DESIGNING FOR SOCIAL INNOVATION AND SUSTAINABILITY

AT THE SCHOOL OF DESIGN

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Interdisciplinary teamwork is a key objective at the Otago Polytechnic School of Design. As staff we work together in an open plan office, but we also install this kaupapa in our learners. Workplaces are diverse places, and we all have skills that can contribute to both the work culture and the practice we engage with. Corbacho et al define interdisciplinary education as supporting skills that cross disciplines to solve a problem, create a product or raise a question that may be impossible for one single discipline.[1] For the last four weeks of the 2021 academic year, the second-year students from the Bachelor of Design (Communication, Fashion and Product) were divided into interdisciplinary teams and partnered with a local organisation to develop creative solutions for their current challenges. These organisations came from within Otago Polytechnic as well as from the wider Ōtepoti community. They were:

- Student Support (OP)
- Pōpopo Wormporium Resource Recovery (OP)
- Bachelor of Information Technology (OP)
- Otago Polytechnic Student Association (OPSA)
- Otago Peninsula Biodiversity Group
- Trade Aid New Zealand (Dunedin branch)

Teams within disciplines may have worked well but this was an opportunity to combine skills and perspectives towards a community focused project. The four-week course combined design thinking processes, design methodologies and presentation techniques, working together on a design for social innovation and sustainability. In our current global reality, it is critical that we instigate a sense of social responsibility into our learners. Along with self-efficacy, solving problems sustainably in tertiary teaching needs to combine lessons in interdisciplinary collaboration.[2] This was an opportunity to engage learners with what it means to work at a community level and use design thinking and Human Centred Design (HCD) techniques to understand the user experience, identify a design intervention point and work towards a sustainable and innovative design outcome. Design thinking is inherently optimistic, constructive, and experiential and "addresses the needs of the people who will consume a product or service and the infrastructure that enables it."[3]

Along with the application of design research and development processes, we incorporated bicultural values of manaakitanga, whakawhanaungatanga and kaitiakitanga into the learning outcomes so learners could consider how tikanga can be embedded into their design thinking and practice. We installed the idea that this could be at both a personal and group level as well as how they perceived their clients embedding these values into their own work processes. Whakawhanaungatanga for example established the importance of connection and relationship building with each other, with the client as well as the surrounding space within which we worked. When working in a team, it's also important to learn that everyone has a part to play and success is determined by communication, commitment and manaakitanga. We broke down the levels of manaakitanga, explaining that its more than care and

support but it's also about āki (encouragement) and mana is never taken but always given. These are values that we want to be part of our learners' everyday vernacular, informing their design practice going forward into their graduate year and their future careers.

We also embedded the Otago Polytechnic strategic goal of leading the way in sustainable practice. Sustainability by its very nature is a complex issue which can require a diverse interdisciplinary approach. These learners, nearing the end of the second year have built up a portfolio of design skills from their specific disciplines and before they enter their final year, they need to add social innovation to their pūtea. These learners may not end up working for non-for-profit agencies but can still gain expertise in design for social innovation. Stokols refers to this learning as 'transdisciplinary orientation' which consists of learning new values, attitudes, beliefs, conceptual skills and knowledge. This also includes transcultural understanding and cooperation as well as global consciousness. This practice can increase learner's perception of diverse viewpoints (within their own group, their class and their client) as well as develop thoughtful, open-minded individuals.[4]

According to Corbacho et al, to develop any interdisciplinary course Vygotsky's theory on social constructivism can be applied where learning is a social process, supported by collaboration and social interaction.[5] In situated learning, students engage in a community of practice and develop a path towards becoming a practitioner (in whatever field they choose). We can also apply Schön's practice of 'reflection in action' [6]which can help students prepare for the complex and unpredictable problems of workplaces. This helps to produce graduates with solid problem-solving skills that can be applied to their careers. So often we exist in a vacuum within our learning institutions and need to continually remind ourselves that learners can and should experience community-based learning. COVID-19 too has helped us to connect with our communities and realise we can assist each other from the ground up.

