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Transitional Textiles

*a craft-based journey of textile design practice towards new values
and roles for a sustainable fashion industry*

Clara Vuletich

A thesis submitted in partial fulfilment of the requirements of
University of the Arts London
For the degree of Doctor of Philosophy

Chelsea College of Arts
University of the Arts London

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The research is funded by the MISTRA Future Fashion project, which aims to bring about systemic sustainable change to the Swedish fashion industry and includes a consortium of scientists and designers (MISTRA 2011a). This PhD research is part of the Textiles Environment Design (TED) investigation (Project 3 2011-2015) at the University of the Arts London.



ual:

“The right brain hemisphere is a member of the human family, she is about nurturing each other and encouraging the thriving of human relationships. We should come into this world with the intention of this heart-felt right-brain position and only use the tools of the left-brain to be productive and create in the external world, not the other way around”

Jill-Bolty Taylor, TED Talks 2008

Abstract

The current fashion textiles industry is based on an outdated, exploitative system that encourages fast consumption, generates huge amounts of textile waste, creates toxic impacts to ecosystems and causes significant social impacts to production workers. The move towards a more sustainable industry is a complex challenge and will be based on circular and social systems that prioritise values, collaboration and empathy for the environment and all stakeholders.

This research defines the move towards a more sustainable fashion textiles industry as a *transition* that operates across environmental, social, and human domains. At the human level, the transition is an emergent process that involves both 'inner' and 'outer' dimensions (Maiteny & Reed 1988). For fashion textile designers, this process will demand new ways to practice and engage with the sustainability agenda, including the 'outer' dimensions of better materials or more ethical production models; and the 'inner', reflective dimensions of values and the self.

This research proposes new roles for designers in these transitional contexts, through craft-based fashion textile design practice. The practice projects presented in the thesis demonstrate three new roles that evolve through the sustainable design continuum to the highest level of Design for Social Equity (Manzini & Vezzoli 2008), where designers will support all stakeholders towards systemic, sustainable change. The practice projects reveal a collaborative and inter-disciplinary approach to fashion textile design practice in industry, local communities and the global supply chain.

The research draws on a range of literature from sustainability theory, design/craft thinking, and psychology. The mixed methodology includes an action–research phase of collaborative practice projects, facilitation of workshops with designers in industry, and a reflective phase of textile making and writing.

A model for the *Transitional Textile Designer* is presented as a final outcome. In order for fashion textile designers to practice in transitional contexts 'beyond the swatch', the research presents new methods and tools to connect individual values to social values inherent in the transition towards sustainability.

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Clara Vuletich, November 2015

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Preface

This research journey begins in a crowded indoor market in Brixton, South London. I am standing at a table in one of the empty shops, dressed in a favourite vintage dress made of grey and dusty pink woven fabric. There are four children around ten years old, all sitting at the table with me. Surrounding us on the table is a selection of textiles and fabrics, some from my personal 'textile stash', and the tools from my sewing kit – scissors, needles and thread. There is also a collection of objects gathered from charity shops and car-boot sales that accompany me whenever I facilitate a craft workshop. These act as 'talismans' or sacred objects and also provide inspiration. I had volunteered my time to teach patchwork and hand-sewing techniques in Brixton Market as part of the Transition Town (Hopkins 2008) art/culture group. This arose from my work with the textile collective *bricolage*, running 'textile upskilling' workshops for fashion consumers. I believed that if people were taught the basic skills of clothing repair and maintenance, they would become emotionally attached to their garments (Chapman 2005), and reduce their consuming of 'fast fashion'. On this day, I was teaching the children a basic technique of using a needle and thread. It was delicate work, attempting to encourage their tiny fingers to thread a slither of cotton through the eye of a needle. However, things were not going well. The children ran back and forth to their mothers, becoming increasingly hyperactive and disinterested.

I had been working with patchwork and quilting in my own practice, and was interested in its aesthetic and symbolic richness. I appreciated the notions of material resourcefulness, as well as the examples from history of how the act of quilting was often a communal and shared activity. To me it seemed a perfect technique to share with the Transition Town movement, who advocated a grass-roots and resourceful approach to dealing with the environmental concerns of climate change, peak oil and over-consumption. I was also starting to find the simple act of hand-stitching increasingly pleasurable, and noticed it would relax me and improve my mood. Surrounded by my favourite objects and fabrics, I would fall into a 'flow' state (Csikzentmihaly 1991), and found great satisfaction in creating something new from these once-loved scraps of fabric. Yet, I couldn't understand why these children were so uninterested.

I now understand that my frustration was bringing to light a series of deeper questions I had been asking myself for some time. Like most sustainability initiatives, I sensed that the Transition Town movement, like most sustainability initiatives,

viewed the fashion textile system as the antithesis of sustainability. In the sustainable development literature, notions of sustainability are often based on diagnoses and assessment of resource scarcity, and there is little attention given to beauty or aesthetics. My hunch was that these sustainability initiatives would view the fashion industry as excessive, wasteful and damaging to people and the planet. Yet, we know that a landscape provides not only 'ecosystems services', but also useless beauty (Parodi 2014). And, as a textile designer who was trained to provide colour, pattern, beauty and delight to people's lives through their clothes, I sensed that the sustainability movement could not value the skills and 'designerly ways of knowing' (Cross 2006) I had been trained to embody.

At this point in my career, I had already taken a divergent path. I was born and raised in Sydney, Australia and my first undergraduate degree was in Broadcast Journalism. I worked in community arts education with indigenous Australian communities in Far North Australia, and in film production, before moving to London in 1998. I then trained as a printed fashion textile designer at Chelsea College of Arts (2003-2006) and was employed as a Research Assistant at TED (Textiles Environment Design) from 2007 to 2011. By the time of the workshops in Brixton market, I had stepped aside from working as a freelance designer creating swatches for industry. The lack of control I had over where my designs ended up, and the environmental impact they had, was a concern. I was exploring alternatives through my work at TED, and on the development of The TEN (Earley & Politowicz 2011b), a framework of sustainable design strategies for fashion textile designers.

Central to a craft-based fashion textile design practice is the cloth. Through the design process, the designer imbues visual, tactile and affective qualities into the cloth, which are experienced by the owner/customer. The cloth was the medium through which I was meeting human need, even if it was for merely decorative and delightful means. But how else could I as a crafts-based fashion textile designer meet and support human needs 'beyond the cloth'? And what was my role as an activist and maker in supporting a sustainable fashion system?

At this time, I was also aware of new design activity emerging outside of the existing parameters of the capitalist, consumer system. Design theorists including Ezio Manzini were advocating for designers to support the transition to more sustainable lifestyles, defined by the term Design for Social Equity (Manzini & Vezzoli 2008). Designers were being encouraged to collaborate with 'creative communities' at the local level and support 'new ideas of wellbeing' through service and social design approaches (Manzini 2010a). However, there was no discussion or activity exploring

how these ideas would translate to a fashion textiles context. The TEN framework strategy 10 was suggesting fashion textile designers become 'Design Activists, yet again there was little granularity on these new types of practices.

The initial motivation for the research was therefore driven by a question I had about my own skills and practice as a crafts-based fashion textile designer wanting to operate in a Design for Social Equity context. There were no guidelines, tools or even theoretical understanding for a fashion textile practice that moved 'beyond the cloth' into expanded contexts of local communities and the global supply chain. From my experiences teaching textile craft described above, I felt I had been relegated to a small room teaching patchwork, while other designers were busy transforming communities and creating new business models. In my mind were the clichés and derogatory notions of fashion textile designers involved in domestic crafts and feminine pursuits for purely decorative purposes, with no ability to work in socially-engaged and strategic ways. As a profession, the fashion textile designer lacks a voice in both the supply chain and in academia, even though we have skills and value to make a significant, positive impact. And as my own experience shows, the traditional skills of crafts-based textiles were not adequate to engage in these new contexts.

These initial motivations would be further transformed through the industrial context of the research programme that funded this research, Mistra Future Fashion. This research journey will demonstrate the evolution of a fashion textile design practice that responds to the increasingly complex contexts of local communities and global supply chains.

Thesis Design

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	3 - Methodology
	4 - What is Transition and Why Now? Contextual Review
2 The Transitional Practice Journey	5 – The Sustainable Textile Designer Love & Thrift (2007) and Design for Change (2012)
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Fig. 1: Design of the Thesis

Part 1:

Contextualising the research



Chapter 1: Introduction

1.1 Research Summary

This research proposes a framework for how the fashion textile designer can contribute to systemic change in the industry, through understanding their own self and inner values, in order to support others in the transition towards sustainability. The research aimed to investigate new practices of fashion textile designers in socially-engaged contexts of local communities and the supply chain. This was carried out through activating collaborative projects with industry partners and facilitating professional designers in industry.

The framework of the Transitional Textile Designer demonstrates three levels of practice that evolve through the Sustainable Design continuum - from a Sustainable Textile Designer, to a Design Facilitator, to the highest level of the Design Steward. Each level of practice evolves into more complex contexts that are outside the studio walls and 'beyond the swatch'. The highest level of practice occurs in the context of Design for Social Equity (Manzini & Vezzoli 2008) that considers the socio-ethical dimensions of sustainability such as individual values, mindsets and worldviews. It is at this level that deep, systemic change can be achieved in the fashion textile industry and in research. However, in order to operate at this level, designers will need an understanding of their own values and the self, so they can support others in the transition towards sustainability. The researcher's own practice took this journey over a seven-year period and this experience was utilised to develop the framework and set of tools.

The research makes an original contribution to knowledge by presenting a framework that combines Transition theory with the Sustainable Design continuum, through original practice-based research. There is no other framework in the literature that has done this in a fashion/textile design context.

1.2 The role of Textiles and Textile Design in Dualistic Challenges

This PhD was undertaken within a particular research context that informed the design of the research, the subsequent methodology and the final theoretical framework. The project was a triangulation of three different parts – the creative research practice of the PhD student; an academic research context, and the industrial context of the Swedish fashion and textile sector. This complex triangulation created several challenges that can be understood by considering the many dualisms at play – human and industrial; fast and slow fashion; designer and garment worker; implicit and explicit knowledge; and left and right brain. These dualisms act in the

thesis as tensions or knots that 'bind' our understanding of the issues and create barriers or resistance to change at a fundamental level. This research asserts that textiles as a material and symbolic concept, and as a context for design practice, can help to challenge a tendency for binary thinking and provide creative solutions in this research context.

One of the most useful dualisms to consider here is the left and right brain hemispheres, that can be seen as distinct world-views with particular characteristics (McGilchrist 2009). The left-brain perceives things in parts; is only interested in utility and does not understand implied meaning or emotion. Whereas, the right brain perceives things in wholes and in relationship to the Other, understands implied meaning, recognises individuality, and is the seat of all emotions (except anger). The *corpus callosum* is the neural tissue that connects the two hemispheres, and acts as the facilitator between the two worldviews and ways of behaving. Interestingly, the *corpus callosum* has reduced in size over the last two hundred years, which has led to researchers suggesting there is less connectivity between the two hemispheres, and an imbalance towards the left-brain (McGilchrist 2009).

In the context of the fashion textile industry, this industrial system can be seen as a 'left-brain' phenomena. The system generates textiles and garments through mass manufacture; encourages fast consumption and generates huge amounts of textile waste. It has deconstructed the design and making process; devalued the human domains of the production worker and the consumer; prioritised speed and rapid change over reflection and slowness; and separated the value of healthy ecosystems from economic profit. As a 'left-brain' system, it has been unable to accommodate the less assertive, implicit, right-brain qualities of holism, individuality, empathy and connectedness.

Equally, the Mistra Future Fashion programme (Mistra 2011) has also been following this 'left-brain' paradigm. The programme consisted of material and social science researchers using analytical and reductionist methods to investigate sustainability in the fashion textile industry. The focus was on the technical solutions to measuring or improving *environmental* impacts of industrial activity. There was no focus on the *social* or *human* impacts of the industry. This PhD project was bringing the 'social textiles' enquiry described in the Preface, into this industrial research context, yet there appeared to be no place for such an enquiry.

This division between the technical/material and social is evident in The TEN frame-work. The first five strategies deal with issues such as energy, water and waste

impacts and then move on to socio-cultural issues such as reducing consumption and supporting ethical production models. However, The TEN was based on an understanding that designers need to consider a holistic and systemic range of strategies in order to create lasting change. So, by failing to account for the ethical/social issues, the Mistra Future Fashion programme was unable to accommodate this multi-dimensional approach. The missing 'social' issues were eventually addressed in the third year of the project, through an additional collaborative project utilising additional funding from the 'Strategic Reserve' pot, investigating production issues in China, between Project 1 (Kirsti Reitan Anderson) and Project 3/TED.

The differences between the technocratic approach of the Mistra Future Fashion programme and a PhD project using a human-centred approach became even more evident as the research progressed. The PhD project became less focused on the social impacts in the supply chain, and more focused on the notion of values and the self. This new focus required the development of auto-ethnographic methods such as reflective writing, to capture more subtle, subjective insights. The new focus also resulted in the re-defining of sustainability as a *transition*, that involves both 'inner' and 'outer dimensions of practice for designers.

Another dualism present in this research context is from a perspective of knowledge - *explicit* or *implicit* knowledge. There has been an historical imbalance in research and academic that views explicit knowledge as more valuable than practical 'know how' or implicit knowledge. This is partly due to the difficulty of identifying and communicating implicit knowledge in the written form, being based on subjective and embodied experience (Gourlay 2002). In the Mistra Future Fashion programme, the scientific projects used methods that rely distinctly on explicit knowledge. In contrast to this, this PhD project used an action-research methodology based on an emergent and iterative accumulation of knowledge, where the knowledge was primarily *implicit*. The knowledge was created through a combination of thinking, facilitating other designers and making textiles - both *doing* and *thinking*.

So, what is it about the designing and making of textiles that is useful to contemplate within these multiple dualisms? This research asserts that the unique qualities of textiles and textile designers has the potential to 'unpick' and dissolve such complex multiple dualisms. For this project, the ability to combine the *thinking* and *doing* of a crafts-based textile process proved to be transformative. While the initial motivations for the research was driven by a lack of confidence in material-based, textile skills, the researcher ended up coming back full circle to this practice. The final, reflective process of making a hand-quilted jacket revealed the refined theoretical framework

and provided insight into the similarities between a crafts-based textile process and a transitional process – both involve change and uncertainty yet both have the potential to yield creative insight and innovation. This ability to transform oneself, and create a space for reflection and new ideas, is one way to address these multiple dualisms.

The notion of textiles and textile making as transformative is also evident in the literature. Gordon (2011) writes there are many myths and stories from human history in which female characters act as weavers and spinners, where the making of textiles was both making thread and making life. Pajaczkowska (2005) talks of textiles and cloth as fundamentally liminal in their cultural and material significance. Cloth is neither subject nor object, and is situated on the threshold between the functional and the symbolic.

This ability of textiles to be so transformative in human lives also hints at the role of fashion textile designers in the transition towards sustainability in the fashion industry. The fashion textile designer embodies a range of unique qualities and approaches that are potentially useful for supporting change. Textiles are also the symbolic and material 'thread' that connect all the stakeholders in the global fashion system and the fashion textile designer can use their textile knowledge and materiality as a shared language and medium.

Continuing with the right and left brain analogy, the technocratic, 'left brain' approach of the Mistra Future Fashion programme provided a challenging and unique context to investigate sustainable textile design practices. This research journey will demonstrate that a focus on the less assertive, 'right brain' qualities of values and 'inner' dimensions is necessary to create real insights for *systemic change* in research and industry. There also needs to be recognition of the less assertive, 'right brain' qualities of textile making and fashion textile designers. Just like the *corpus collosum* that connects the left and right brains, finding creative solutions to the unsustainability of the fashion industry will require a balance between both types of research (the sciences and design/making) and both types of knowledge (implicit and explicit).

The notion of dualisms will be drawn out within each practice project discussed here, along with the unique methods and qualities of fashion textile designers to support change in the transition towards sustainability in the fashion system.

1.3 Chapter Overview

The thesis is divided into three parts and ten chapters (Fig. 1).

Part 1 is Contextualising the Research. This section introduces the Project background and context; positions the research within the relevant fields of research and industry; and outlines the research methodology.

Chapter 1: Introduction – Provides a summary of the research and a chapter overview

Chapter 2: Transition Context - The Project - Introduces the Project partners; and the proposed aims and objectives.

Chapter 3: Methodology - Outlines the methodological position of the project as a whole, explaining the methodological framework that was developed based on the project context; the relationship between the research objectives, questions and three stages; and the primary methods used.

Chapter 4: What is Transition and Why Now? Contextual Review (Objective 1) This is the Initial Contextual review that positions the Research in the interrelated fields of sustainability, design and fashion textiles.

