavour Foundation [www. https://www.endeavour.com.au/services/learning/learning-lifestyle](https://www.endeavour.com.au/services/learning/learning-lifestyle)

Table 3 Project Process - Endeavour Foundation Learning and Lifestyle Centre

Endeavour Foundation Project	Project Process
Client briefing March 2018	<ol style="list-style-type: none"> 1. The client identified the following areas for consideration in student proposals: 2. Break out rooms for educational purposes 3. Open planning for multipurpose activities 4. Art room for specific art programs 5. Office space 6. Chill out/relaxation rooms 7. Core activities that are either leisure based or skill development 8. Kitchen for general use and meal preparation 9. Facilities including ambulant access and showers

Project scope and directions	Following the briefing, LiveSpace students commenced designing new Learning and Lifestyle Centre typologies to promote inclusivity for an intellectually impaired client base through supportive, aesthetically pleasing, vibrant, functional, safe and flexible centres which encourage learning and independence. The poorly designed and ineffective existing centres received continued criticism from clients, carers and staff. New design typologies were modelled upon an existing Endeavour Centre space in Ipswich, Queensland. Although the ideas were specifically tailored to a specific space, the proposed typologies were aimed at informing new future visions for all of Endeavours' Learning and Lifestyle centres across Australia.																				
Research phase	<p>Students visited a smaller LLC in Coopers Plains, Brisbane to obtain valuable information on operation, activities, function and aesthetics. An interview with management and staff confirmed that clients, carers and staff all agreed that urgent improvements were necessary to make the centre more inclusive and vibrant for their clients. Teams identified several educational typologies and grouped them into four main areas; formal learning spaces, informal learning spaces, spaces which offer support, and workshops. The purpose of this exercise was for stakeholders and students to discuss and select which combination of typologies would best represent the ideal future learning and lifestyle spaces.</p> <p><i>Identified Learning Spaces for Learning and Lifestyle Centres</i></p> <table><tr><th>Learning spaces</th><th>Type 1</th><th>Type 2</th><th>Type 3</th></tr><tr><td>Formal Learning Spaces</td><td>Traditional Classrooms</td><td>Seminar rooms</td><td>Flexible Classrooms</td></tr><tr><td>Informal Learning Spaces</td><td>Study lounges</td><td>Group Learning</td><td>Library/ Resources</td></tr><tr><td>Support Learning Spaces</td><td>Outdoor Spaces</td><td>Café/ Canteen</td><td>Mixed use lounge</td></tr><tr><td>Workshops</td><td>Computer Labs</td><td>Craft Rooms</td><td>Tech Workshops</td></tr></table>	Learning spaces	Type 1	Type 2	Type 3	Formal Learning Spaces	Traditional Classrooms	Seminar rooms	Flexible Classrooms	Informal Learning Spaces	Study lounges	Group Learning	Library/ Resources	Support Learning Spaces	Outdoor Spaces	Café/ Canteen	Mixed use lounge	Workshops	Computer Labs	Craft Rooms	Tech Workshops
Learning spaces	Type 1	Type 2	Type 3																		
Formal Learning Spaces	Traditional Classrooms	Seminar rooms	Flexible Classrooms																		
Informal Learning Spaces	Study lounges	Group Learning	Library/ Resources																		
Support Learning Spaces	Outdoor Spaces	Café/ Canteen	Mixed use lounge																		
Workshops	Computer Labs	Craft Rooms	Tech Workshops																		
Design process April-May 2018	As the Endeavour Foundation was interested in receiving as many typologies as feasible, thirty-five students worked individually on the conceptual design process. During a classroom critique in week six, students presented their concept typologies to the class and tutors. Twelve concepts were shortlisted to be developed further in teams.																				
Final presentations June 2018	12 Groups presented their final concepts to Endeavour Foundation Representatives in a symposium held on campus in June 2018

Figure 4 Endeavour Foundation Learning and Lifestyle Centre Typology project. Concept Symposium with 3rd year Design Students and the Endeavour Foundation client, May 2018, image by author.

Stakeholders commented on the selected designs as being innovative and dynamic, whilst promoting inclusivity and bringing a new approach to concepts of learning for people with intellectual disabilities. Key strategies employed by the twelve concepts emphasised making the centres more effective by observing three key elements; access, participation and learning. Student project research also highlighted the need for active client participation throughout the process. A clear theme identified from interviews with the stakeholders was for layouts and design requirements to go beyond the minimum standards for educational premises and the Australia Building Code. This approach was considered by all to be essential for successful operational and inclusive learning centres. The winning proposal successfully blends exterior and interior activities and proposes an internal streetscape design, where clients acquire important life skills such operating an ATM, participating in social interactions in the café or in the corridor (street), and tending to an internal garden, whilst also offering a number of formal and informal teaching spaces, offices and ancillary spaces. The concepts presented provided the client with potential redirections for their future learning and lifestyle centres and will form part of a wider discussion in planning to generate new ideas for designs and to stimulate discussions and debate.