On the first day of the project, we were coached by Billy Matheson, an experienced designer, educator, and facilitator who has a passion for emergent social process and inhabiting our creativity. He runs workshops and retreats for businesses who are interested in looking at positive change and commitment to social enterprise. He ran a morning workshop with the students, using a customer centric design activity developed for the Auckland Council. Learners were put into pairs and went through an exercise of designing the ultimate food event for their partner. The learners used interview skills and curiosity to discover their partners perfect experience, reframe and define the opportunity and generate ideas (both obvious and radical). After checking in with their partner, the last part of the exercise was to reflect and generate a new and final solution (based on everything they had learnt about each other). This exercise developed empathy, problem solving, analytical thinking which resulted in both deliberate and 'pie in the sky' ideas.

Over the next four weeks, students were put into their interdisciplinary teams and met with their clients. It was up to the learners to co-ordinate themselves with team roles and use design thinking and HCD to come up with a design opportunity and innovative solutions to the challenges posed by the clients. Design thinking is a methodology for creative thinking which works through phases of empathise, define, ideate, prototype, test and assessment . These are not necessarily linear and different stages can be re-visited at different times. We also integrated user journey maps which are a common method used in design. In its most basic form, a journey map is a visualisation of a process a user goes through to accomplish a goal. The 5 E's Framework (entice, enter, engage, exit, extend) was useful in order to understand a customer's experience with a product or service. This also helps to creative a narrative with the user's thoughts and emotions as they go through a user process[7]. Although we had a short turn around, the learners used this method in order to gain some understanding of their client and customer user experiences. This process also helped to identify a design pain point and possible solutions.

On the final day, 18 teams presented their work to their clients and the students and School of Design staff. The learners identified design problems and opportunities, looked at current and future user journeys, implemented customer personas, situational analysis and market research as well as well as provided scope for future opportunities. Each team developed a range of design propositions, such as app development, website re-design, brand and

logo development, interior development, spatial re-design, communication strategies, visual language, social media development and merchandise development. A team within the Trade Aid group for example looked at how they could engage with customers by informing them about the maker of the product. They created an interactive product swing tag in the form of the origami fortune teller game, sparking memories of childhood as well as drawing the customer's attention to information about the maker and how the purchase has helped them and their community (figure 1 and 2).

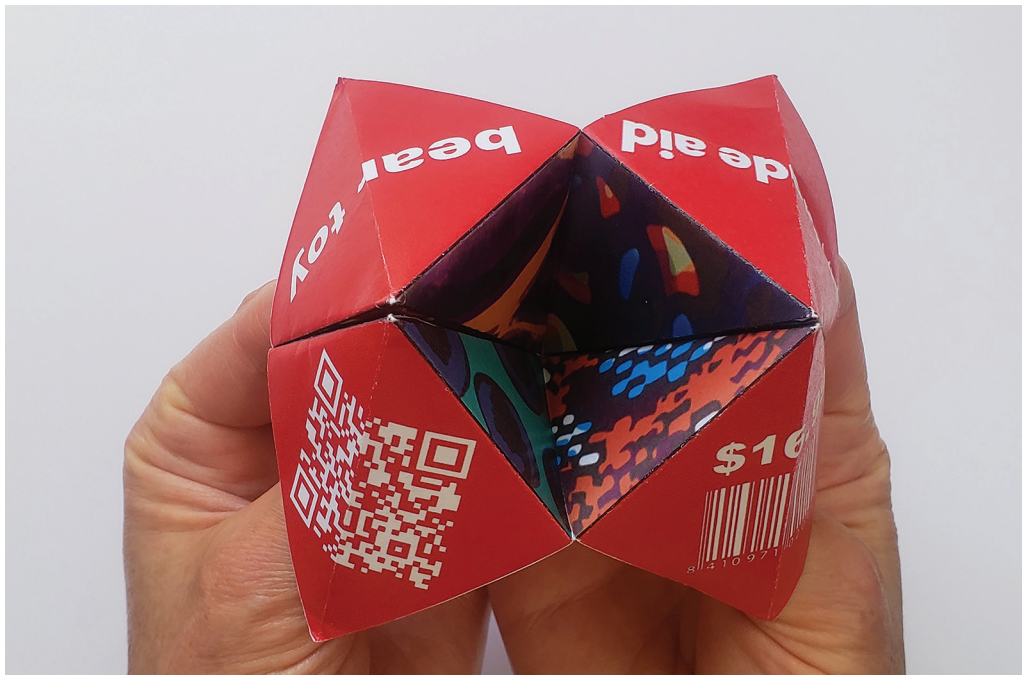Figure 1: Prototype of Trade Aid Swing Tag.