Part 2 presents The Transitional Practice Journey that was undertaken to meet Objectives 2 and 3.

Chapter 5: The Sustainable Textile Designer – Love & Thrift and Design for Change (Objective 2). This chapter presents a focused contextual review, research questions, research methods and creative outcomes for Objective 2. The chapter gives a summary of a project completed prior to the PhD (Love & Thrift 2007) and through the project Design for Change, demonstrates new fashion textile design practices in local communities and garment production; and extends The TEN strategy Design for Ethical Production.

Chapter 6: The Design Facilitator - Industry Workshops (Objective 2 & 3). This chapter presents a focused contextual review, research questions, research methods and findings for Objective 2 & 3. The first workshop demonstrates a new role for fashion textile designers as Design Facilitators in industry contexts. The second workshop demonstrates the emerging role of individual views in sustainable design

and extends The TEN red cards workshop tool.

Chapter 7: *The INNER Journey* – Review of Past Practice This chapter is a summary of a Past Practice Review, and the review of literature on fashion textile knowledge and thinking.

Chapter 8: *The Design Steward* – Sutra Stitching and The INNER/OUTER Project - (Objective 3, 4). This chapter presents a focused contextual review, research questions, research methods and findings for Objective 3 and 4. The two projects demonstrate new fashion textile design practices to support values and the self in the supply chain.

Part 3 is the final part of the thesis and presents the **Main Outcomes** of the research, the overall **Contribution to Knowledge** and the **Further Research** ideas.

Chapter 9: *Outcomes* - This chapter draws together the main conclusions from the research and identifies how they answer the research aims and objectives.

Chapter 10: *The Transitional Textile Designer* (Objective 4) This final chapter presents an original contribution to knowledge of a model and set of tools for Transitional Textiles; an expanded definition of fashion textile design practice in a sustainable fashion context.

Chapter 2: The Project

2.1 Project Partners

2.1.1 Mistra

The project was funded by the Mistra Future Fashion programme, an international consortium of scientists and designers who worked on eight parallel research projects (See Appendix I, p.198). In the context of Swedish science research, Mistra funds initiatives that are unique in their focus on systems-wide, practical solutions towards sustainable development goals. The funding call was devised by an international and inter-disciplinary team of advisors who designed eight projects that addressed a full range of research themes.

The application was put together by a range of Swedish stakeholders including government agencies, voluntary organisations and companies across the textile supply chain, from forestry, to pulping, to textile manufacturing, retail and textile recycling. Each of the eight project teams responded to the themes of the call and developed their own research question. The project teams involved multiple researchers and PhD students from different research institutes in Sweden, Denmark and the UK. This inter-dependent relationship between research and industry was designed to produce research results that would be relevant and current for the fashion and textile industry.

The eight projects covered: new business models; sustainability assessment tools; design; new bio-based fibres; recycled fibres; sustainable solutions for public health care clothing; consumer behaviour; and policy issues.

2.1.2 TED

This PhD was positioned within Project 3 'Interconnected Design Thinking and Processes for Sustainable Textiles and Fashion' and was led by Rebecca Earley and the TED Project at University of the Arts London. Since 1996, the TED Project had researched the role of the textile designer in a sustainable fashion context through practice-based and creative research methods. The results have included new material and garment prototypes; exhibition curation; academic writing; and The TEN, a framework of sustainable design strategies for fashion and textile designers (Fig. 2).



Fig. 2: The TEN cards

The TED group were awarded the Mistra Project 3 funding based on the potential of The TEN framework as a method for industry training. Prior to the Mistra Future Fashion programme, The TEN had been developed as a set of strategies and approaches, evolved through an iterative process of teaching and research. There had been little publishing at this point, and only a few opportunities to test the framework in a large-scale industry context. From 2009, Earley had been collaborating with the Sustainable Fashion Academy (SFA) in Stockholm, on a training workshop for Swedish designers from large and SME-sized companies, including Hennes & Mauritz (H&M). The H&M representatives recognised the value of the TEN framework for further application and research in an industry context and recommended the TED group to the bid co-ordinator, to join as design researchers in the programme.

The TEN strategies are based on a lifecycle thinking approach that identifies the impacts and potential opportunities for designers to effect change across the lifecycle of textiles and garments. The TEN vision is for the designer to act across the whole system or supply chain, making connections and solving problems to improve sustainability impacts.

As the fashion textile design researchers in the consortium, the TED team aimed to provide insight and data on the qualitative and future-focused aspects of the research framework, and the unique value of design thinking in this field. In this context, fashion textile design can offer a human-centred approach that considers the functional and aesthetic needs of the producers and users of textile and garments, while also offering new approaches to understanding and solving complex problems.

The PhD researcher was involved with other Mistra researchers on several collaborative tasks (co-facilitating a workshop with Suzanne Sweet at Stockholm School of Economics for Project 1; field-work to China with PhD fellow Kristi Reitan Anderson of Copenhagen Business School, Project 1; and co-delivery of insights and workshops at programme meetings).

2.2 Plan and Scope of the Project

The duration of the research funding and collaboration with the Mistra Future Fashion programme was three and a half years (October 2011 – April 2015). At the outset, there was no specific project or research brief for the PhD set by Mistra or TED. The project began with a broad set of research questions primarily based on the researcher's own creative practice and intentions. As the Research Assistant at TED from 2007-2011, the researcher had been involved in the development of the TEN framework and methods, and had a particular interest in the strategy no. 7, Design for Ethical Production.

The initial enquiry was the 'social textiles' question, to explore socially-engaged opportunities for activating sustainable change in the textile fashion system. This enquiry evolved and changed in response to the TED/Project 3 tasks and the opportunities presented by the industry partners. As described in Chapter 1, social impacts in production was one of the TEN strategies that the PhD project aimed to address, yet there was no part of the Mistra Future Fashion programme that covered this issue. The industry partner who collaborated with TED/Project 3 for the training programme (H&M) specifically requested to work on design and production issues that were focused on the material or technical (largely due to the departmental structuring of design, buying, production and corporate social responsibility as all separate). The PhD project research questions were therefore adapted in response to these emerging contexts.

There are three projects included in the thesis that were undertaken using the unique action research methodology. The methodology involved a combination

of action (practice projects and facilitation of designers in industry) and reflection (reflective writing and/or making textiles). Each project acted as a separate question, emerging out of the findings and insights from the previous project. For example, the TED Green Question Cards in Project 2 (H&M/SFA) were developed following insight gained from the first industry workshop on the need to understand the 'fourth' element of sustainability – the personal/human.

The emergent quality of a creative research process in an industry-focused programme created an unorthodox project. As befitting a materials-based craft process, the researcher was partly driven by a subjective, value-laden process that required reflection and independent practice in a studio. This was contrasted with the industry context that became increasingly demanding and required skills outside the researcher's capabilities or 'beyond the swatch'. For example, as part of the TED/Project 3 research tasks, the researcher acted as a consultant facilitator at H&M in Stockholm. The research also extended to field research in China, to investigate social impact issues in Chinese garment production with a fellow Mistra Future Fashion PhD social science researcher. The research project that developed had to account for this iterative cycle between action and reflection, and between the 'inner' and 'outer' worlds of the creative self and the various stakeholders.

2.3 Research Aim and Objectives

Aim:

Design for Social Equity is the highest level of sustainable design that considers the socio-ethical aspects of sustainability including values, mindsets and worldviews that determine sustainability behavior and action.

This research aimed to explore new practices for fashion textile designers in the transition to Design for Social Equity in the fashion textile industry.

Objectives:

1. To critically review The TEN and understand the transition from Sustainable Design to Design for Social Equity in fashion industry (*Initial Contextual Review*).
2. To explore new practices for fashion textile designers in industry that extend TED's The TEN to Design for Social Equity (*Design for Change and Industry Workshops*).
3. To understand through practice the importance of individual values in the context of Design for Social Equity (*Industry Workshop and Inner/Outer Project*).
4. To propose new tools to support designers in the context of Design for Social Equity (*Green Question Cards, Sutra Stitching Workshop, Textile Talk Kit*).

Chapter 3: Methodology

This chapter outlines the methodological position of the project as a whole, explaining the relationship between the aims, objectives, questions and the three projects; how this translates into the design of the research; and the key methods used.

3.1 Building a Methodology

The Mistra Future Fashion programme is concerned with inter-disciplinary research that aims to create sustainable change in the Swedish fashion industry. As described in Chapter 2, the PhD project was bringing a creative enquiry into this large, industry-focused science programme. This context informed the methodological framework that has been developed for the research.

The research methodology for the study was developed and evolved from a combination of social science and creative research methods, with a focus on methods unique to textile design. There was no existing methodology in the literature for practice-based sustainable textiles research in an industry context. There were two frameworks for practice-based research investigating material-based, sustainable design enquiry. These frameworks however did not account for the socially-engaged and collaborative nature of this enquiry. Through an iterative and emergent process, the project has developed a four-stage action research framework and a set of original methods for sustainable textile design research.

The initial methodological assumption was that a range of creative projects would be activated that include the design and making of textile artifacts. There was also the possibility of involvement in the delivery and facilitation of The TEN workshop methodology to Mistra Future Fashion industry partners. These two types of research activity - collaborative creative projects and the facilitation of professional designers – became the foundations for the mixed research methodology.

3.1.1 Existing methodologies for creative research

Practice-based design research is still a relatively young field of enquiry compared to the scientific disciplines, and there has been ongoing debate in the discourse about the appropriate methods and approaches for generating new knowledge. Where the aim of research in the scientific disciplines is to collect information and systemically inquire into a subject to develop facts and principles, in creative research the aim is to envision 'possible futures' (Walker 2013b). In the sciences, the researcher studies phenomena outside themselves with an objective position, whereas in creative or design research the practitioner is also the researcher and takes a subjective position, defined as a practitioner-researcher. This difference in approaches between

the sciences and creative design research represents one of the dualisms described in the introduction. Robson & McCartan (2016) describe the practitioner-researcher as 'someone who holds down a job in some particular area and at the same time carries out enquiry.....which is relevant to the job' (2016, p15). The underlying premise for the study was to investigate emerging practices for crafts-based fashion textile designers, and this was done by acting in this professional capacity. The importance of this type of study being done by a fashion textile designer, for other designers cannot be understated, as there is a paucity of research from practitioner perspectives in fashion and textiles academia (Bye 2010).

The literature on textile design process and knowledge is also limited. There is a well-established discourse on design thinking based primarily on observations of architects and product designers (Cross 2006; Lawson 1994). There is also an established discourse on textiles as material culture (Harper 2011; Hemmings 2012; Schoeser & Boydell 2003; Gardner-Troy 2006). The most relevant literature for understanding textile design practice is Igoe (2013) who has done a theoretical study of textile design thinking and process, using auto-ethnographic writing and interviews with textile designers. Igoe's research emphasises the importance of a feminist, subjective research paradigm when investigating textile design knowledge and practice. The self is important in the textile design process, and the self is therefore important in an enquiry investigating textile design practices and approaches. The challenge was to represent this subjective making approach and way of thinking in this research framework and thesis document. This challenge was addressed partly through variations in the writing 'voice' in the thesis. For example, the discussion on findings from the review of past practice (Chapter 7) used first person narrative writing to articulate the subjective aspects of a textile making process.

The use of a mixed methodology is common in art and design research. Yee and Bremner analysed practice-based doctorates in design and identified that one of the key characteristics was a 'bricolage' approach to the methodology (Yee & Bremner 2011). They posit that such an approach is necessary in design due to the indeterminate nature of the discipline. '...design is undisciplined, transgresses the arts and the sciences, and has the ability to be an agent of change in response to social conditions...therefore a design researcher has to be methodologically flexible (bricolage)...' (2011). The bricolage metaphor is also useful to frame the emancipatory and critical approach of the research. Kinchloe (2005) explains that the bricoleur researcher views methods actively rather than passively, and constructs methods from the tools at hand. 'In its embrace of complexity, the bricolage constructs a far more active role for humans both in shaping reality and in creating

the research process and narratives that represent it" (2005, p68). The bricolage method also aligns with the 'patchwork' and layered approach of a crafts-based textile design practitioner.

3.1.2 Existing methodologies for creative research in textile design

While there was no existing methodology for sustainable textiles research, there are several examples of projects and frameworks that have been useful to consider. Frayling (1993) identified three modes of design research: research *into* design, research *for* design, and research *through* design. This research aligns with research *through* design, where the practice serves a research purpose and is project-based. In this type of research, the design practice is central in generating knowledge. An essential element to research *through* design is the reflective practice of the practitioner researcher. If the useful knowledge is generated from the designer/ researcher while they are involved in the act of design and making, there needs to be a method for capturing that knowledge and 'know how'. Schön identified this as reflection on *and* in action (1983). There was no method in the literature for capturing insights or knowledge from a textile making process and the researcher has developed several unique methods, including a textile research journal and a review of past textile practice.

The researcher had experience as a 'practitioner researcher' within the Worn Again project (Earley 2010) at TED. The primary methodological approach was to explore a subject (recycling textiles) through the design and making of textile/fashion artifacts, that was informed by theory. This process was described by Earley in 2010:

It was an iterative process whereby design-led explorations tested existing sustainable design theory ... this in turn led to the creation of new artifacts which embodied the thinking, and further reflection and redesign methods led to the proposal of new sustainable design theory.
(Earley 2010)

The methodologies utilised during the Worn Again project created valuable knowledge and experience by defining a project proposal and research aims/questions; identifying relevant theory; experimenting through the design and making of textiles; and reflecting on the making process through writing; interviews and dialogue.

There are two other frameworks for creative research that are useful to consider. Walker (2013b) and Goldsworthy (2012) both present research frameworks for

practice-based sustainable design in three stages - Thinking/Theorising; Designing/Making; Reflecting/Sharing (Figs. 3 and 4). These frameworks are based on a solo researcher designing and making material artefacts, using materials such as wood and textiles. In this type of creative research, the researcher begins with an aim or enquiry and it is in the making of the artefact that new knowledge is made. The three stage frameworks from Walker and Goldsworthy highlight the inter-connected relationship between the theoretical concepts understood through the literature; the design and making process that transmutes these concepts into physical form; and the reflection on this process. It is through the design and making process (and reflection on that process) that general theory and abstract ideas are transformed into specific, concrete knowledge (Walker 2013b). Walker has visualised the three stages as an inter-connected Venn diagram, suggesting that the stages are not necessarily linear. Goldsworthy does present the three stages as linear – Think; Make; Share.

These frameworks from Frayling, Goldsworthy and Walker all provide useful insight into the methodology for the enquiry. The aims were to explore new practices for fashion textile designers in industry contexts 'beyond the swatch', through collaborative practice and through the facilitation of other designers. The creation of textile artefacts was not the primary activity, as described by Walker and Goldsworthy. The above frameworks however provide a useful foundation because they represent the knowledge of a materials-based textile practitioner that could be usefully applied in more social and collaborative contexts.

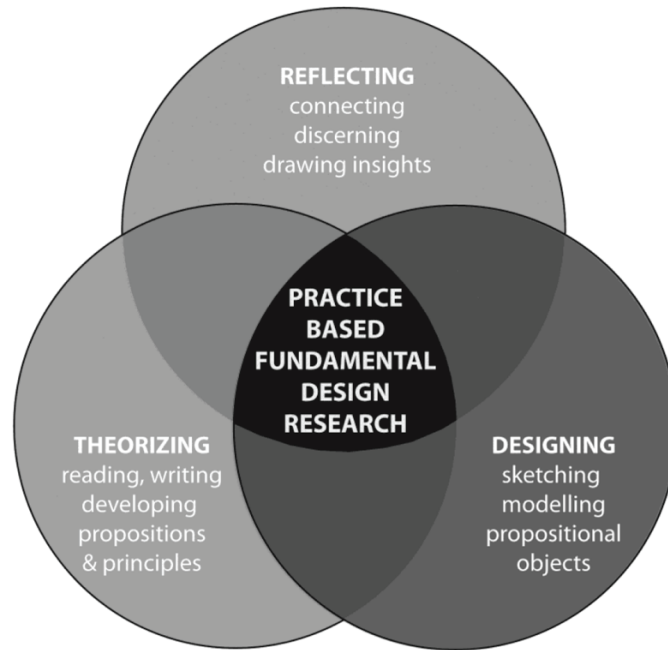


Fig. 3: Practice Based Fundamental Design Research, Walker (2013)

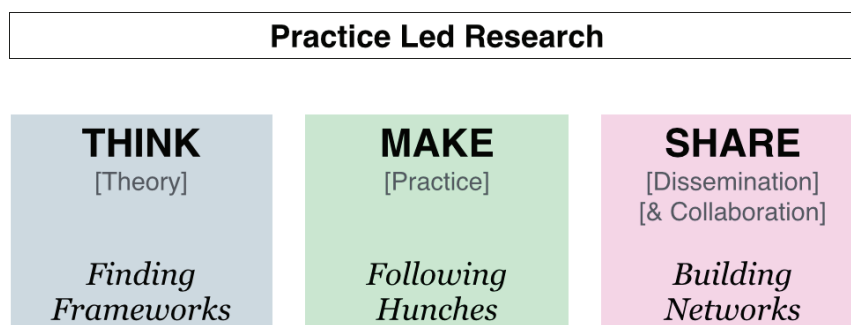


Fig. 4: Think, Make, Share – methods from Goldsworthy’s PhD research (2012)

The above discussion establishes the enquiry as using a hybrid methodology, and as a form of research through practice, where knowledge is generated by the practitioner-researcher involved in creative practice. However, while the foundations of the methodology are established, the above discussion does not account for the more social and collaborative aspects of the research tasks that emerged during the project, or for the unique methods of a creative textile practitioner. This will now be described in the next section.