Figure 5 *Endeavour Foundation Learning and Lifestyle Centre Typology. Final Design Symposium, selected student proposal, May 2018, image by author.*

5. Assessment, Feedback and Recommendations

In six years of operation, LiveSpace studio has initiated spatial design, urban design, retrofitting and exhibition projects in collaboration with community, government, industry and not-for-profit organisations. LiveSpace studio is also currently working with the university on internal projects, developing innovative sticky campus spaces. LiveSpace projects are taught as part of the Design degree at Griffith University which aims to educate future designers as reflective practitioners capable of tackling complex, or “wicked” problems (Rittel and Webber, 1973) through design praxis and learning-through-making. Learning outcomes aim to produce knowledge workers and makers with an understanding of design as a means of social change (Fry, 2009; Wood, 2007). This approach is in line with a shift toward critical thinking and transdisciplinary research and practice in progressive design programs around the world. Each year, feedback is gathered from students, the course convenor and stakeholders. The data presented here is drawn from the projects previously outlined and is significant in that it has resulted in adjustments to the course where necessary. Participants in the feedback process were overwhelmingly positive and supportive of the program.

Table 4 *Feedback for Learning and Lifestyle Centres Project*

Endeavour Learning and Lifestyle Centre Project	Feedback
Course Convenor	It was amazing to see our students in action with our new industry partner proposing original and clever design concepts and solutions. The school places great importance on our industry collaborations and offers a well-rounded learning experience to students. In this case, the ability for our students to bring their ideas and solutions to industry has been an invaluable experience for them and has also deepened their understanding of designs ability to promote inclusiveness.
Client	Working with LiveSpace students has been a very rewarding experience over the semester. I have been lucky enough to have been working with different groups on a variety of typologies over 12 weeks. It is always great to work with young creative minds who have great energy proposing new ideas and new ways of tackling problems. The project has been challenging and we went along on a journey with students, asking them to really push the boundaries. And they did. Some of the proposals are exciting, new and challenge the current approaches of learning spaces for people with intellectual disabilities. Our aim is to find new innovative ways to build our future centres. The 12 proposals received will be included in this process.
Community	I have an adult son with special needs who attends the Coopers Plains centre. The staff is wonderful but unfortunately the centres need urgent improvement. The emotional wellbeing is so important to people with mental disabilities and friendly, vibrant, well designed and light and bright spaces are needed to support their various needs. As a parent, I was delighted to hear that Endeavour is investing in new design typologies for future learning and lifestyle centres. I had the pleasure of being interviewed by LiveSpace students and was impressed by the in-depth research they undertook to really try and understand the needs of the users.
Client	I have learned so much working with students. The project was challenging. Students found the initial site visits to our centres confronting at first. Many had never met someone with an intellectual disability. Communication and groundwork were key in this project. We had weekly Skype meetings and we also arranged four site visits. In the end we received many detailed and creative new ways of thinking about how to design a learning and lifestyle centre. The typologies will now be used to drive the discussions forward.

Student	This course provided me with a great WIL experience. I really enjoyed working on a live project. There was more accountability and I think I worked better knowing that my proposal has the potential to be selected to initiate some real change in the lives of the people using these centres.
Student	This course was a reality check. I was thrown in the deep end and I knew that all the knowledge and skills learned in theory and studio courses were skills that are actually required on real life projects, but I never knew that at the time. Featuring this project in my portfolio helped me in a recent interview.
Student	This internship was an eye-opener. Working on real projects gave me a good insight into what is required as a graduate. I was really driven and highly motivated working on this project. Alongside LiveSpace, I also undertook an industry placement. I was able to use the design process I learned at work too.

Table 5 Feedback for Compass Connection Project

Compass Connections Project	Feedback
Course Tutor	This project presented some challenges. The site was a two-hour drive away which meant that we needed to plan our initial site visit well. We ended up having to drive up a second time to record missed measurements and to conduct further interviews with staff and the community. Another challenge was sourcing appropriate recycled materials and accelerating the ideation phase in the design process. Students were used working on ideating for a number of weeks on studio projects. This time we allowed one weeks. A lack of joinery detailing, and workshop skills meant a further delay. Although students had obtained the necessary workshop inductions prior to the commencement of the project, they lacked decision making skills and technical skills. At the end, the finished prototypes were heavier and larger than anticipated, and we had to hire a truck to get them delivered on site. As [Withheld] had a small school-based grant, we were able to fund the delivery using those funds.
Client	Working with LiveSpace was a great experience. As we had no budget for a designer, we were very grateful to be working with LiveSpace. Not only did the students present some very creative prototypes, they also pushed the brief beyond our expectations and offered additional ideas on how we can engage better with the community.