Figure 2: Prototype of Trade Aid Swing Tag.

A team in the OPSA group surveyed users and found that students experienced hardship around the affordability of food. They developed 'OPSA Eats' whereby OPSA could collaborate with students at Otago Polytechnic Culinary Arts to create affordable food bags for student dinners. They embedded manaakitanga into their outcome, ensuring that OPSA helps to relieve some financial stress but also empower students to learn to cook for themselves.

Another team worked with Student Success and found there was a lack of awareness about this service but also that meeting rooms in the Hub were perceived as being too public and hence intimidating for students who may wish to seek support. They developed a concept to increase privacy by designing a screen that incorporated Māori design elements of ahu ahu mataroa (representative of a new challenge) and pakati (courage and strength; from a moko worn by warriors). They also delivered ideas around posters and an app which highlighted the services that Student Success offer in a clearer and more neurodiverse way, for an improved user journey.

Teams that worked with the Otago Peninsula Biodiversity Group looked at how they could increase community engagement with the vision of a 'predator free peninsula'. The groups created interesting and bold signage as well as interior visions for the new visitor centre. One group also created a version of the Lilliput Libraries and Pataka Kai where native seedlings could be swapped with neighbours as well as an innovative translucent roadside signage, showing the development of biodiversity over time as one looked through it towards the landscape beyond. Their ideas were informed by kaitiakitanga, care and protection for the environment, looking to protect the ecosystems as well as the culture of the Otago Peninsula.

Working in a team environment can be challenging and there were some issues. These included respect for a diversity of perspectives as well as those that simply didn't pull their weight. Working in an open-ended project where the learning was experiential, and method driven (rather than outcome driven) required collaboration within the team and trust of the process. This certainly caused some frustration on the part of the learners as they were keen to start making rather than thinking and reflecting. The teams were self-directed and it often felt easier to go with the first good idea rather than diversifying and extending other concepts. In the feedback from students, they clearly enjoyed meeting new people, and getting to know other students from communication, product and fashion backgrounds. They were also grateful for the interaction with a client, giving them further confidence to work in a professional setting. Working closely with both client and consumer, design thinking can create innovative solutions to problems which bubble up from below rather than imposed from the top[8]. The projects that these students worked on covered a number of social factors including the building of empathy and understanding towards others, improving social equity, increasing education, empowering customers and extending capability of both client and customer.

Many design schools around the world are tackling social and sustainability projects. Through this project we joined over 60 international design labs across the globe who have joined the DESIS (Design for Social Innovation and Sustainability network (www.desisnetwork.org/). Being part of this network has allowed the Otago Polytechnic Design School to be more confident in their focus on sustainability and community led projects (www.op.ac.nz/industry-and-research/research/desis). We have a point of difference in Aotearoa New Zealand in the way that we approach sustainability with a bicultural lens and connect our practice with the land that we stand on and the people we work with. As we continue to develop this course, we look forward to how we can continue to learn from each other and from the community projects we invest in.

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1   Ana M Corbacho et al, "Interdisciplinary higher education with a focus on academic motivation and teamwork diversity," *International Journey of Educational Research* 2-2 (2021), 1 – 10.

2   Jessie L Knowlton et al, "Teaching interdisciplinary sustainability science teamwork skills to graduate students using in-person and web-based interactions," *Sustainability* 6-12 (2014), 9428 – 9440.

3   T Brown, & J Wyatt, "Design Thinking for Social Innovation," *Stanford Social Innovation Review* (2010). https://ssir.org/articles/entry/design_thinking_for_social_innovation

4   Jessie L Knowlton et al, (2014).

5   Ana M Corbacho et al, (2021).

6   Donald Schön, "The Reflective Practitioner," *How Professionals Think in Action* (Aldershot, Hants, UK, 1995).

7   S Gibbons, "Journey Mapping 101," *Nielsen Norman Group*, 9 Dec 2018, https://www.nngroup.com/articles/journey-mapping-101/.

8   Brown and Wyatt, "Design Thinking"