3.2 Responding to the Mistra Future Fashion and TED Project Proposals

The PhD project was introduced in Chapter 1 as funded by the MISTRA Future Fashion programme, and attached to TED/Project 3 ‘Sustainable Design and Processes’. The Mistra Future Fashion programme and Project 3 both had prescribed

methods and aims. The PhD project proposal and aims evolved in response to the wider research contexts and needs of the industry partners. A more conventional creative research PhD may have been solely based on the researcher's individual creative concerns and questions. Whereas here the PhD proposal, aims and methods were developed to accommodate both the individual creative concerns of the practitioner-researcher *and* the concerns of research and industry collaborators.

3.2.1 Real-World Research

All three projects involved collaborators - either industry clients with a proposal/brief or staff training requirements (see Table 1). The Design for Change project involved an industry collaborator and client (from outside the Mistra programme). The industry workshops involved two Mistra Future Fashion industry partners (H&M; SFA) and the final Inner/Outer Project involved a collaboration on field research to China with a PhD student from Mistra Project 1 (Copenhagen Business School). Robson and McCartan explain that 'real-world research' occurs in the context of organisations and communities rather than in a laboratory (2016, p3). In this context, we could add that the laboratory of the scientist is the equivalent of the art/design studio for the creative practitioner. The creative researcher came out of the studio into a local community and the Swedish fashion industry and then moved back into the academic context (and studio) to reflect on and share the findings.

Project	Title	Industry Partner	Company description	Other Collaborators
Chapter 5: Sustainable Textile Designer Creative Collaboration	Design for Change	Commission from VF. Corporation (USA)	Private company, largest apparel group worldwide	Tom Rowley/ Pipeline Projects, social business expert Rebecca Earley/ Kay Politowicz/TED Project 3
Chapter 6: Design Facilitator Creative Facilitation in Industry	H & M	MISTRA Industry Partner - Hennes & Mauritz (Sweden)	Private company, large global brand	TED Researchers
Chapter 6: Design Facilitator Creative Facilitation in Industry	SFA	MISTRA Industry partner - Sustainable Fashion Academy (SFA) (Sweden)	Private company, professional training services to fashion industry	TED Researchers
Chapter 8: Design Steward Creative Facilitation	Inner/ Outer Project	N/A	N/A	Kirsti Reitan Anderson, PhD Student MISTRA Project 1, Copenhagen Business School

Table 1: Industry partners and collaborators on the Projects

The industry context meant that the variables for the research cannot be as tightly controlled as research done within the laboratory or art/design studio. Two of the projects involved Swedish industry partners and these organisations had their own reasons for being involved in a government-funded research programme. The Project 2 industry partners were H&M (Hennes & Mauritz *undated*), a large, global fashion company. The other partner was the Sustainable Fashion Academy (Sustainable Fashion Academy *undated*) a private company that provides training services to industry professionals in sustainability and corporate responsibility. In both these instances, the researchers were acting as both consultants and researchers and this created a complex set of conditions for the research.

The other important point in relation to this industry context, was the position of the PhD researcher in the wider Mistra Future Fashion programme. During the industry workshops, the researcher was invited to bring an enquiry to an existing, pre-established workshop plan. For the final practice project Inner/Outer, the

researcher was invited to accompany a fellow PhD researcher from MISTRA Project 1 (Copenhagen Business School) on field research to China for a TED project and had to account for the research agendas of both projects.

3.3 Research Questions

The research project involved an over-arching research question and a set of project-based research questions (see Table 2). The over-arching research question translates the project aim (*To explore new practices for fashion textile designers in the transition to Design for Social Equity in the fashion industry*) into an enquiry.

Question: *What are the new practices and roles for fashion textile designers in the transition to design for Social Equity in the fashion industry; and what is the role of individual values in the context of Design for Social Equity in the fashion industry?*

	Overarching Project Aim	Overarching Research Question for the PhD Project
	To explore new practices for fashion textile designers in the transition to Design for Social Equity in the fashion textile industry. Design for Social Equity is the highest level of sustainable design that considers the socio-ethical aspects of sustainability including values, mind-sets and worldviews that determine sustainability behaviour and action.	<i>What are the new practices and roles for fashion textile designers in the transition to design for Social Equity in the fashion industry; and what is the role of individual values in the context of Design for Social Equity in the fashion industry?</i>
Chapter 5: The Sustainable Textile Designer – Design for Change	Objective 2: To explore new practices for fashion textile designers in industry that extends TED's TEN to Design for Social Equity	<i>What is the 'design opportunity' in a garment factory context that extends Design for Ethical Production (TT7); and how can a designer practice at both product and system level to explore social impacts in the supply chain?</i>
Chapter 6: The Design Facilitator – Industry Workshops	Objective 2: To explore new practices for fashion textile designers in industry that extends TED's TEN to Design for Social Equity Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity	<i>What unique methods and qualities do fashion textile designers bring to the role of a consultant Design Facilitator in industry; and how can the TEN cards be extended to include individual values in sustainability?</i>
Chapter 8: The Design Steward – Inner/Outer Project	Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity	<i>What is the 'design opportunity' in a Chinese production context that extends Design Activism (TT10); and what unique methods do fashion textile designers bring to these contexts?</i>

Table 2: Objectives, Research Questions and Projects

3.4 Action Research and the Project Cycle

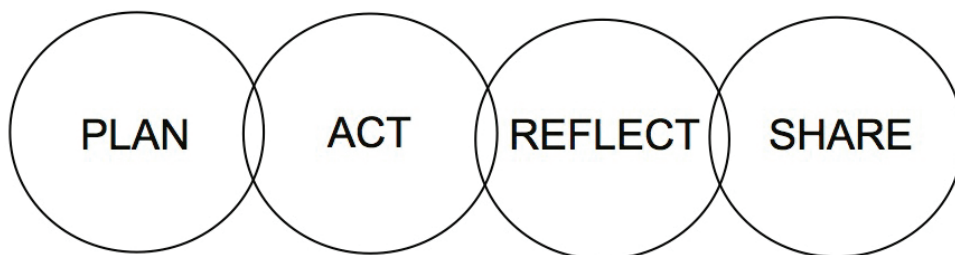


Fig. 5: Four stage action research

The existing frameworks for creative research in sustainable textile design were not adequate to account for the 'real-world' contexts of this research. Action research provided a useful framework as a four-stage process of enquiry (Fig. 5). While the purpose of some social science research may be merely to *describe* or *explain* a situation or phenomena, in action research the purpose is very intently to facilitate action, help change or make improvements (Robson & McCartan 2016). The researcher works directly with participants as co-researchers, on an iterative cycle of learning, reflection and action (Berg & Lune 2007). The action research methodology follows four basic phases. The first phase is identifying the question and planning for the action (Planning). The second phase is the action phase in which information or data is gathered to answer the question (Action). The third phase is the analysing and reflecting on the data or information that was gathered (Reflecting). The final phase is Sharing the outcomes and findings (Sharing).

This PhD research is signposted by three distinct phases and projects that follow each other, where the learning and insight was emergent. Berg and Lune describe action research as following a 'spiral process', rather than a linear process. The questions and answers emerge as the action unfolds, and each process informs the next process.

The four-stage action research framework provided a useful foundation for each project cycle, however the particular methods used within the framework had to be developed as the research progressed. The next section will summarise the key methods that were developed.

3.5 Methods for practice-based sustainable textile research

2.5.1 PLAN

The first phase is identifying the question and planning for the action. The process of identifying the question involved *reading* the literature, *thinking* about the key question and making a proposition for using practice to answer the question. This included either the development of a project proposal or workshop design/method. The unique method of Purposeful Dialogue was developed for this stage and will be described in Project 1 and the Concluding Chapter 9.

2.5.2 ACT

In the action stage, information or data is gathered to answer the question. In this research, the action was a range of activities including collaborating with partners on a creative project or facilitating industry stakeholders including designers or

production workers in the supply chain. More detail on the unique methods that were developed for the action stage of each project will be described in the Project chapters and concluding Chapter 9.

2.5.3 REFLECT

The third stage is analysing and reflecting on the data or information that was gathered. Gray and Malins (2004) describe reflective methods as 'off-loading' devices that allow the researcher or learner to take stock, evaluate and deposit feelings and thoughts, ready for the next stage of the learning or research cycle.

At the start of the research, there was a limited understanding of useful methods for reflection in a sustainable textile research context, or for capturing auto-ethnographic data on values/the self. As the practice cycle progressed, there was a need for methods to represent the 'inner' dimensions of values/the self, such as reflective writing and making textiles. The unique methods developed for reflection at each stage of the research will be described in the Project chapters and in the Conclusion, Chapter 9.

2.5.4 SHARE

The final stage of the action research cycle is sharing the outcomes and findings. In this research, the findings were shared through academic writing of journal articles or book chapters; the exhibition of textile work; or the sharing of tools for workshop facilitation.

3.6 Summary of Chapter 3

This chapter has outlined the project methodology, that has employed a hybrid methodology to meet the project aims and objectives. The two *overarching research questions* were presented, along with a number of *project research questions*. The main methods used were also presented.

Chapter 4: Contextual Review

This chapter positions the research by considering established theory and practice in the fields of sustainability, design and textile design.

4.1 Sustainability

The environmental and social challenges we currently face as a global community need little introduction. The Stockholm Resilience Centre has identified nine planetary boundaries in which it is safe for humans to operate, including climate change and biodiversity loss (Steffen et al. 2015). In four of the nine boundaries, a threshold has now been crossed as a result of human activity and this will see major changes to the earth system.

Sustainability has evolved to respond and find solutions to these issues. The definitions of sustainable development and sustainability are deeply contested and discussions and debates on what constitutes sustainability pervade the discourse. At its simplest, sustainability addresses how humans will use natural resources, and whether this usage will compromise the ability of other people, species or future generations to meet their own needs (Huutoniemi 2014). In the context of textiles and fashion, sustainability needs to address concerns about environmental impacts in the textile supply chain; the social and cultural vibrancy and health of all stakeholders, including consumers, designers and producers; and the economic viability of the industry (Tham 2008).

There are deep tensions in the sustainability realm – between sustainability and economic development, limits and growth, abundance and scarcity, between future generations and the present generation. On top of this is the concept of values - what is worth sustaining and at what cost, needs to be agreed. The most commonly cited definition for sustainable development is from the Brundtland Report, ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development (WCED) 1987). While this definition has been widely accepted, and used by governments, businesses and other organisations, it has also become highly contested. Some commentators claim the term ‘sustainable development’ is ambiguous and does not articulate what needs to be sustained (Hedlund-de Witt 2014). Others, meanwhile, suggest that the broad definition is useful because it leaves room for multiple perspectives and understandings, thereby allowing a range of actors to be involved (Kemp & Martens 2007).

There have also been discussions on the traditional three spheres of sustainability – the economic, environmental and social – called the Triple Bottom Line (Elkington 1997) (see Fig. 6). These three elements are most commonly shown as three equally balanced circles interlinked with each other. The reality, however, is that economic activity dominates over the environmental and social domains, and the systems and infrastructure we create are based on this conventional economic thinking. Another criticism of the Triple Bottom Line is that the *social* does not adequately account for the human and psychological aspects of the human relationship with sustainability. Several authors argue that there is a missing fourth element – the spiritual, human, or ethical (Ehrenfeld 2008) (Walker 2013a) (see Fig. 6).

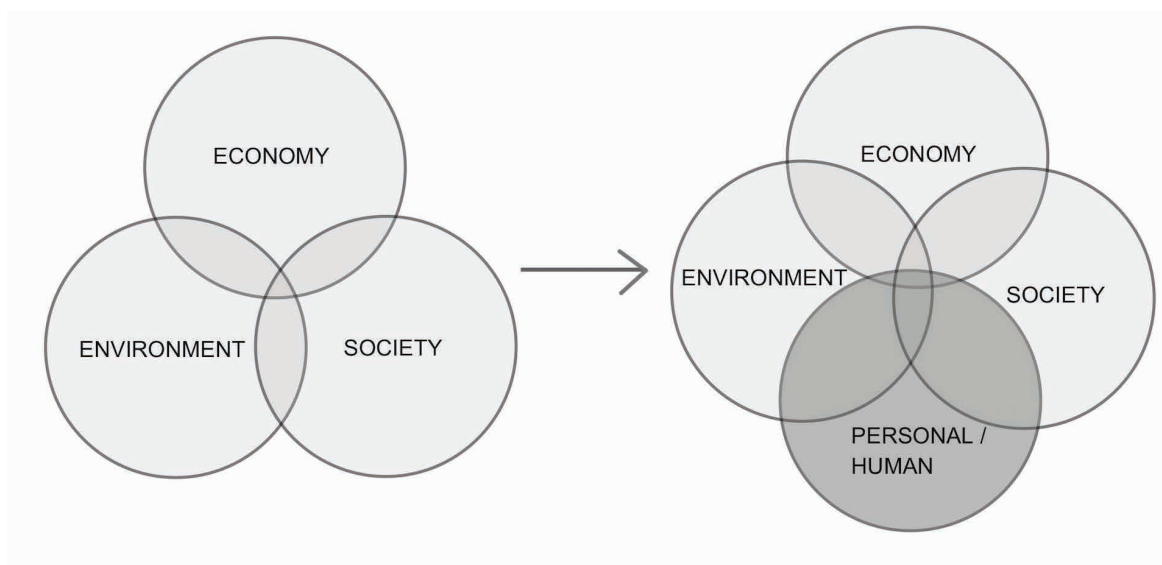


Fig. 6: The missing fourth element of sustainability is the personal/human

We need to account for the *social* and the *human/personal* aspects in any lasting move towards sustainability. The missing fourth element of sustainability will be discussed in more detail in Chapter 6.

The challenges of defining and addressing sustainability are evident in the multiple principles and guidelines that have been developed globally in the last thirty years. Governments and civic organisations have developed a range of approaches including the Earth Charter (Earth Charter undated) and the United Nations Sustainable Development Framework (United Nations 2015). Business organisations have developed the Hannover Principles (McDonough & Braungart 1992), the Natural Step (The Natural Step undated) and the Forum for the Future's Five Capitals Model (Forum for the Future undated). These principles and assessments are testament to significant effort and engagement with the sustainability agenda from governments, business and the third sector. However, these approaches and

levels of integration across the environment, the economy, society and the individual has not been sufficient to deal with the problem. The reasons for this could be due to the guidelines themselves; or to the unwillingness of people to adhere to these guidelines. The inability to deal with these challenges may also suggest a much deeper tension – between growth-based capitalism and the ecological limits of the earth. We need new types of thinking, values, behaviour, action and structures to create sustainability and to begin to address this deep tension.

This research recognises these conceptual and practical challenges, but will focus on the *opportunities for creating sustainability* that exist within such a complex and multi-disciplinary field. The opportunities are for all stakeholders to work collaboratively, developing pathways and definitions for the re-framing of sustainability for the Swedish and global textile and fashion industry.

4.2 Re-Defining Sustainability as Transitions

In order to demonstrate experimental and emergent approaches to transforming the fashion system through crafts-based textile design, the research will re-define sustainability as a process of transition. Framing sustainability as transition moves the discussion beyond the existing problems and limitations of the term ‘sustainability’, emphasises notions of change and human-centeredness and focuses on the future-oriented visions of sustainability offered by a (fashion textile) design approach.

Following the initial contextual review on sustainability and design, a further review was performed on the term *transitions*. Across a range of discourses, there is a discussion on the transition or transformation that is occurring across social, environmental, human and economic domains at a global level in response to climate change and environmental/social challenges. This transition is a movement from the existing paradigm of economic growth, linear resource flows and consumption-based well-being, towards a new paradigm that prioritises ecological limits, equality, and *being* rather than *having* (Ehrenfeld 2008; Jackson 2011; Manzini 2015). There are differing opinions on how soon change needs to come, on the tools or techniques needed, or who has the authority or power to lead, but there is an overriding narrative of a paradigm shift occurring that is necessary and unavoidable.