Community	These young designers are looking at the social impacts design can provide to initiate change. And social change is exactly what we as a community push for. The Compass café is already getting support from the local community but any help from creative minds on how to give more exposure to the café is welcomed. The final designs really could make a huge difference bringing more local patronage which translates into Compass being able to offer more traineeships for these young adults with intellectual impairments.
Student	I never felt ready to step into professional practice. This course was as close to getting an experience as possible while still at uni. It gave me sufficient exposure to all my practical concerns, and I now feel a little more prepared.
Student	Coming from a studio-learning environment, I was confident in the design process and the aesthetics on space and presenting to clients, but this course introduced me to the consideration of working with limitations. I was able to obtain quotes on all the joinery I had designed and documented. I was able to meet with the cabinet maker, discuss the designs, get feedback on the construction and material use and do some additional work experience with the joiner. Learning by doing was a highly motivating experience.
Student	What was new to me was that building with recycled or salvaged content is more difficult than building with new material. I found it challenging to find the materials and then propose unconventional construction techniques. There were a lot of discussions with builders and tradies, tossing ideas and starting from scratch.
Student	LiveSpace was fun. I really enjoyed working and learning with students from other cohorts. I would like to see a permanent LiveSpace studio where we have our desk and can work over the week with a studio director available.

Student grades are allocated based upon project team performance with a peer review component accounting for fifty percent of the semester grade. The remaining fifty percent is individually awarded for project journals. Results have indicated that students work extremely well in the course, are highly motivated, and are actively involved in the design process, leading to higher-level learning outcomes. Further, the course organisation with a strong emphasis on teams, mentoring by staff, and building relationships with external stakeholders has resulted in increased student ownership of learning outcomes. While the initial response to LiveSpace has been overwhelmingly supportive, adjustments to the program continue as data received from assessments and course evaluations is analysed each year. One change under consideration for 2020 is to cap the student intake based upon GPAs. This would ensure students have accomplished the necessary academic success

required in experiential learning and confirms a level of commitment, dedication and self-direction; all qualities that matter not only for the success of LiveSpace projects, but also for future employers. A further change under consideration is to limit student intake. Large cohorts of over twenty-five students have presented significant challenges in the management of the course, with students occasionally failing to receive full support from tutors whilst working on complex design projects with developing skills and knowledge. Smaller cohorts would ensure a more personalised approach, further engaging students in deep learning, whilst providing high-quality feedback and ensuring consistency and excellence in project outcomes.

5.1 Discussion and Recommendations

While a significant part of the course evaluation discussed here is based on feedback provided by students, clients, community and teaching staff, they are significant and have resulted in adjustments to the program. The overall feedback from all participants has been positive and supportive and indicates that the course is providing industry workplace opportunities for students, so they can transform their learning experiences into practice knowledge. One indication of the positive impact of the course is that stakeholder demand sometimes can't be accommodated due to timeframes or because we often can only accommodate one single larger project. Data available for sequencing, timings and duration of recent projects are currently being analysed and evaluated and early results indicate that future development of the program will require furthering relationships with industry partners and identifying funding possibilities. Future collaboration with design programs at other institutions and education scholars at Griffith will also help LiveSpace to build a solid framework for further evaluating learning outcomes. LiveSpace fulfils a need for a safe learning environment for students to explore sustainable design practices and innovative methods of design processes through hands-on, experiential learning. As noted, this opportunity is limited in current tertiary-level education, and as such LiveSpace will provide a model for other institutions. LiveSpace aims to address a major concern in design disciplines; that of a lack of critique of un-sustainable industry practice and the essential move towards new modes of thinking to enable students to become effective future practitioners.

Acknowledgements: We would like to acknowledge contributions from Dr Peter Hall and Dr Beck Davis of a previously published paper which has been referenced throughout this paper - Hay, N., Perolini, P., Davis, B., & Hall, P. (2015). Socially and Environmentally Responsible Design Process: A Cross Disciplinary Approach. In Popovic, V., Blackler, A., Luh, D.B., Nimkulrat, N., Kraal, B., & Nagai, Y. (Eds.). IASDR2015 Interplay Proceedings, pp. 898-912. Brisbane, Australia, QUT.

