

Snapshot of a highly sustainable, creative design process that follows a circular model at every step to ensure a zero-carbon footprint is maintained

Rationale: This submission provides a snapshot of a much larger school project I am completing for ‘Fashion and Textile Design’ course at college. The project is an independently negotiated study due at the end of this school year. I had to present a study proposal, timeline and evidence of my commitment to the project for approval by my teacher and school Principal. I am responsible for my own learning during this study which has driven me to work harder and reflect more on the effectiveness of my problem-solving skills and design process. I decided to apply my creative and critical thinking skills to solve design problems in a business context as close to ‘real-life’ as possible. I created my own mock-up business called O&E which operates through a digital and physical store and has an informative website that explains the brand and business philosophy. I have grown my own biofabric to make handmade jewellery to sell in the store. I also designed an interior space for a physical shop and adjoining art studio that is hypothetically planned as a garage conversion in my Nanna’s home in Cooks Hill, Newcastle.



Aim of the negotiated study: To frame solutions to the wicked problem of the fast fashion industry in 2021, through a carefully planned, creative design process.

What did I learn from my research?

- The fashion industry has a disproportionately high carbon emission level that is contributing significantly to climate change problems. This needs to stop because climate change is harming the earth to such a level it is at a "code red for humanity" (United Nations, 9 August 2021).
- The linear model of fast fashion which dominates the industry is not sustainable.
- Designers are in a unique position to help address problems of climate change and decreasing biodiversity by creating highly sustainable products.
- Research and evaluation are ongoing in the design process.
- Skill development requires hours of practice.
- Biofabrics presently lack the scalability needed for fast fashion production.
- Designs improve when designers from different sectors work together to find solutions. Especially, if they work in teams with academics, artists, environmental scientists and local manufacturers and textile workers on-site, across the globe. This way they can test and refine their ideas in context.
- A systemic change is needed so all fashion is produced through a sustainable, circular model like Cradle to Cradle or Rebecca Burgess's 'Fibershed' Model.
- Sustainable models must address the issues of human rights, fair trade and emerging economies.
- The wicked problem of fast fashion is everyone's problem to solve and has root causes such as materialism, greed and human psychology.

[My Design Process](#)

Rationale: I combined elements of design theory with a sustainability framework to ensure a circular model was followed at all times.

1. Define

Convert the garage interior of a Torrens title, free-standing residential home, into a shop with an adjoining art studio for the business owner of 'O&E' to create and sell products. The garage is at the front of the terrace-style home and makes up level one of the three-story structure. The garage area can be entered through an internal door from the front foyer or by opening the roller door. The home is double brick and was built in 1986. It is free of any heritage restraints, which are commonly attached to the older properties in the area. The garage area is at the front of the house on ground level and has direct access to the footpath for safe entry.

Area 1: The commercial space – Challenge: Create an interesting interior space that gives customers a reason to want to come into a physical shop on a regular basis, rather than shop online.

Area 2: The creative space – Challenge: To create a space for designers, artisans, manufacturers and farmers to gather and share ideas, skills and raw materials. It needs a wet area and multiple workstations for designers to work individually and as a group. This space must be separated from the shop but still highly visible to customers. Storage areas will be needed.

Philosophy of O&E: The business operates through a highly sustainable, circular model which creates no waste. The owner's highest priority is sustainability. She collects and resells pre-loved items which require a large storage area. Her art studio

needs a ventilated, dry and sunny aspect for kombucha fabric production and well-lit desk and workstation areas.

Human connection is important to the owner so both spaces need areas to encourage social interaction. The home is located in the busy inner-city suburb of Cooks Hill, near the Darby Street restaurant precinct, and Bar Beach. The garage was built to meet the requirements of a room or garage and the home has dual zoning for residential and commercial use.

The suburb of Cooks Hill has a beachy, arty, university vibe where many people come to socialise in restaurants, bars and coffee shops. There is a high proportion of international and domestic tourists that visit the area and it is mostly populated by high-income professionals who live and work in the area. There are several Government-funded affordable housing units in the area.

Limitations: The shop and art studio will be used for about five years and then the space will need to be returned to its original condition. The garage roller door cannot be removed because the council no longer approves garages this close to the footpath. It is essential the owner keeps her garage because it adds significant financial value to the property.

Hot, humid weather in Newcastle: The space must have the option to let the sea breeze in during Summer.

Sourcing raw materials: All materials used on this project must be sourced from waste, for upcycling or must have third-party certification to verify sustainable manufacturing claims, or come from a known, local regenerative farmer or manufacturer.

Safety considerations: Traffic on road near the entry of the store and sharp objects in the workshop. For privacy and security, an internal door would be installed to restrict entry into the rest of the house.

Energy Efficiency: Make use of natural light where possible.

Produce jewellery: Through a highly sustainable design process that considers the end-of-life of the product from its conception.

Earring Design: Create beautiful earrings to match casual clothes including upcycled blue denim jeans.