The review took place across several areas of the sustainability literature and activity:

- the formalised transition literature (Grin, Rotmans & Schot 2010) (Sharma 2007b) involving researchers from engineering and the natural sciences;

- the Transition Town community movement and ‘post-growth’ literature (Hopkins 2008) (Heinberg 2010) (Jackson 2011)
- the Design for Social Innovation literature (Manzini 2015)
- the writing of industrial ecologist John Ehrenfeld (2008)

All of these research areas are attempting to understand how to support and encourage humans towards more sustainable behaviours, in the areas of transport, energy, housing, food production, communication, manufacturing and design/ arts/culture. Ehrenfeld occupies a unique position as an industrial specialist who addressed sustainability through a technology lens, and who is now contemplating the philosophical issues of sustainability.

4.2.1 Transitions in the economy

There is an increasing understanding that the current capitalist, industrial economy is unable to manage/account for the climate change and environmental degradation that it has produced. Activists and commentators since *The Limits to Growth* (Meadows, Meadows & Randers 1972) have been highlighting the risks and dangers of an economic system that relies on cheap, non-renewable fossil fuels. There has also been discussion on the dangers of an economic system that fails to financially account for usage of the earth’s natural resources (Daly 1991). However, it was the economic crisis of 2008 that created a renewed sense of urgency for these economic issues, and the inter-related issues of the environment and society. As Benn, Dunphy and Perrott explain:

Today humankind faces two major crises. The first is the global financial crisis, which began in 2008. The second is ecological and has been slowly building since the industrial revolution.The two crises are intimately related. (2011, p. 5)

Fundamental to the sense of urgency and anger, is the *unsustainability* of an economic system that is based on continuous growth, at the expense of natural ecosystems and people’s well-being. Many commentators see the growth paradigm as the root cause of the environmental and economic crisis. Following the 2008 crisis, there were calls for a new paradigm, or socio-economic model (Heinberg 2010). A range of responses appeared that proposed new models for an economy that functioned within the limits of the earth, shared resources more fairly, and was based on core human values (Spratt et al. 2010). There was also an emphasis on localisation and community-based action to support local ways of creating economic value; energy systems and food production (Hopkins 2008).

4.2.2 Transitions in industrial production/materials

In the industrial domains, there has been a range of studies on how to promote, govern and implement transitions in manufacturing, agriculture or transport (and associated systems including energy and water services). This is where ‘technical’ responses to climate change and environmental degradation take place, including introduction of new technologies and systems innovation. This is also the domain of numerical outcomes and measurables such as lifecycle assessments; reductions in green-house emissions or waste outputs. One area of the literature frames this field as ‘socio-technical transitions’, recognising that all industrial systems are socially-embedded (Grin, Rotmans & Schot 2010).

4.2.3 Transitions in society

Along with transitions in the economic and industrial domains, there is also an increasing understanding that we need a transformation of our social structures and values. The post-growth literature identifies this change in a post-carbon context. “The post-carbon transition must entail the thorough re-design of our societal infrastructure.” (Heinberg 2010, p. 11). Sustainable designer Manzini also argues that a transition beyond the current growth paradigm will be a ‘social learning process’ (Manzini 2010b).

4.2.4 Transitions in individuals

While one part of the literature is investigating how to support transitions at the economic, social and industrial domains, there is an equally strong emphasis on transitions as a ‘psycho-social’ process at the level of the individual. The internal shifts that need to occur are essential for creating deep, lasting change across all domains. Maiteny and Reed (1988) explain that there is both collective and individual sustainability, ‘sustainability of the inner dimensions of human beings – cultural, psychological – is necessary if sustainability of the outer dimensions – social and ecological – is to be achieved’ (Maiteny & Reed 1988, p. 1). This notion of change at the individual level was a key theme that emerged through the research journey and will be more fully explored in the project chapters.

The literature review revealed a range of approaches to understanding individual change in a transitions context. There is growing research on the role of values and worldviews in individuals who are becoming agents of change (Hedlund-de Witt 2014); on understanding psychological change processes in local community activism contexts, seen in initiatives like Transition Towns (Hopkins 2008); and studying transitions as a process that involves the unleashing of human potential to commit, care and effect change for a better life (Sharma 2007).

The traditional psychology literature also offers useful insight on the notion of transitions at the individual level. Winnicott argues that in early child development, a child exists in both an inner and outer world that he calls a ‘transition space’ (Winnicott 1965). This space is the best place for play and creativity; is essential for a child’s development of Selfhood; and for healthy separation from the mother. Therefore, transitions are not just a *process*, but can also be seen as a *space* that is essential for developing autonomy and self-awareness in times of change.

4.3 Transitions in Design

This section will provide a review of the sustainable design literature and activity to draw out the important role for design in the context of transitions and sustainability. Designers throughout the twentieth century have explored the role of design in improving environmental and social impacts. Prior to the literature review on transitions, the review on sustainable design provided an understanding of how the field has evolved. Manzini and Vezzoli (2008) describe an evolution of sustainability in design that began in the early 1990’s.

Levels of Sustainable Design	Approach
Green Design	Single issue, product focused
Eco Design	Lifecycle approach, product focused
Sustainable Design	System approach, product and service focused
Design for Social Equity	Re-Design lifestyles, support social equity

Table 3: Sustainable Design continuum adapted from Manzini & Vezzoli (2008)

The continuum has evolved from the first level of design, which considers resource efficiency, through to the fourth level of design, which considers social equity and well-being. Similar to the various domains described above in the section on transitions, designers have practiced across several domains following a natural evolution. A four stage framework has been developed (Table 3) to describe this evolution of sustainable design based on Manzini and Vezzoli, Armstrong & Le Hew (2011) and Fletcher (2008). In this evolution, the designer began with the single-issue concern of materials and resources (Green Design); and moved towards a lifecycle thinking approach, to perceive the material/product as embedded within a system (Eco Design). While the lifecycle is used in the sciences as a *quantitative* tool to measure environmental and social impacts, for designers lifecycle thinking can be used as a *qualitative* approach to explore the environmental and social impacts of a textile product throughout its life, and to identify potential places for design intervention (Payne 2011). Sustainable Design is the third level in which designers

begin to consider not only the material/technical aspects of the lifecycle but also the socio-cultural aspects such as behaviours around consumption.

The central issue at the fourth level of Design for Social Equity is the relationship between human well-being and material resources. There is a compelling body of scientific evidence that the growth in consumption of material goods exceeds the Earth's carrying capacity to supply resources and absorb waste and emissions. There is also the issue of equity, that every person has the right to a fair distribution of natural resources. Manzini & Vezzoli explain that the central issue for designers at this level is how to foster "new quality criteria" (2008, p. 261) that separates the demand for well-being from the consumption of resources, characteristic of mature industrialised societies. This complex challenge positions design at the centre of the socio-ethical dimensions of sustainability. Approaches to design at this level also include Design for Social Innovation (Manzini 2015), Service Design (Manzini, Vezzoli & Clark 2001), Design Activism (Fuad Luke 2009) and Transformation Design (Burns et al. 2006). The term Transition Design is a recent term defined by Irwin (2015) that was not known during this research process.

A similar multi-level framework for design comes from Pastor & Van Patter (2011). They define four levels of design all with different challenges. Design 1.0 is traditional product or artefact design; Design 2.0 is product/service design; Design 3.0 is 'organisational transformation'; and Design 4.0 is 'society transformation'. The fourth level of 'society transformation' is similar to Manzini and Vezzoli's Design for Social Equity. These two multi-level frameworks for sustainable design demonstrate that the four levels of design are inter-connected and represent both micro- and macro aspects. The further up the level of the design practice, there is an increase in complexity.

Wahl and Baxter (2008) view the increasing complexity demanded by the sustainability agenda as a spiral upwards. Based on psychologist Grave's model of spiral dynamic (1970) they argue that the further up the spiral a designer ascends into complex challenges, a change or evolution will need to occur in their own values and worldviews. Wahl and Baxter suggest that all design decisions are dependent on the worldview and value system of the designer. Once the designer decides to start practicing in the more complex contexts of organisational or social transformation, they will need to have more self-awareness on their own values and worldviews, and how these affect their design practice. Wahl and Baxter also recognise that the sustainable design agenda demands a collaborative and multi-disciplinary approach to design that moves design practice away from single issues and single viewpoints.

They suggest the designer needs to be part of ‘trans-disciplinary design dialogues’ that offer a broader exchange of knowledge and skills.

The evolution of sustainable design began at a single-issue level and has moved steadily through multiple levels to where it is today. The most complex context so far for designers is Design for Social Equity. This is the context in which this research proposes to investigate.

4.4 The Fashion Textile Designer

This research investigates expanded practices of crafts-based fashion textile design in the transition towards a sustainable fashion system. The definition of transitions has been established and the relationship between transitions and design. This section will introduce the fashion textile designer.

Traditionally the role of the textile designer involved the design and production of original fabrics in the form of paper designs or fabric swatches. Textile design education entails the development of visual, tacit and perceptual knowledge, all qualities that are intrinsic to learning a textile craft (Shreeve 1997). As a graduate, the textile designer needs to understand the requirements of the manufacturer or the consumer market and to develop creative ideas based on the intended outcome, making informed decisions about colour, construction, composition, surface, pattern and yarn structure (Gale & Kaur 2002). As a result of emerging new technologies and the growth of a global textile sector, the profession continues to expand into new territory including automotive design, medical applications, and architecture and interior design applications. Most recently, textile designers are expanding into new fields of material innovation, collaborating with scientists (Chieza 2010-2017) and engaging with technologies from outside the sector (Goldsworthy 2012).

Textile designers often define themselves very broadly – as variously designers, makers and artists. Gale & Kaur (2002) divide the profession into several types of practice, including the Freelance Designer, the Designer in Industry, and the Designer Maker. The researcher’s own practice demonstrates this diversity as it has included creating swatches for industry; art interventions in public spaces; designing and hand-printing textiles for fashion and interior contexts; and facilitating craft workshops for a general audience. Igoe has developed a diagram that charts textile design activity today (Fig. 7). The activity is primarily material-based practice and does not include roles or practices beyond the material. This research proposes to extend this diagram to include these new roles.

4.4.1 Relationship between Textile and Fashion Designer

The relationship between the fashion textile designer and fashion designer is important to consider in this context, as both play distinct yet complimentary roles. Textiles and yarns are an essential aspect of the fashion design process however for the fashion designer the textiles act as the starting point for garment design. The fashion textile designer on the other hand, is designing the base materials for the fashion designer and has to be aware of the same factors including knowledge of global trends, and the lifestyles and demands of consumers.

	Fibres Yarns			
	Natural Dyed			
Textile design students Textile swatching studios Freelance textile designers In-house textile designers Designer-makers Craftspeople Own-label designers Hobbyists Research-led designers	Knitted Woven Non-woven Rapid-prototyping (including 3D printing) Engineered			
Material scientists Chemists Engineers	Fabrics Materials			
	Printed (digital & manual) Dyed Embroidery & embellishment Constructed & mixed media Laser-cut & etched Surface treatments (e.g. Washing, distressing) Smart technologies Surface pattern design	Apparel Furnishing Architectural & Interior Automotive	Product for Retail Product for Contract	Consumer
		Technical & Industrial Medical & Biomedical Military		
		First level consumption		Second level consumption

Fig. 7: Contemporary textile design activity from Igoe (2013)

4.4.2 Fashion Textile Designer and the Swatch

In order to understand new practices for crafts-based fashion textile design practice, it is important to understand the traditional material level of fashion textile design practice. As a discipline, there are certain characteristics that define textile design as distinct from other design disciplines. Igoe suggests that the textile designer has “formed a tacit understanding of a specific blend of design knowledge” (2013, p30). This knowledge is embodied in the textile designer’s thinking and process and in the design outcome. There are also specific ways that the discipline presents design ideas and record processes, such as mood boards and sketch books. In the textile design discipline, one of the key methods for presenting design ideas is the swatch. Swatches are sample fabric pieces that demonstrate the decorative design or structural elements to the buyer - a textile manufacturer or fashion brand. The textile designer creates a visual ‘impression’ of a complete pattern or structure and the buyer is then responsible for transforming this sample into lengths of fabric.

The skills of the textile designer are the tacit and embodied skills of material and craft processes. The designer is trained to transform their sensory perceptions and experiences into aesthetic and material form. The textile design process is often highly experimental and based on continuous testing of processes and techniques. The focus on swatches rather than completed designs or products contributes to the process-driven aspects of textile design.

The practice of producing swatches has limitations for the discipline of textile design. Igoe suggests it positions the discipline in a secondary and anonymous role, in relation to other design disciplines such as fashion design.

There is an interesting dynamic between the role of the textile designer as artistic, creative and skilled and their requirement to produce work that others will enjoy and pay for. They have independency and license in their creative endeavours, but the outcomes of their activity are destined for a supporting role in another designed product. (2013, p74)

The textile designers interviewed by Igoe hint at an archetype of a quiet, female who is highly skilled and committed to these skills, but regarded more simply for the beauty and pleasure of her skills. Igoe uses adjectives to describe the textile designer such as ‘quiet’ and ‘unwitting’ and metaphors such as ‘geisha’ and ‘maiden’. She argues that the discipline is ‘sociologically gendered’ as it is primarily made up of women. The practice of creating swatches also means that the designer is often producing more designs than are ever sold or put into production, which is inefficient and does not make business sense.

The practice of producing swatches demonstrates that the particular skills of the textile designer are to create beauty and decoration through a small piece of cloth. However, there is little value or emphasis placed on the process or methods themselves. This practice of creating swatches therefore represents a deep tension in the discipline. As textile designers, we are valued for these skills yet we are also ignored and devalued. The focus on decorative elements places the discipline in a lower position than other design disciplines, however decoration and beauty in the fashion industry are highly valued. A textile designer who was consulted with at the beginning of the research, spoke of a similar frustration working as a sustainability consultant for a large textile company:

...we got passed on through the company, until we ended up basically doing swatches. This is not what we had wanted to do, we wanted to be more about ideas.... But we found it diminishing each time we did swatches...they didn't really understand what we were doing... How do we get to the point where we are developing concepts - we are not little swatch makers? (Spurgin 2012)

This quote exemplifies the perception of textile designers in the industry as being valued for beautiful swatches, and not for ideas, concepts, processes or methods. This research aims to expand the position of the textile designer beyond this notion of the 'little swatch maker' into new roles and contexts in a sustainable fashion/textile system.

4.5 The fashion textile designer and THE TEN

Before investigating the fashion textile designer 'beyond the swatch' in expanded practices, it is necessary to provide a background to existing practices in sustainable fashion and textiles. The sustainable design literature primarily represents the design disciplines of architecture; product design and service design. There has been less developed literature and activity from the textile and fashion design disciplines. In 2003, Fletcher and Tham argued there had been piecemeal and isolated approaches to sustainability in the textile and fashion sector. They argued the sector did not understand what role designers should have in addressing ecological or social questions. Since this time there has been a growing body of literature on sustainable design in the fashion and textiles context. Fletcher (2008; 2012) provides visionary ideas for a sustainable fashion future using ideas from systems thinking, philosophy and fashion theory. Tham (2008; 2010) also references systems thinking and meta-design principles to explore fashion practice in a sustainability context. Black (2008; 2013) and Brown (2010) survey sustainable fashion design practice and case studies. Gwilt and Rissanen (2011) and Gwilt (2014) have provided tools for fashion

designers.

The TED research group was established in 1996 to explore the role of the designer in reducing environmental and social impacts of the fashion and textile sector. Reflecting a similar view to Fletcher and Tham (2003), the group identified there was limited literature and practical methodologies on design practice from a fashion/textiles perspective. The research done by the TED group was to 'borrow' theories from the broader sustainable design disciplines, including concepts from Manzini (2010b) and Fuad-Luke (2009). The foundations for The TEN framework began during the Worn Again project and by 2010 the framework had been formulated. The development of The TEN can be seen as an iterative and slow-moving process of synthesising concepts from the broader sustainable design literature and applying them *through practice* to a textile and fashion design context.

There was also a lack of knowledge on the unique position of the fashion textile designer in the sustainability realm. Traditionally, the fashion textile designer has no control over specifying more sustainable options for materials or production. The designer is at the start of a linear supply chain whereby swatches are sold on to a textile manufacturer or fashion designer who make decisions about production, consumer use and end-of-life (Fig. 8).