6. References

- Barnett, R. (2004). Learning for an unknown future. *Higher Education Research & Development*, 23(3), 247–260. <https://doi.org/10.1080/0729436042000235382>
- Billett, S. (2014). *Mimetic learning at work : Learning in the circumstances of practice*, 1-21. Retrieved from <https://ebookcentral-proquest-com.libraryproxy.griffith.edu.au>

- Camacho, B., & Alexandre, R. (2019). Design Education. University-industry collaboration, a case study, *The Design Journal*, 22(1), 1317-1332. <https://doi.org/10.1080/14606925.2019.1594958>
- Carleklev, S., & Sterte, M. (2013). Pedagogy for teaching design: with an emphasis on sustainable design. In Reitan, J.B., Lloyd, P., Bohemia, E., Nielsen, L.M., Digranes, I., Lutnaes, E. (Eds.). DRS CUMULUS 2013 Design Learning for Tomorrow: Proceedings from 2nd International Conference for Design Education Researchers Design Learning for Tomorrow, pp. 1453–1467. Oslo, Norway, ABM-media.
- Cooper, L., Orrell, J., & Bowden, M. (2010). *Work integrated learning : A guide to effective practice*. Retrieved from <https://ebookcentral-proquest-com.libraryproxy.griffith.edu.au>
- Cuff, D. (1992). *Architecture: The Story of Practice*. Cambridge and London, U.K: The MIT Press.
- Edwards-Vandenhoeck, S., & Sandbach, K. (2013). Down the Rabbit Hole: a situated approach to design education that facilitates socially responsible emergent designers. In Reitan, J.B., Lloyd, P., Bohemia, E., Nielsen, L.M., Digranes, I., Lutnaes, E. (Eds.). DRS CUMULUS 2013 Design Learning for Tomorrow: Proceedings from 2nd International Conference for Design Education Researchers Design Learning for Tomorrow, pp. 1537–1554. Oslo, Norway, ABM-media.
- Fry, T. (2009). *Design Futuring: Sustainability, Ethics and New Practice*. Sydney, Australia: University of New South Wales Press.
- Hay, N., Perolini, P., Davis, B., & Hall, P. (2015). Socially and Environmentally Responsible Design Process: A Cross Disciplinary Approach. In Popovic, V., Blackler, A., Luh, D.B., Nimkulrat, N., Kraal, B., & Nagai, Y. (Eds.). *IASDR2015 Interplay Proceedings*, pp. 898-912. Brisbane, Australia, QUT.
- Lawson, B., & Dorst, K. (2009). *Design Expertise*. Oxford, UK: Routledge.
- Orrell, J. (2011). *Good Practice Report: Work-Integrated Learning*. Sydney, Australia: Australian Learning and Teaching Council. Retrieved from <http://hdl.voced.edu.au/10707/213987>
- Rittel, H.W.J., & Webber, M.M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*, 4, 155-169. <https://doi.org/10.1007/BF01405730>
- Rooij, R., & Frank, A. (2016). Educating spatial planners for the age of co-creation: The need to risk community, science and practice involvement in planning programmes and curricula. *Planning, Practice & Research*, 31(5), 473–485. <https://doi.org/10.1080/02697459.2016.1222120>
- Sachs, J., Rowe, A., & Wilson, M. (2017). *Good Practice Report: Work-Integrated Learning*. Canberra, Australia: Australian Government Department of Education and Training. Retrieved from https://ltr.edu.au/resources/WIL_Report.pdf
- Schön, D. (1982). *The reflective practitioner: How professionals think in action*. New York, U.S.A.: Basic Books.
- Schön, D. (1985). *The design studio: An exploration of its traditions and potentials*. London, U.K.: RIBA Building Industry Trust.
- Shaffer, D.W., (2004). Pedagogical Praxis: The Professions as Models for Post-industrial Education. *Teachers College Record*, 106(7), 1401-1421. Retrieved from <https://www.tcrecord.org/content.asp?contentid=11577>
- Sharman, I. J., & Patterson, Z. (2013). ‘Not two weeks in a place tidying-up the paper drawer’ – an employability agenda case study. In Reitan, J.B., Lloyd, P., Bohemia, E., Nielsen, L.M., Digranes, I., Lutnaes, E. (Eds.). DRS CUMULUS 2013 Design Learning for Tomorrow: Proceedings from 2nd International Conference for Design Education Researchers Design Learning for Tomorrow, pp. 1787–1805. Oslo, Norway, ABM-media.
- Watkins, M., & Clarke, P., (2018). The consortium: an innovative approach to employability. Proceedings of the 20th International Conference on Engineering and Product Design Education, pp. 146-150. Dyson School of Engineering, Imperial College, London.
- Wood, J. (2007). *Design for Micro-utopias: Making the unthinkable possible*. London, U.K.: Rutledge.

About the Authors:

Petra Perolini is the Program Convenor of the Design Major Interior and Spatial Design and the Program Leader of the Bachelor of Design at the Queensland College of Art, Griffith University. Petra has a practice background in commercial interior design, design futures and urban and regional planning.

Naomi Hay is a multi-disciplinary designer and sessional lecturer in the Design Department at Queensland College of Art Griffith University. She is completing a PhD investigating the role of design in strengthening resilience of vulnerable communities towards sustainable futures.