2. Ideate

Mood board: Has been created in hardcopy in a portfolio, which contains sketches of design ideas. Inspiration listed below:

- Beach area and surf culture – organic, curved lines of waves.
- Calming blue of the ocean.
- History of coal mining in the area.
- Sailing is popular at Lake Macquarie – beautiful yachts.
- Harbour area close by.
- New university and luxury hotel.
- Blue of the ocean–connection to the natural environment can influence people to care about the planet more.
- The food and wine theme matches the area. Vibrant coffee culture in this area.
- Old heritage area, a beautiful sandstone and wrought iron.

Ideate Interior Space

- Rebecca Burgess's Fibershed model offers great ideas for the workshop concept. Her model is sustainably focussed which fits with the client's commitment to highly sustainable practice. The workshop design will encourage a community of designers and local producers to meet and co-create which is suggested in the Fibershed model.
- Japanese inspired screens, inspiration for wall design to separate the shop and workshop areas.

- Solid recycled timber frame with wire sculpture inside.
- Customers can see into the creative space. The workshop can also be viewed as an educational tool that increases community awareness on climate change issues through its sustainable product philosophy. Customers will see bio-fabric growing and being processed into fabric, and artisans working. Hopefully, this will spike curiosity and generate conversations around sustainability and climate change.
- 'O&E' stands for objects and experiences which is exactly what this shop offers.
- Mist sculpture for Summer sensorial experience. The mist will be cooling for customers.
- The O&E shop area offers customers a sensorial and social experience that cannot be simulated online. It has a circle of seating around a kombucha, a tasting station that looks into the adjoining art studio area through a see-through wire sculpture wall.
- Wire sculpture has an interesting texture for customers to enjoy.
- A wire sculptured wall that resembles a large screen will separate the two areas. It will slide into the existing space easily because it is not heavy and can easily be fixed into position. The wall design will be strong enough to withstand the impact of people leaning on it or unsupervised children climbing on it.

Functionality: The wire sculpture is very open, so it is easy for customers to see into the art studio, it lets the sea breeze through, and provides an additional area for stock to be hung. It lends itself to being transformed easily as the business owner changes the atmosphere in her store regularly to give customers a unique experience. She can change the aesthetic of the wire sculpture easily through fibre art, plants or displays.

Inspiration for the wire pattern came from the curved lines of the waves at Bar Beach which strongly reflects the surfie culture and natural beauty of the local area. In addition to this, the pattern repeats the infinity symbol turned on its side. The infinity

symbol means “life is Infinite” but unfortunately through our environmentally destructive lifestyle, we have turned that idea on its side! The perspective of the environmental crisis is foundational to the whole concept of O&E and the infinity symbol on its side could become the business logo.

The interior of O&E’s commercial area will constantly change like an exhibition at a gallery. Different coloured lighting will be used to create various atmospheres and emotional responses in customers.

The interior space will stimulate the human senses in a gentle but energising way by providing a variety of beautifully textured and shaped objects for customers to touch and look at. Music and a variety of aromas will be used to add to the atmosphere.

The pink light featured in the attached photographs has created a calm, playful and pretty atmosphere designed to relax customers and highlight the beauty of the jewellery and home furnishings presently for sale.

Jewellery:

- Simple geometric shapes inspired by famous paintings and Alexander Calder sculptures and mobiles.
- Designs inspired the sails of old yachts and sailing boats on Lake Macquarie.
- Earthy colours with a warmer red to match lip colour.
- Sacha Laurin kombucha dress at Paris fashion week.

3. Prototype

Wall: Cardboard prototypes and sketches of various line patterns were tried and refined until the final infinity symbol on its side was chosen.

Model: Wooden model built to show wall design more clearly and to evaluate the design's aesthetic and functionality.

Jewellery: Sketch and illustrate earring designs in pencil and watercolour. Prototype shapes cut from card and matched to face shapes.

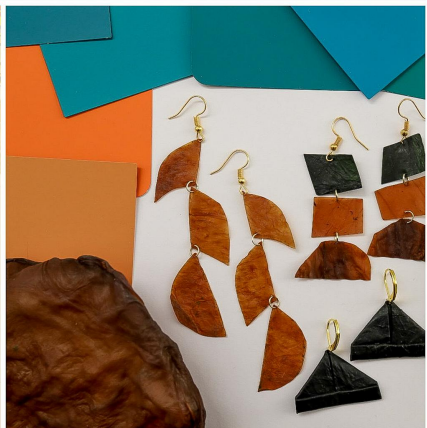
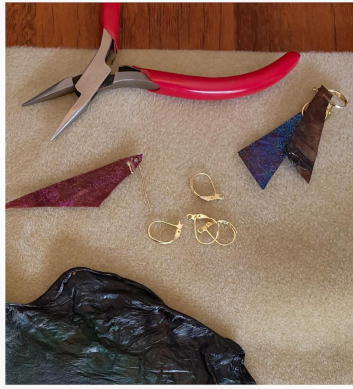
Contact was made with designer Sacha Laurin in California and a mentoring relationship has been developed. Her kombucha dress designs were featured in Paris fashion week.

4. Build

The scope of this study does not include the construction of the O&E shop and studio renovation. The jewellery has been made according to the best prototype designs and a file of templates has been created for future designs.

5. Exhibit

The kombucha jewellery has been staged and photographed for inclusion in the online O&E store.





Chloe J Dixon