Fig. 8: Linear supply chain involving Fashion Textile designer

However, the founding premise for The TEN is that design decisions significantly affect the environmental impacts of a textile product (Allenby & Graedel 1995). The framework explicitly positions the (fashion textile) designer at the centre of decision making about materials, processes and even business models (Fig. 9).

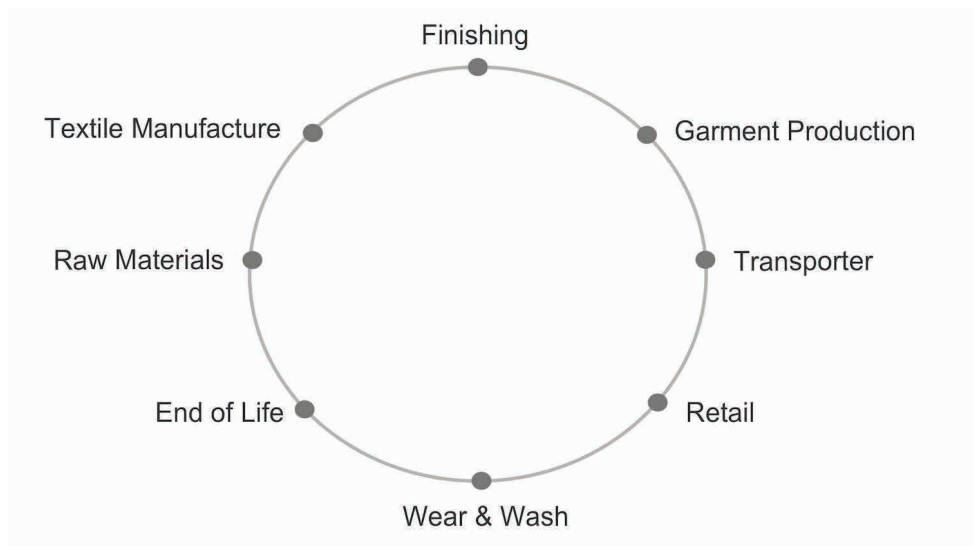


Fig. 9: Lifecycle of a textile garment (with a closed loop between disposal and raw materials)

In TED's lifecycle thinking, the designer needs to be aware of a range of interrelated impacts during cultivation, production, manufacturing, distribution, retail, use and end of life. This approach encourages the designer to shift focus from the *product* to the *system* of fashion (Fletcher 2008). For example, cotton t-shirts are frequently laundered, and have huge impacts in the use phase. The designer could choose a different fibre, or intervene to improve laundry practices. Niinimäki (2013) calls this 'future scenario thinking', where designers are being asked to imagine the impacts and potential places they can add value, through the lifecycle and in any future lives of the material. The four-level sustainable design continuum adapted from Manzini and Vezzoli, demonstrates the evolution of sustainable design and design thinking into more complex and challenging contexts. There is no framework in the fashion or textile design literature that demonstrates such an evolution with a focus on practice and methods. Fletcher & Grose (2012) organise chapters in three sections, starting with 'Transforming Products', to 'Transforming Systems', and 'Transforming Practice', with each section demonstrated using design case studies. These chapters however do not provide practical strategies and tools for designers or detail on the methodologies used.

The TEN frame-work has been mapped against the four-level framework adapted from Manzini & Vezzoli to demonstrate that the TEN strategies follow the same evolution (Table 4). Although the TEN was not developed explicitly to follow the evolution of design as described by Manzini & Vezzoli, it demonstrates how closely aligned to the broader sustainable design literature The TEN framework is. The mapping has also contributed to a deeper understanding of the strategies and their wider context.

At the first level of Green Design, the fashion textile designer is making a simple choice about a more sustainable material, such as organic cotton. At the second level of Eco Design, the fashion textile designer takes into consideration how to minimise textile waste, such as with Zero Waste cutting (Rissanen & McQuillan 2015); the use of recycled materials; the energy, water and chemical impacts of textile/garment production and use; and how these decisions affect the lifecycle at all stages. At the third level of Sustainable Design, the fashion textile designer considers craft and emotionally durable design concepts (Chapman 2005) to extend the life of garments or textiles; how design can support production workers in the supply chain; and how consumer need can be met without garments, such as through the facilitation of craft workshops that upskill participants. At the final level 4 of Design for Social Equity, the fashion textile designer considers how to design a system or service that reduces or replaces the need to purchase garments, through clothing libraries, for example; and how to operate in an activist role, raising awareness and facilitating ‘new ideas of wellbeing’ (Manzini 2010a).

	Approach	The Ten Strategy
Green Design	Single issue, product focused	Materials Choice, e.g organic cotton
Eco Design	Lifecycle approach, product focused	Design to Minimise Waste (TT1) Design for Cyclability (TT2) Design to Reduce Chemical Impacts (TT3) Design to Reduce Water & Energy (TT4) Design that Explores Clean Technology (TT5)
Sustainable Design	System approach, product and service focused	Design that Models History & Nature (TT6) Design for Ethical Production (TT7) Design to Reduce the Need to Consume (TT8)
Design for Social Equity	Re-Design lifestyles, support social equity	Design to Develop Systems & Services (TT9) Design Activism (TT10)

Table 4: The TEN mapped with the Sustainable Design Continuum

4.6 Fashion Textile Designers Beyond the Swatch

The TEN framework demonstrates the potential field of influence and practice that fashion textile designers could operate within, moving from the single issue of material choice through to the more complex challenges of designing systems, services and activism. However, there was a lack of understanding of the particular role and practices the fashion textile designer takes on when utilising

these strategies. The framework had defined each strategy as 'Design to...'. The grammatical structure positions the design practice as being motivated towards a particular outcome. What are the *practices* of the designer when they are motivated towards these sustainability outcomes? And what are the skills and methods that the designer requires in these new practises?

There is a lack of literature that describes textile or fashion design practice in the third and fourth levels of design practice and thinking as described by Pastor and van Patter (2011). Igoe explains that in education and industry, textile design is primarily focused on level one of product or artefactual design. The diagram above does not include textile designers operating within the organisational or social transformation fields. Igoe argues for the benefits of identifying textile design practice and thinking within these higher order levels of complexity and challenge.

Working towards a conceptualisation of textile design thinking in these areas, due to the interrelated nature of different types of design thinking, will undoubtedly open up new applications of textile thinking in regard to other types of design challenges, and give further credence to textile designers pioneering in the areas of organisational and social transformation (2013, p26).

Igoe cites the work of Rebecca Earley as one example of a fashion textile designer practicing at Level 3 of 'organisational transformation', referring to Earley's work with The TEN in consultancy and industry contexts. This research aims to establish crafts-based textile design practice in the *transition* towards Level 4, Design for Social Equity.

The strategies such as Design to Reduce Consumption and Design for Systems and Services, demonstrate how in theory the fashion textile designer can move beyond material concerns to influence the socio-cultural aspects of fashion consumption, well-being and sustainable lifestyles. These are the more complex and challenging contexts for designers, as described by Manzini and Vezzoli (2003). These future-focused concepts had been explored by the TED researchers in education and consultancy contexts for small and medium-sized fashion companies. The researcher had also explored these concepts in independent creative practice. However, there was a need to investigate these strategies and concepts in more detail.

Igoe argues that from a design thinking perspective, it is problematic to define textile design practice within the Level 4 of 'social transformation' due to its relationship with craft and amateur craft communities. She cites an example of women coming together to work on a quilt, a textile design scenario that has a long history and

has social affects. The researcher's practice had evolved from a focus on recycled materials (TT1 Design to Minimise Waste) to facilitating craft workshops for fashion consumers (TT8 Design to Reduce the Need to Consume). The craft workshops are a similar textile design scenario to the one described by Igoe above. The researcher was facilitating the development of new craft skills and new relationships for people and their garments, however the practice was limited to the local scale and to the level of the cloth. The researcher was interested in pursuing an enquiry that elevated the textile design practice beyond the product/artefactual level to a systemic level, the Level 3 and 4 of Sustainable Design and Design for Social Equity.

Within the discourse that supports The TEN, there had been discussion on the use of the strategies in teaching and research. Each strategy covers a general theme such as water impacts or ethical production. There was an understanding that the goal of achieving environmental or social sustainability would require the use of more than one of the strategies. The terms 'inter-connected' or 'layered' design thinking was used by Earley (Earley & Politowicz 2011a) to describe this approach, yet there was a limited amount of literature or written reflection on this concept. Manzini & Vezzoli (2003) suggest that design at a system level can be called *strategic design for sustainability*. Strategic design in a sustainability context aims to develop an integrated system of products, services and communications that have the long-term goal of sustainability. The innovation is at the system level, not product level. A key characteristic of a strategic design approach is the ability to facilitate and leverage new relationships between stakeholders; and to understand the user/consumer needs. For designers, this requires the skills and methods that can be defined within a *service design* approach, including scenario building; mapping and facilitation. These were the types of skills and methods that the term 'inter-connected design thinking' was referring to in relation to The TEN strategies. However, the researcher believed more granularity was needed on these methods within a sustainable fashion/textile design context.

The other factor contributing to the motivation for the research, was the possibility to explore the application of the strategies in a 'real world' context. The Mistra industry context would provide an opportunity to investigate these questions in a Swedish fashion industry context.

4.6.1 New practices and roles for designers

The discussion and debate around new practices and roles for designers in environmental sustainability and social equity contexts has been ongoing for several years. Manzini has been at the forefront of the literature that has defined new roles in

a design research context. In 2008 he described what these new roles may be at the Changing the Change conference in Italy:

... the new designer role: connectors and facilitators, as quality producers, as visualisers and visionaries, as future builders (or co-producers). Designers as promoters of new business models. Designers as catalysers of change. (Manzini 2008)

Tony Fry (2009) is a design theorist who has explored new roles for designers in environmental and social change contexts. Fry advocates for designers to become 're-directive practitioners' who do not respond to existing design briefs based on unsustainability, but who lead and initiate better alternatives, and who eventually design and direct programs of change. The discussion has been robust in the literature; however, the discussions have mostly been theoretical, rather than methodological. Tan (2012) identified seven roles for designers in social design contexts through doctoral research. She argues that the discussions about new design roles from theorists such as Manzini and Fry have provided limited elaborations on what these roles actually do. The theorists have provided written reflection on the discourse, rather than the roles being an intentional subject for discussion (Tan 2012, p47).

There are a number of design-related MA courses that have recently been developed to provide the additional skills and knowledge deemed necessary for operating in sustainability contexts. These include MA Fashion Futures (LCF); MA Fashion (ESMOD, Berlin); MBA Design Strategy (California College of Arts); FIT and Parson's in New York; and (KEA, Copenhagen). These new courses demonstrate that educators, graduates and employers recognise the need for a range of skills and competencies to support a transition towards sustainability in the fashion/textile industry.

4.6.2 New practices and roles for Fashion Textile Designers

The above descriptions of new roles for designers are from the design disciplines of architecture, product, service and social design. The literature and practice that describes new roles for designers within a fashion and textile context is more limited. Fletcher & Grose (2012) discuss how new roles for fashion designers could bring about systems change:

Fashion designers will move from working in the supply chain to working at the 'hub' of change – using their skills differently, envisioning change, organising it and enabling something different to happen. (2012, p. 162)

As mentioned above, the chapter structure of the publication includes 'Transforming Products'; 'Transforming Systems', and concludes with 'Transforming Practice'. In the final chapter, they define four new roles for fashion designers, using existing design case studies. These include: Designer as Communicator-Educator; Designer as Facilitator; Designer as Activist; Designer as Entrepreneur. While these four roles are useful to consider for their focus on clothing and fashion, the descriptions lack detail about the designer's methods, approach and value. The roles described by Fletcher & Grose are also specific to *fashion* designers, not *textile* designers.

There are several other examples of new design roles in the fashion and textile literature. Von Busch (2009) completed doctoral research on 'fashion hacktivism'. He explored the emerging role of the fashion designer in relation to engaged forms of consumer participation and DIY. This research was from a *fashion not textile* design perspective, and was focused on the consumer. Holroyd (2013) completed doctoral research on amateur knitters, utilising an expertise in textile knit to develop participatory workshop methods to capture data. However, the focus was on amateur making rather than on the researcher/designer's own practice. Ballie (2013b) completed doctoral research using facilitation and co-design methods with young fashion consumers. Ballie's research has provided useful insight into the methods and role of 'Designer as Facilitator' from a textile design perspective, however the focus of the enquiry was on the facilitation of consumer behaviour rather than in industry.

In conclusion, the sustainable fashion and textiles literature includes a minimal description of the methodology and approach of new textile design roles and practices. Tan identified that in discussing new design roles, the design literature did not account for: the key practice; how the roles expand the application of design; and what value the designer brings amongst other professionals and participants in design projects (2012b, p. 32). Similarly, the sustainable fashion and textile literature is lacking in granularity on the particular methods and value of a crafts-based textile design practice in sustainability contexts. This thesis argues that the thinking and approach of *crafts-based textile designers* is of value in the transition to Level 4 of Design for Social Equity. There are new roles for crafts-based textile designers in these transitional contexts and these roles require a set of new skills and competencies. Several of these new roles and skills will be described in detail in the following chapters.

4.7 Summary of Chapter 4

This chapter has outlined the contextual review for the research by considering established theory and practice in the fields of sustainable design; textile design and sustainable textile and fashion design.

Part 2:

The Transitional Practice Journey



Chapter 5: The Sustainable Textile Designer



Fig. 10: Design for Change fashion images with bag prototypes

This chapter begins by outlining the focused contextual review and articulating the research questions; then maps out the methods used, before giving an overview of the two projects Love & Thrift (2007) and Design for Change (2012). The chapter concludes with the results obtained during these projects that combine to represent a Sustainable Textile Design practice, and the insights that help build the framework for the Transitional Textile Designer.

5.1 Introduction

This chapter defines the founding practice of the researcher as a Sustainable Textile Designer. Using two practice projects (the first project was undertaken prior to the PhD time period), the chapter explores the first stage of a fashion textile design practice that engages with sustainability strategies (See Fig. 11). The focus is on the ‘outer’ dimensions of materials and technical processes and considering worker’s rights issues in production. This aligns with the third level of the Sustainable Design continuum, where designers consider both the technical and socio-cultural aspects of the lifecycle. Where in the further stages of the practice journey the designer moves ‘beyond the swatch’ towards Design for Social Equity to become a facilitator and steward, here the practice is focused at the level of the cloth and involves the design and creation of material prototypes.

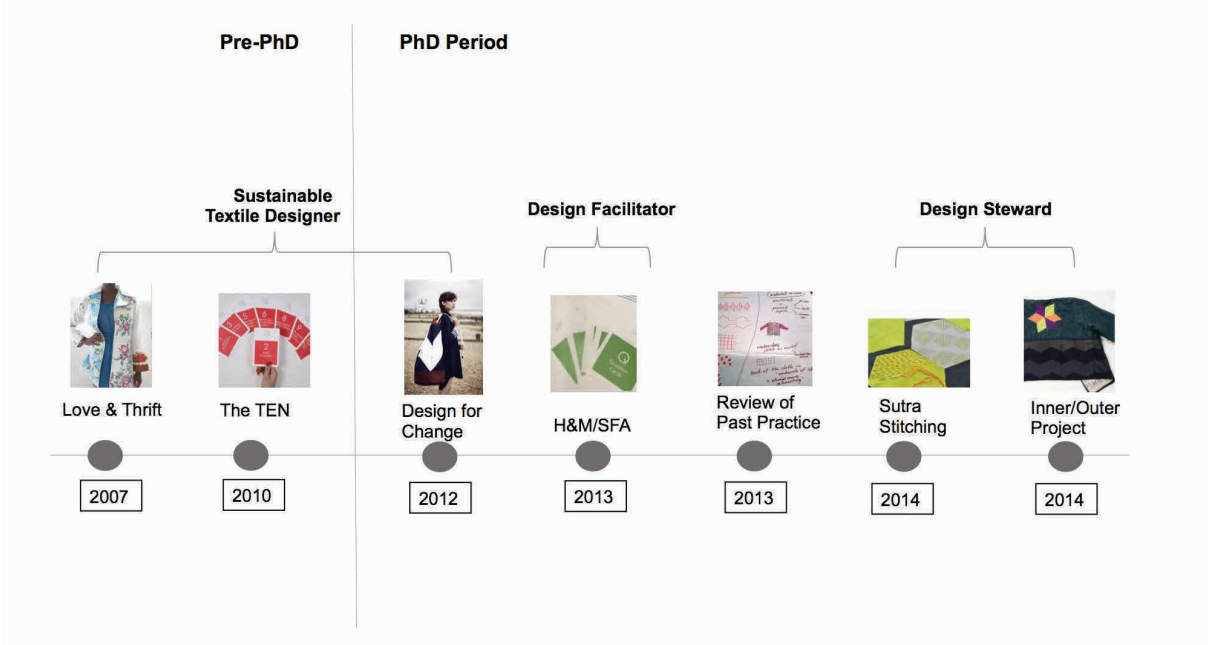


Fig. 11: Timeline of Practice

The first project Love & Thrift (2007), demonstrates a focus on recycled textiles. Following this project, the researcher was involved in the development of The TEN frame-work, that includes a range of sustainable design strategies from material/ technical through to socio-cultural aspects. The second project Design for Change (2012) shows a practice that extends The TEN strategy 7 Design for Ethical Production and is a systemic and inter-disciplinary approach to workers' rights issues in garment production. This project shows the fashion textile designer moving outside the studio to engage with local communities. It also demonstrates the new skills and methods the designer needs in these socially-engaged, multi-disciplinary contexts including facilitation skills, visualisation of concepts and co-design processes for product prototypes.

	Approach	The TEN	Project	Role
Green Design	Single issue, product focused	Materials Choice, e.g organic cotton		
Eco Design	Lifecycle approach, product focused	TT 1, 2,3, 4, 5		
Sustainable Design	System approach, product and service focused	TT 6, 7, 8	Ever & Again Design for Change	Sustainable Textile Designer
Design for Social Equity	Re-Design lifestyles, support social equity	TT 9, 10		

Table 5: Design for Change (2012) on the Sustainable Design Continuum with The TEN

5.2 Love & Thrift (2007)

This Project was undertaken prior to the PhD study however it is included because it demonstrates a fashion textile design practice at the foundational level of the sustainable textile designer. There are other themes being explored including emotional durability and resourcefulness, however the designer is primarily concerned with materials and technical strategies that address sustainability. The project was included in the review of past practice, undertaken part way through the PhD journey (Chapter 7). The following description of the work was part of the reflective writing process from the review, using the first-person voice.



Fig, 12: Love & Thrift mac coat

The Love & Thrift jacket was an outcome of Worn Again (Earley 2006-2010), a three year creative research project exploring innovative methods for textile recycling. The aim was to explore how the textile designer could intervene in the linear supply chain as textiles become waste, and re-invent materials using textile design knowledge.

The term used was 'upcycling', adding value to the materials in their 'second life' (ref). The project explored the re-use of textiles through the lens of several themes – ethical production; systems and services design; long life/short life. My work was titled Love & Thrift, a mac coat made from second-hand tablecloths, that had been plastic coated using recycled PVC.

Following a series of group workshops and seminars, each participant began their own design process. This was the first Project I undertook as a fashion textile designer and researcher that engaged with the sustainability agenda. My previous practice had no explicit sustainability values, however I began the design process using a method I had used in previous projects. The method has been defined as Creative Field (Re) Search, searching for and using second-hand textiles as inspiration for the design process. The reflective writing from the review of the project (Chapter 7) describes this creative field search process:

The thrill of rummaging through bins of used textiles, sensing the imprint of the owners of the textiles, and the previous lives these pieces were part of. Like Benjamin's description of Baudelaire as the 'rag picker poet', who wanders the street recycling the detritus left over by our capitalist society, I rummaged in these bins, and used my 'textile designerly ways of knowing', to find my own meaning amongst these materials. (Vuletich 2014a)

For the Love & Thrift project, the search for textiles led me to a collection of second-hand tablecloths with floral prints from the 1950's and 60's. I was instinctively drawn to the joyous and vibrant colours and prints, that reminded me of my grandmother and her home that I visited so often during my childhood. I also purchased a collection of old polyester net curtains, and experimented with bonding textiles with plastics, using a heat-press. The design process did not involve any mark-making, drawing or development of print patterns, rather I was responding to patterns on existing second-hand textiles. I was also hand-embroidering over the bonding, and vice versa. The experiments and 'play' in the print room with process and materials were how I sought 'answers' to the research problem.

A 'pivotal moment' was during a group tutorial when I showed the group the samples I had created. The samples of floral tablecloths that I had coated with plastic were deemed the most 'successful', but the question of how to scale the idea was a problem. One participant suggested I contact an industrial plastic coating company. I subsequently found a factory in the north of England that used recycled PVC and agreed to work with me. Although their minimum order for clients was 1,000 metres, they agreed to accept just five metres of my second-hand tablecloths, sewn together on a domestic sewing machine and hand-rolled. The coated fabric was returned and

I worked with a seamstress to make the fabric into a mac coat. The seamstress was asked to sew up the garment pieces so the pattern was mismatched or 'off-grid'.

A project description was written for the Exhibition catalogue. The writing process revealed the concept of durability – the *material durability* of plastic coated fabrics; and the *emotional durability* (Chapman 2005) of a second-hand fabric that connects to the recipient through its nostalgic and vintage-inspired aesthetics.

During the Project, I also hand-stitched on small samples to explore different techniques and combinations of motifs. This technique was another area in which I could 'play' with fabrics, colours, motifs and yarn. In subsequent projects, I would also use this method as a way to process information from the 'action' or making stages. This technique of hand-stitching finally evolved into the most valuable reflective method used for the overall PhD research, described in Chapter 8.

It was during this project that I also developed my interest in the facilitation role. Through observing the facilitators during the Worn Again project, I began to understand the significance of a facilitator in a group learning context. I was also introduced to the use of creative tasks for activating innovative thinking and new ideas, that would become part of the PhD research.

This Project operates at Level 2 on the Sustainable Design continuum, focusing on a materials and technical approach to lifecycle thinking. The following project also demonstrates a practice operating at Level 2 of the Continuum, however here the designer is addressing the ethical production issues in the supply chain.

5.3 Design for Change (2012)

The project was a commission from a large American clothing company. The brief was to explore concepts of philanthropy and social enterprise for a fashion brand. The parent company owned several brands, and denim brand '7 for all Mankind Jeans' was chosen as the target client (7 for All Mankind undated). The commission was one of ten exhibits in a sustainability section, as part of an Innovation Summit for the client. The section was curated using The TEN (Earley & Politowicz 2011) and was made up of prototypes that explored a range of sustainable design strategies.

5.3.1 Focused Contextual Review

5.3.1.1 Social Impacts in Fashion Supply Chains

The social impacts of the textile and fashion industry are significant. Many of the workers involved in textile and garment production are poorly paid, work in unsafe conditions and are kept on temporary employment contracts with no employee rights (Dickson, Loker & Eckman 2009). The workers involved in garment production, or Cut Sew Trim (CST) factories are particularly susceptible, as garment production has a low use of technology and is highly labour intensive (Desai, Nassar & Chertow 2012).

More recently, fashion brands have developed Codes of Conduct in consultation with their suppliers that ensure workers are treated fairly and humanely. There is evidence to suggest however that social impact issues persist despite the measures such as Codes of Conduct and factory auditing (Galland & Jurewicz 2010). This is due to lack of communication between suppliers, brands and auditors; increased pressure for lower prices and faster lead-times on suppliers from buying teams; and differences in legal and cultural norms that determine worker's rights and needs. There is not one solution to the systemic issues of social impacts in global supply chains. Jeremy Prepscious, from Business for Social Responsibility (BSR) explains:

[Garment workers' issues] is a systemic issue Partly this is the normal economic development cycle of a country, and partly this is to do with the illegal exploitation of labour, encouraged by international buyers [from fashion brands]. (Prepscious 2013)

In many cases, the issues are created from a 'perfect storm' of factors involving the economic needs of a developing countries transitioning out of poverty, the compulsive demands of fashion consumers, and a global financial system that supports consumption-based well-being.

From a fashion brand perspective, there is work being done on improving purchasing practices of buying teams ensuring designers do not make last minute changes that directly impact workers. However, there is a lack of focus on educating designers of the potential impacts of all design decisions on workers (Parker 2012). For example, certain embellishments such as beading are labour intensive and if the factory has not managed the production process properly, workers will be required to work over-time to complete the order.

This project takes the position that the current approaches to managing social impacts in the supply chain are highly fragmented and do not utilise the valuable

skills of the designers in the organisation. The project takes inspiration from a forward-thinking approach to managing social impacts called 'Beyond Monitoring' (BSR 2007). In this approach, businesses are encouraged to take responsibility for their activities and provide comprehensive support to workers beyond monitoring, including work-place training and education. This approach recognises the systemic challenges inherent in social impact issues and prototypes initiatives that involve multi-stakeholder dialogue with local trade unions, government and brands. These initiatives are often the domain of corporate responsibility departments (CSR) and do not involve designers at either the product or strategic level. The aims for the project were to propose design-led solutions at both the product level and strategic level. This approach moves the discussion beyond monitoring and beyond design for ethical production.

5.3.1.2 Beyond Design for Ethical Production

The practices and methods for the fashion or textile designer to support workers in garment factory production is under-researched. Fletcher & Grose (2012) identify actions by a fashion designer that are focused at the material, garment or production level. At the garment level, the choices for designers are to choose an audited/assessed factory and at production level to establish vertically-integrated production or work with artisanal craft communities. The TEN strategy 7, Design for Ethical Production also outlines a similar range of approaches. In both the TED and Fletcher and Grose definitions the approaches lack granularity. The approaches are also primarily based on the designer choosing available options (materials, audited factories) rather than pro-actively assembling new configurations of methods or business models. There is also little distinction between production workers in small-scale craft contexts or workers in larger-scale factory production, such as Cut Sew Trim (CST).

There are several case studies of designers or SME-size fashion companies working with small, traditional craft communities to ensure workers are treated and paid fairly, for example People Tree (People Tree 2001). These examples are often utilising the Fair-Trade certification scheme or cooperative structure as a framework for fair labour. However, there is a lack of case studies of designers working in a Cut Sew Trim garment factory context. This may be due to this type of design activity and knowledge occurring in fashion brands and industry contexts, and as such is considered proprietary knowledge.

5.3.1.3 Design for Social Innovation

This project is proposing that designers can have a central role in the social

responsibility strategy of fashion brands and in local communities in which garment production occurs. In a fashion/textile industry context, there is a lack of examples of designers practicing at the level of systemic design in a supply chain that supports social needs. There are case studies of small fashion businesses that support local employment and training (Remade in Leeds 2009) (Social Studio 2009) however in these cases the production is small-scale and does not occur in a Cut Sew Trim factory as part of a brand CSR strategy.

As described in the Sustainable Design continuum and The TEN frame-work, the fourth level of Design for Social Equity is where the designer can be involved in the re-design of lifestyles and individual well-being. Manzini advocates for designers at this level to support individuals and communities through a process called 'social innovation'. Social Innovation describes an innovation process that serves society rather than the market. The term is defined as 'new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations... innovations that are both good for society and enhance society's capacity to act' (Murray, Mulgan & Caulier-Grice 2010). A key characteristic of social innovation is that it occurs often in the boundaries between the third and private sectors.

There has been increasing interest and discussion on the role of designers in social innovation processes (Brown & Wyatt 2010) (Tan 2012a) (Manzini 2010b). Designers have been testing an approach that focuses on the ability of design to solve complex (social) problems called 'design thinking'. While the design thinking process is often hard to define and iterative, Brown and Wyatt (2010) simplified the process into three key stages:

- 'Inspiration (the problem or opportunity that motivates the search for solutions);
- 'Ideation' (generating and developing ideas and prototypes);
- 'Implementation' (takes the project into people's lives)

Design toolkits have been developed that provide methods and approaches for designers and other stakeholders working in social contexts. The toolkits were developed by researchers based on observations of how designers practice (Kimbell & Julier 2012) or by designers themselves who have recorded their methods and processes as useful knowledge for others in social settings (IDEO 2009).

The interest in design thinking for solving social problems is also evident in the emergence of 'hackathons'. The researcher had attended a 'Green Hackathon' in

Sweden (Green Hackathon 2011) in which web developers, designers and data experts worked together on prototyping concepts for communicating sustainability. The event utilised the method of a ‘hackathon’, a rapid and collaborative way to create solutions to problems using design thinking. The ‘hackathon’ method was also the primary method used by Good for Nothing/Pipeline Projects (Good for Nothing 2012), chosen by the researcher as the project collaborators. Tom Rowley from Good for Nothing defined this method as a ‘Design-a-thon’. Designers, brand and web developers work with third sector organisations to prototype new brand strategy. This project takes inspiration from these social design methods and attempts to test such an approach for a fashion company’s corporate responsibility strategy.

5.3.2 Research Questions

There is a project-based research question that has been developed from the overarching research question:

What is the ‘design opportunity’ in a garment factory context that extends Design for Ethical Production; and how can a designer practice at both product and system level to explore social impacts in the supply chain?

This research question meets Objective 2: To explore new practices for fashion textile designers in industry that extend TED’s The TEN to Design for Social Equity.

5.3.3 Research Methods

PLAN	Reading	Thinking	Develop Proposal	Purposeful Dialogue
ACT	Creative Collaboration	Case Study Review	Co-Design Workshop	
REFLECT	Written Report	Purposeful Dialogue		
SHARE	Academic Paper	Exhibition		

Table 6: *Design for Change Methods*

5.3.3.1 PLAN

In the first stage, the project brief was developed with the client and TED Researchers (Earley and Politowicz). Tom Rowley from the Pipeline Project (PP) team of management consultants and brand strategists was identified as the main collaborator (Good for Nothing 2012). A document was generated for the client that outlined the exhibition concept, the budget, the deliverables for the researcher and the collaborator.

A method was developed at this stage of the project called Purposeful Dialogue. This was a type of dialogue with either collaborators (to identify shared vision/

goals and reflect on outcomes) or with industry experts (to understand a person's perspective and gain feedback on outcomes). These interactions contained aspects of the traditional qualitative methods of interviewing, as described by Fontana & Fey (1994). Similar to an unstructured interview, the researcher had a set of open-ended questions that were pre-planned but remained open and willing for the dialogue to be led partly by the other person. The purpose was to gain professional insight from the person, while also to remain open to co-creating shared meaning around the topic of discussion. All the conversations were initiated by the researcher, recorded digitally, and notes were made in situ. Several of the dialogues were transcribed from the audio however none were analysed using traditional qualitative analysis.

The first Purposeful Dialogue took place with an expert in workers' rights issues (Parker 2012). Several of the points made by the expert (missing research on the role of the designer; and the need for a systemic approach) verified the researcher's initial hunches and provided confidence for the direction of the enquiry.

5.3.3.2 ACT

For this project, the primary action method has been defined as Creative Collaboration. This is a method of creative practice for research that involves collaboration with partners. In this method, the enquiry begins from a problem or set of questions that arise from practice and the answers are sought in collaboration with others. It involved development of the concept with the Project Collaborator; review of case studies; the Co-Design Workshop; the development of the film/animation and exhibition of the product prototypes/business model concept to the client.

5.3.3.3 REFLECT

The third stage of the research methodology was reflection on the action. A written report was generated that outlined the proposal, methods, and outcomes. The project collaborator Rowley/PP was engaged in Purposeful Dialogue to reflect on the collaborative aspects of the project and outcomes (see Appendix III).

The second Purposeful Dialogue at this stage took place with an independent expert in CSR strategy in the fashion industry (Cakmak 2012). The insights from this expert contributed further understanding to the project context and the barriers to implementing the concept in industry.

5.3.3.4 SHARE

In the fourth stage, the results and insights are shared. The film was shown at the client exhibition in North Carolina, USA in March 2012 along with the three bag

prototypes. An academic paper was written and presented at the EAD Conference in Malmo, Sweden in April 2013. Three articles on Design for Ethical Production were written for the TED/Project Textile Toolbox platform between 2012 and 2013 (see Appendix IV).

5.3.4 Results and Discussion

This section includes a discussion of the research outcomes and methods used during the research process.

5.3.4.1 Concept

The researcher generated an initial visualisation of the concept based on the notion of a formula or toolkit (Fig. 13). The researcher had several meetings with Rowley/PP to decide on the concept.

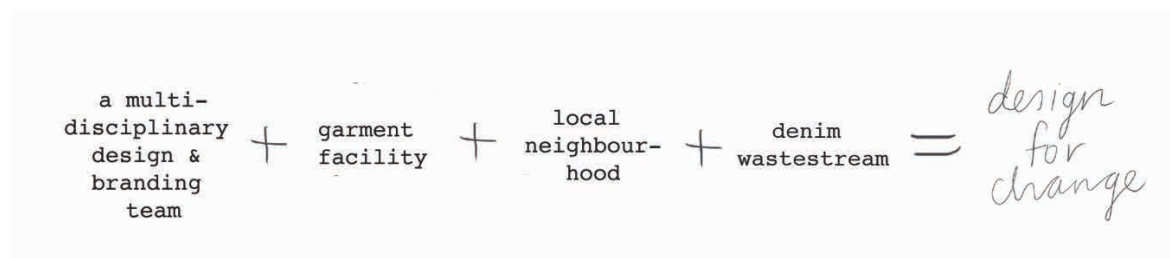


Fig. 13: Visualisation of initial concept for Design for Change project

The final concept that was developed was a Corporate Social Responsibility strategy (CSR) for the brand that was led by a designer. The concept proposed to bring key staff together from the factory in Los Angeles with the local community to create a new business model. Using the 'design-a-thon' method the group would work collaboratively to identify the social needs in the community and how the brand could partner with local stakeholders to support these needs. To provide a tangible example, an existing social enterprise in the Los Angeles area was identified. The designer from the brand would establish a 'Design Lab' in the neighbourhood to operate as a production and design centre. The centre would make product using denim waste and train people in garment/product manufacture.

5.3.4.2 Co-Design Workshop

Two professional designers (a craft-based textile designer and a fashion accessories designer) were engaged to work collaboratively with the researcher on the development of product and textile prototypes. The design brief for the product samples was multi-faceted:

Responding to a waste stream: Three sources of denim waste were to be considered

from the supply chain:

1. Post-consumer waste - Returned denim jeans from a consumer take-back scheme. The materials in a pair of jeans have a restricted width, length etc. and the design had to account for this restriction.
2. Pre-consumer waste - Denim waste from the cut and sew process. The exact sizes of materials from this process were predicted, based on industry feedback.
3. Pre-consumer waste - End of rolls from the denim mill, which have a restricted size/length.

Responding to a social need: To develop a viable production framework that offers employment and skills training to people from the community. To ensure that the products that are developed are easily produced by people with a low level of garment production skill.

Responding to a consumer group: To design a range of products that are desirable and 'on trend' suited to the brand's target consumer group and price point. An Inspiration/Mood Board was created by the researcher (Fig. 14) that included visual research on a nautical theme. The images chosen included details of textile techniques (dip dye, braiding, patchwork, Japanese 'boro boro'); finishing techniques for denim; fashion models wearing styled outfits; and different product types. This set of visual images based on a theme would act as an aesthetic and material guide for the designers.



Figs. 14 and 15: Mood Board created for Workshop by the Researcher (left) and the two designers at Co-Design Workshop (right)

The workshop took place in the researcher's studio in London over a full day in February 2012 (Fig. 15). The bags involved two design processes – the design of the textiles and the product design of the bag. The researcher facilitated both processes with the designers working together in the same studio space. This created a close

synergy between the processes. These two processes will be described separately.

Textile Sampling

The primary textile technique used for the sampling process was quilting and patchwork. This technique carries both material and symbolic meaning. Patchwork uses simple geometric shapes to make the most efficient use of material and was traditionally a resourceful way to re-use textiles and cloth in the home. As a hand-made object, quilts also carry 'emotional durability' as they are often handed down through family generations and cherished for the associated memories (Harper 2005). The textile designer Katherine May had collaborated with the researcher as part of the bricolage collective. May developed a range of sample patchwork techniques, based on traditional patterns. The process was an iterative exploration of playing with contrasting colour and fabric and considering the three different types of denim waste.

Three different designs were developed (Fig. 16):

1. Chevron – based on a traditional patchwork pattern called 'resilience'; using the white and navy pre-consumer mill denim.
2. Gradation – a simple pattern made up of wide stripes of gradating shades of denim, using denim from all three waste stages.
3. Ripples – a wave-like pattern made from the pre-consumer waste during the Cut Sew Trlm process



Fig. 16: Three textile designs, left to right – Chevron; Gradation and Ripples

Product/bag Sampling

A professional bag designer was also engaged. The brief was based on the Inspiration Board themes and consideration was given to the skill level of the production workers who would be manufacturing the products. The first stage was to develop several prototypes of bag shapes in miniature using cotton calico. Two designs were made up into full size prototypes, defining measurements and trim options.

5.3.4.3 Animation

The concept for the client exhibition had initially been developed based on the denim brand that manufactured in Los Angeles. Discussions with the client resulted in the concept being adapted to all brands with supply chains in different global regions. The researcher and Rowley/PP agreed to produce a short film and animation that communicated a more generic concept that could be adapted by any of the client brands. An animation and script was developed to demonstrate the benefits and opportunities of a social business concept for a fashion brand (Fig. 17). The researcher wrote the animation script with feedback from Rowley/PP (see Appendix V). An animation designer was then briefed and the researcher created a storyboard using the script and further sketches.



Fig. 17: Stills from animation/film for Design for Change

The animation was embedded into a short film that contextualised the concept for the exhibition. Rowley/PP produced and edited a 5-minute film using available footage from the Internet combined with interviews of the researcher and Rowley/PP.

5.3.4.4 Beyond Design for Ethical Production towards Design for Social Textiles

The existing approach of designers to supporting garment workers in factories outlined by Fletcher and Grose (2012) and TED (2011) was to either choose a supplier factory that had been audited/assessed or establish a vertically integrated production unit. The options are primarily based on the designer choosing available

options rather than pro-actively assembling new configurations of methods, approaches or business models. There was also little distinction between production workers in small-scale craft contexts or workers in larger-scale factory production, such as Cut Sew Trim (CST). The concept that was developed was an example of a Design for Social Innovation approach that prioritises individual and community well-being, in a fashion industry context. The designer is encouraged to work pro-actively at both the product and strategy level and to develop a new social business model that can 'bolt on' to an existing fashion manufacturing business. While Manzini advocates for designers to work outside the production and consumption paradigm, this concept is a radical re-interpretation as it takes place within an industrial, factory setting. This concept also sits on the borders of both an enterprise to support the social needs of a local community and the financial needs of a for-profit fashion business.

The challenges for the concept were to demonstrate such an approach without actually engaging in a local production or community context. The other challenge was to understand how an approach would apply to the 'real world' contexts of fashion brands. Feedback from the client and dialogue with experts suggested there was a range of barriers:

- global supply chains and fragmentation means that fashion brands have little autonomy or control over supplier factory management and therefore workers
- lack of understanding within fashion brands to understanding their responsibility to local communities and individuals in which they operate
- the limited role of the designer in organisational structure of fashion brands to effect change for production workers

A Design for Social Innovation approach is more viable in contexts where the designer has agency outside of organisational structures and closer to local communities. A case-study framework was developed at the conclusion of the project demonstrating such an approach called Design for Social Textiles (see Appendix X).

5.3.5 Reflection on methods used

There were several methods used during this project that were new for the researcher as a practitioner. There was also the need to understand the project and methods used for academic purposes.

The key methods used for this project were identified following a reflective mapping process based on the double diamond framework (Fig. 18). There were two parallel aspects of the project – the development of the business model concept and the development of the bag prototypes. Both of these processes involved unique methods.

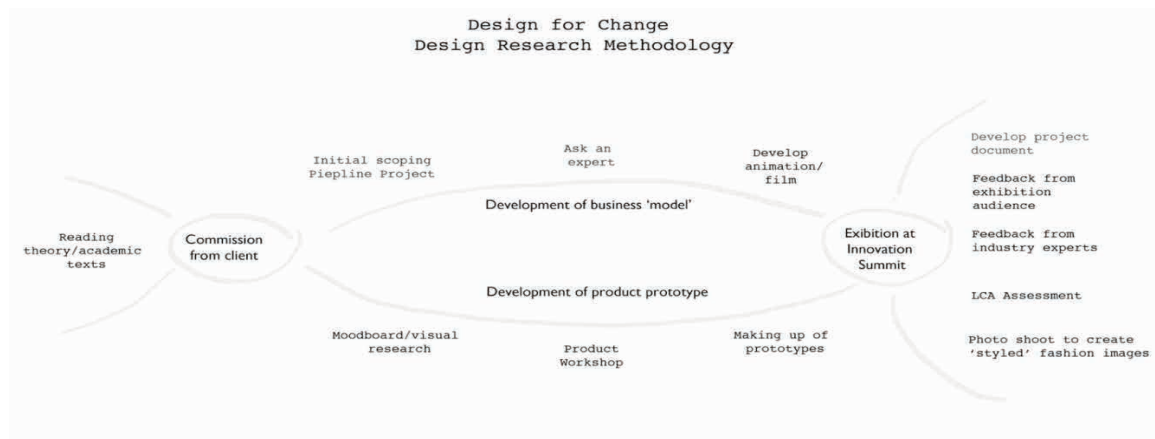


Fig.18: Visualisation of methods and process

PLAN – At this stage a method was created that is defined as Purposeful Dialogue. Initially it was titled ‘Ask an Expert’ and was a dialogue with industry experts. In conjunction with the literature, it was a useful method to understand the ‘real world’ context of global supply chains and sustainability.

ACT – During the action stage, the researcher was facilitating the collaboration with Rowley and directing the co-design workshop. The researcher trialled a range of new methods and skills including:

- creative collaboration with brand/social business experts for a CSR strategy in a fashion brand;
- facilitation of group meetings to develop a shared agenda;
- an understanding of methods being used in social innovation contexts;
- facilitation of a co-design process for material prototypes;
- communicating concepts through film/animation;

REFLECT - The reflection on action at the conclusion of the project involved the writing of a report and Purposeful Dialogue with industry experts. There was little understanding of the more deeply, reflective methods such as reflective writing or textile making, that would be used in the later stages of the research journey.

5.3.6 Reflection on collaboration

The collaborative partnership with Rowley/PP was a valuable aspect of the project and outcomes. Rowley/PP provided expertise as an industry consultant with a range of skills and methods that were introduced to the researcher including facilitation, project management and the use of visual tools such as animation/film for communicating concepts.

The collaboration with Rowley also highlighted the unique value of a fashion textile designer in a strategic project for industry. Rowley reflected on the importance of the

prototype bags as representations of the business concept:

That is why I think it was good, it may not have been a fully-fledged social business, it was 'engineered', but what is good is that there is a tangible product [the bags]. (Rowley 2012)

As a strategic design concept, the project could have presented a written report or animation/film to the client. The collaboration with a fashion textile designer meant there was a material prototype for communicating the concept alongside the animation/film.

5.3.7 Reflection on industry and academic tensions

The project was both a commission/brief from an industry client and a creative research investigation for academia. These two different agendas created certain tensions. On the one hand, an industry brief presented a unique opportunity to trial a range of questions based on practice. In reality, the project revealed the many barriers and limitations to the concept being implemented. The client was the largest fashion/apparel group globally and owned a collection of different fashion brands with different consumer needs, supply chains and brand values. The feedback suggested the client representatives often had a narrow frame of thinking due to their focus on economic imperatives and the 'bottom line'. Dialogue with several representatives also highlighted that fashion manufacturing businesses are highly conservative and risk-averse in their business operations. There were also changes to the brief part way through the process (from one brand based in the USA to all brands globally). This restricted the creative potential for the project outcomes. The restrictions imposed by the 'real world' context of fashion manufacturing was in contrast to the experimental nature of a creative research enquiry.

5.3.8 Reflection on practice

The initial research questions were to investigate how a fashion or textile designer can move 'beyond the swatch' into the social design space of local communities and ethical garment production. The focus had been on emulating the practice demonstrated in the social design discourse and activity. The project concluded with no real understanding of the value of a crafts-based fashion textile design practice in collaborative and strategic contexts. This lack of understanding translated as a form of un-confidence in the skills and competence of the researcher:

I am now a 'hesitant social designer', who wants to engage in social design practices, but lacks skills or confidence. (Vuletich, 2014)

Partly, the lack of confidence was because the project had not taken place in a 'real world' setting of a community or social context. This meant the enquiry remained as an abstract notion that had no real conclusion or findings. There was also a lack of feedback from the industry client. A visualisation was done at the conclusion of the project (Fig. 19) that demonstrates the uncertainty of the researcher within the wider design activity/disciplines:

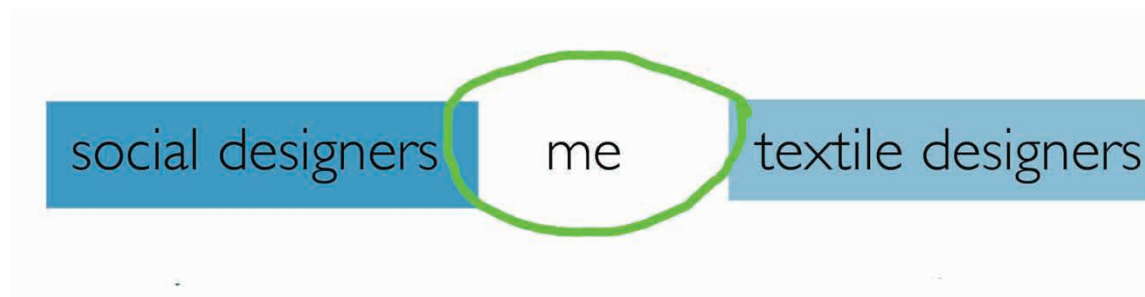


Fig. 19: Visualisation from a sketchbook at the conclusion of project

The researcher practitioner hovers between the two disciplines of social and textile design. The researcher was beginning to understand there were differences in approach between a social designer (using the methods of design thinking) and a crafts-based fashion textile designer in new social contexts. Yet there was no articulation or representation of this in the literature. The subsequent review of literature and past practice would provide confidence in the skills and methods of the researcher in the following stage.

5.4 Addressing the Research Questions

The above discussion is based on the outcomes and findings from the Design for Change project. This section will now discuss the findings in relation to the project-based research questions that address Objective 2: To explore new practices for fashion textile designers in industry that extend TED's The TEN to Design for Social Equity.

What is the 'design opportunity' in a garment factory context that extends Design for Ethical Production (TT7)?

- A Design for Social Innovation approach to supporting garment workers extends TT7 strategy Design for Ethical Production to include collaborative design and/or product design that supports employment
- A Design for Social Innovation approach to corporate social responsibility strategy moves the discussion beyond monitoring to identify and leverage

existing assets in supply chains (people, materials, skills)

How can a designer practice at both product and system level to explore social impacts in the supply chain?

- The designer will need to collaborate with strategy/brand/ social business experts to create new products and business models
- The designer will require new skills in facilitation and project management to practice at the system level

5.5 Conclusion and Next Steps

The aims of Objective 2 were to explore new practices for fashion textile designers in industry that extend TED's The TEN towards Design for Social Equity. Design for Change was the start of the journey to address this objective. A previous project Love & Thrift (2007) was also included in this chapter to demonstrate a foundational sustainable textile design practice. These projects align with the third level of the Sustainable Design continuum, where designers consider both the technical and socio-cultural aspects of the lifecycle. For the Design for Change project, the founding strategy was TT7 – Design for Ethical Production. The practice aimed to explore a systemic approach to supporting garment production workers. The opportunity was also to extend an understanding of corporate responsibility to production workers beyond factory auditing and monitoring.

The project successfully demonstrated new approaches to a design practice that operates at both the product and system level for sustainability in a fashion/textile context. The industry client brief provided a unique opportunity to explore the 'real world' issues and concerns of industry and to gain feedback on possible new models and approaches. The researcher practitioner was exposed to a range of new skills and methods with experts in social innovation methods, brand strategy and communications. The project also established a unique research method that would be utilised in subsequent projects, purposeful dialogue.

The initial aims of the project were motivated by the activity in the Design for Social Innovation space. For various reasons, the project never engaged with a real community or social issue and this was a weakness in the project overall. The project also concluded with a sense of uncertainty and un-confidence in a crafts-based fashion textile design approach. However, this perception would be transformed through the insights from practice and theory in subsequent stages.

Following this project, the Confirmation examiner (May 2013) suggested further research could take place into the unique *qualities* of fashion textile designers who are operating in social design contexts. This suggestion was the catalyst for the review of past practice and the review of the design/textile thinking literature, described in Chapter 7.

The next stage of the research journey demonstrates a practice that moves to the next level of the sustainable design continuum as a Design Facilitator. The practitioner researcher moves 'beyond the swatch' to become a facilitator of designers in Swedish industry and to begin exploring the role of values in sustainability.

Creative outcomes included:

- a collection of three bag prototypes made from denim waste;
- series of fashion photographs visualising the bags;
- a social business concept communicated with film/animation;

Academic/written outcomes included:

- a framework called Design for Social Textiles;
- an academic paper;
- three articles for Textile Toolbox web platform

Vuletich, C. (2013) '*We are disruptive: New practices for the Textile/Fashion Designer in the Supply Chain*', Crafting the Future European Design Conference, Gothenburg, Sweden, 17th – 19th April (See Appendix VI)

Chapter 6: The Design Facilitator



Fig. 20: The Researcher as a co-facilitator during an industry workshop, Stockholm 2013. This image demonstrates the researcher slightly removed from the action, beginning to reflect on the deeper, 'inner' dimensions through more intimate conversations with participants.

This chapter begins by articulating the research questions, then maps out the methods used, before giving an overview of the workshops at H&M and SFA. The chapter concludes with the results obtained, how the practice evolved to that of a Design Facilitator, and the insights that help build the framework for the Transitional Textile designer.

6.1 Introduction

This chapter describes the next stage of the practice role as a *Design Facilitator*. Using two sustainable design workshops in Swedish industry as part of TED/Project 3's research (H&M and SFA 2013), the chapter demonstrates a designer moving 'beyond the swatch' of the Sustainable Textile Designer to act as a consultant Design Facilitator in industry (See Fig. 21). The TEN framework advocates for a systemic, lifecycle approach to sustainable design that requires engagement with a complex set of factors. The Design Facilitator in this context uses the TEN framework to support participants through a design thinking process, creating new possibilities for fashion product design and business models. Whereas the role of a Design Facilitator is relatively new in the design literature, this chapter outlines the unique methods and approach that fashion textile designers bring to the discussion.

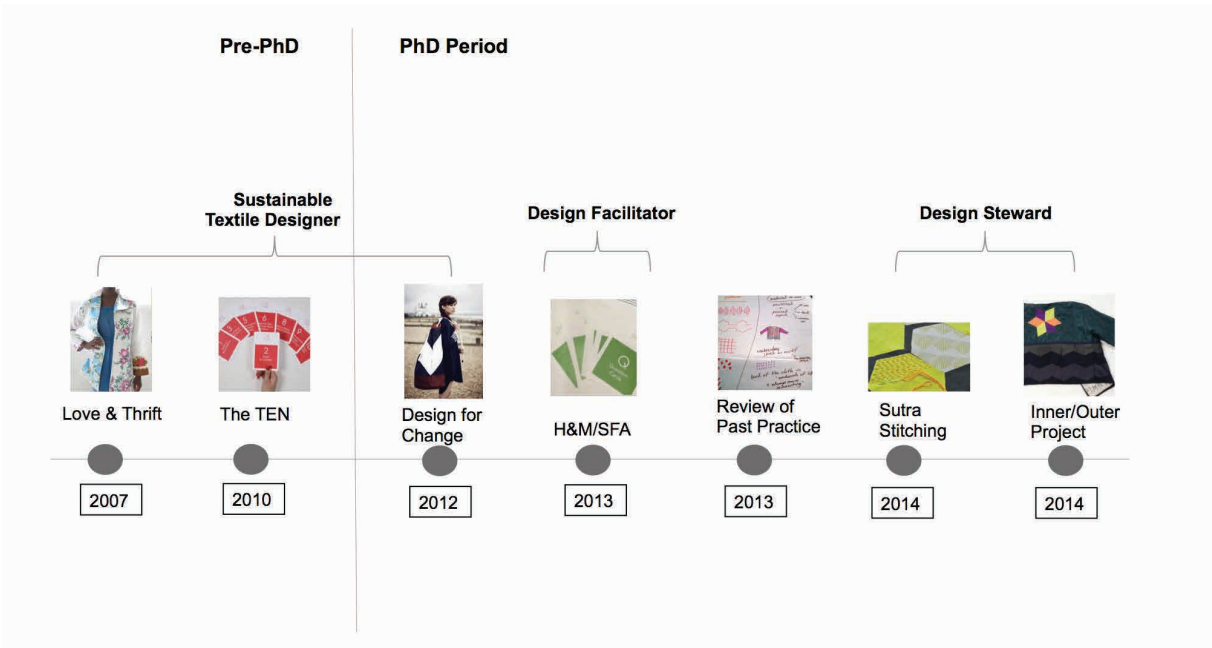


Fig. 21: Timeline of Practice

There is also a short discussion on the new skills and attributes fashion textile designers need when engaging in industry as sustainability consultants, based on the consultancy and training programme the TED team underwent prior to the industry work, between 2011-2012.

The second part of the chapter describes how the ‘inner’ dimensions of sustainability was emerging as an important aspect in the research. The TEN frame-work did not account for the more reflective, personal aspects of the sustainability agenda. A focus on the material/technical aspects of the lifecycle is not sufficient to effect sustainable change and the designer needs to understand the ‘fourth element’ of sustainability - the human/personal. A new facilitation tool called TED Green Question Cards was developed to accompany The TEN workshop cards and support a dialogue on personal aspects of sustainability. This tool can be used to facilitate dialogue on motivations and values that drive sustainability behaviours amongst designers, consumers or industry stakeholders.

6.2 Research Questions

There is a project-based question for the workshops that has been developed from the over-arching research question:

What unique methods and qualities do fashion textile designers bring to the role of a consultant Design Facilitator in industry; and how can the TEN cards be extended to include individual values in sustainability?

These research questions meet Objective 2: To explore new practices for fashion textile designers in industry that extend TED’s TEN to design for Social Equity and Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity.

6.3 Research Methods

PLAN	Reading Thinking Develop Workshop Tool
ACT	Creative Facilitation Test Workshop Tool
REFLECT	TED Reflective Questionnaire
SHARE	Academic Paper Workshop Tool

Table 7: Industry Workshops Methods

PLAN

The workshops were planned and developed by TED/Project 3 members with some input from the researcher. The workshop tool for the second workshop was also developed at this stage.

ACT

For both workshops, the action/practice was a form of workshop facilitation, being defined here as Creative Facilitation. Facilitation is a process of intervention to help a group of people identify and solve problems and/or make decisions (Herbert 2010). In this research, the researcher was involved in facilitating participants through a creative, innovation process for sustainable fashion and textiles. This position was used to observe and understand the role of the fashion textile designer as a facilitator, and to explore creative methods for facilitating a dialogue on values.

Both the workshops were structured to follow an adapted Decision Making Diamond process that included: conducting a pre-survey to gauge participants' knowledge levels; framing the question; exploring options creatively; evaluating and agreeing on outcomes; implementing; and a post-survey to gauge participant's new knowledge. The Green Question Card workshop tool in the second workshop was tested as a 'warm up' exercise to the TEN workshop agenda.

REFLECT

The researcher completed a Reflective Questionnaire immediately after the workshops (see Appendix XII), to gain insight into own experiences immediately after the event. It was composed of six questions, completed individually by each facilitator from the TED team following the facilitation of workshops. As a team of researchers collaborating on the design and delivery of group learning workshops, these questionnaires were also shared amongst the TED team to provide different perspectives on the facilitation experience. Dialogue with TED members also allowed for further reflection and synthesis of the experience.

SHARE

The insights were shared in an academic paper and the design of the TED Green Question Cards as a digital workshop tool.

6.4 Workshop 1 – H & M (2013)

This workshop was the first of two that were undertaken with Swedish fashion industry participants. This workshop demonstrates the fashion textile designer in a Design Facilitator role, working with the TEN methodology in a large fashion organisation – Mistra Future Fashion industry partner Hennes & Mauritz (Hennes & Mauritz undated). The brand chose to focus on the technical aspects of sustainable design only (TT 1-5 materials; technology; processes) and the socio-cultural aspects

(TT 6-10) were not addressed. This constraint effected the PhD enquiry, which was planning to identify a potential project based on ethical production issues within the organisation TT, no 7 Design for Ethical Production. During the course of the workshop period, the PhD enquiry shifted to explore socially- engaged practices of fashion textile designers in facilitation contexts, based on the researcher’s own experience as a facilitator.

The training programme was delivered to buying office staff in their Stockholm headquarters. The programme included a 60-minute inspirational lecture (delivered by Earley) delivered to 350 buying office staff (March-August 2013). This was followed by three four-hour workshops to thirty staff in the New Development Team made up of designers, pattern cutters, and production staff (see Fig. 22).

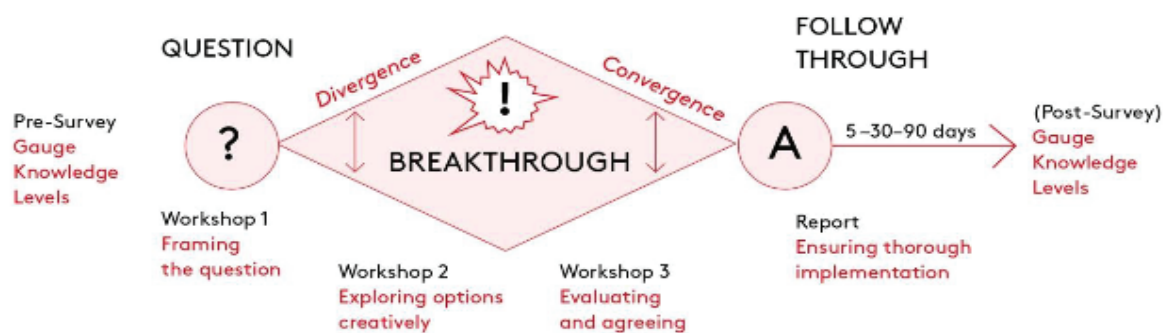


Fig. 22: TED/ Project 3 project plan for H & M workshops

The TED/ Project 3 team developed a programme that encouraged innovative ideas for the re- design of existing garments or products. Participants used the HIGG index (Sustainable Apparel Coalition 2012) a framework and open-source tool for assessing the environmental impacts of textile products, to evaluate and score the redesign work. The programme aimed to enable participants to make use of the new ideas quickly and economically within a fast-moving commercial context. The TEN workshop methodology was adapted to a large fashion company context. Rebecca Earley was the Lead Facilitator; Kate Goldsworthy and the researcher were Co-Facilitators.

Prior to the engagement, the researcher and TED team underwent a suite of professional training courses to develop skills and competency in industry consulting roles. There will also be a short discussion of the new skills and attributes for fashion textile designers moving into Design Facilitation roles to support sustainable change in industry.

6.4.1 Focused Contextual Review

6.4.1.1 Design Facilitators

The role of the (fashion textile) designer as a facilitator began to emerge as an enquiry during this stage of the research. The opportunity to facilitate designers in Swedish industry would provide insight on the role and the unique characteristics of fashion textile designers as Design Facilitators.

The role of a facilitator emerged from the industrial organisation literature in the 1960's, to respond to the increasing complexity in organisations and society (Tan 2012). Herbert explains that 'facilitation is a process of intervention to help a group of people improve their effectiveness, in regard to...the way they identify and solve problems and/or make decisions' (Herbert 2010, p. 381) The facilitator guides group processes and aims to enable the group to achieve desired ends. Another goal is to ensure that participants learn from being part of the process, and the facilitator provides tools to participants for reflection on the experience.

The role of facilitator has also become increasingly important in social change contexts. The complex challenges of social issues such as climate change and access to health services have created a need for multi-stakeholder dialogue and collaborative decision-making among individuals, communities and organisations. The researcher was exposed to a range of facilitation methods and approaches through involvement in the Transition Town Brixton (TTB) community, including the World Cafes methodology (World Cafe Method 2012) In 2010, the researcher attended a one-day 'un-conference' to explore and practice the skills of facilitation for social entrepreneurs (Decision Lab 2011). In a traditional role, the facilitator sets the parameters or agenda for action. In these more experimental methods, the facilitator is co-creating the parameters and agenda with participants and the overall aim is towards a sustainability outcome.

The role of the designer as a facilitator has also emerged from a shift towards more complexity in the profession and in wider society. Some have described designers as intrinsically playing the role of facilitator, using skills such as empathy, listening, observations and synthesis to bring different stakeholders and perspectives together. While this may be the case, it is important to identify and discuss the unique attributes and approaches of the (Fashion Textile) Design Facilitator for the design discipline. The most useful literature on the role of designers as facilitators is from Body, Terrey & Tergas (2010) and Tan (2012). These discussions are based on service or social designers utilising user-centered or design thinking methods with

participants from the public or social sector. The context for the workshops at H & M was the facilitation of a design process in a private sector organization towards sustainability outcomes.

Tan states that the primary characteristic that sets a Design Facilitator apart from a normal facilitator is the process of design thinking. Where a normal facilitator may be involved in analysing an existing situation to identify problems or barriers, a Design Facilitator emphasises future possibilities. This process is fundamentally constructive and optimistic. The difference is evident in the different methods used. The Design Facilitator uses methods to stimulate creativity and imagination whereas the normal facilitator uses analytical tools such as SWOT analysis or Venn diagrams (Body, Terrey & Tergas 2010). For the TEN workshop methodology, the TED researchers were leading participants through the re-design of existing garment designs for sustainability gains. Participants were encouraged to suspend rational thinking or limitations of professional roles to propose new approaches to garment design, production, use and disposal.

Tan has defined four characteristics of the Design Facilitator, based on observations of social designers. Two of these characteristics are:

1. Leading people through a design process - Designers make the process explicit and build a shared intent
2. Populating the process with flexible methods – Designers often suspend ownership over methods and they are willing to draw on methods from a range of disciplines; they are also flexible about which methods are used in each context.

Two of the characteristics will be used to frame the discussion of results.

6.4.2 Results and Discussion

This section includes a discussion of the research outcomes and methods used during the research process.

6.4.2.1 Design Facilitators

The literature on designers as facilitators is minimal however Tan (2012) has provided four characteristics of a design facilitator as distinct from a normal facilitator. Two of these characteristics will be used to guide a discussion, based on the observations of the TED team and on the researcher's own experience as a facilitator.

1) *Leading participants through a design process* – In any facilitation event, the facilitator guides the group processes and aims to enable the group to achieve desired ends. In a normal situation, the desired ends may be to analyse an existing situation to identify problems or barriers. However, when a design facilitator is involved the process is a design process, which is fundamentally constructive and optimistic, rather than analytical and theoretical. This type of process requires the design facilitator to guide participants through a series of stages that are similar to the design thinking process – observation/framing the question, ideation/exploring creative options, evaluation, and finally implementation. Participants are encouraged to understand the problem or context, suspend their judgement or limited beliefs on what is possible, and to think creatively to imagine ‘possible futures’ (Walker 2013b). The workshops at H & M followed a similar trajectory, with participants being led through an adapted ‘Decision Making Diamond’ framework (Earley *et al* 2016, p.67). The first workshop was the first stage of framing the question. During this session, participants were asked to perform a ‘garment audit’ to understand the existing environmental/social profile of the garment design. The other task was to analyse a range of case studies on the latest innovations on sustainable materials and processes, to understand what is possible. The second workshop was aimed to explore options creatively. Here, the participants were asked to re-design the garment to improve the environmental/social impacts, using the case study examples. The third workshop was an evaluation and agreeing on outcomes. Here the participants went through another re-design process, and used the HIGG index to score the improvements. These scores were shared with the group and a discussion followed on these outcomes. The fourth stage was implementation, in the form of the final TED/Project 3 report (Earley *et al* 2016).

The role of the design facilitator is to maximize the participants’ opportunity to create new possibilities or outcomes. It is beneficial for the facilitator to be a designer themselves to understand the design thinking process from an experiential perspective. The researcher and the TED team understood this process implicitly and were able to guide the participants through the process. The benefits of the TED facilitators as designers, was confirmed by the client host:

*It makes a difference that Becky, Clara and the TED team are designers. So much – you do get the same language as the designers here, so of course that’s an advantage. (Ward in Earley *et al* 2016, p.184).*

The notion that the researcher and TED team spoke the same ‘language’ as the participants, suggests the particular design knowledge of the TED facilitators as

(fashion textile) designers.

2) *Populating the process with flexible methods* – The methods and tools used by facilitators are an essential aspect of the role. While the normal facilitator uses analytical tools such as SWOT analysis or Venn diagrams, the design facilitator uses methods to stimulate creativity and imagination. Tan explains that designers often suspend ownership over methods and they are willing to draw on methods from a range of disciplines. She also describes how designers are flexible about which methods are to be used in each context. In the planning stage, the TED team collaborated with Phil Hardridge (iDenk 2006-2015) to develop a range of methods and tools for the workshops. Four of these methods will be outlined below:

Toolbox

This method demonstrates how (textile) design facilitators draw on their own implicit knowledge of design thinking and making to encourage interactive learning.

This was a cardboard box designed to store the case study cards of the latest innovations in sustainable materials and design ideas. During the first workshop, the case study cards were an important tool used to 'frame the question'. The idea was for staff to add their own research cards to the physical box through time. As designers themselves, the TED team believed the participants would respond to the aesthetic and tacit quality of the box, which may enhance engagement with the learning process. The toolbox was designed by a graphic designer to be easily constructed/folded using a digital pattern, creating an interactive learning method. In practice, the staff were too time-poor to make use of this physical tool, indicating that online digital resources would be more useful.

Barriers to Opportunities Poster

This method shows how the design facilitators adapted techniques from other disciplines and used visual graphics to prompt discussion.

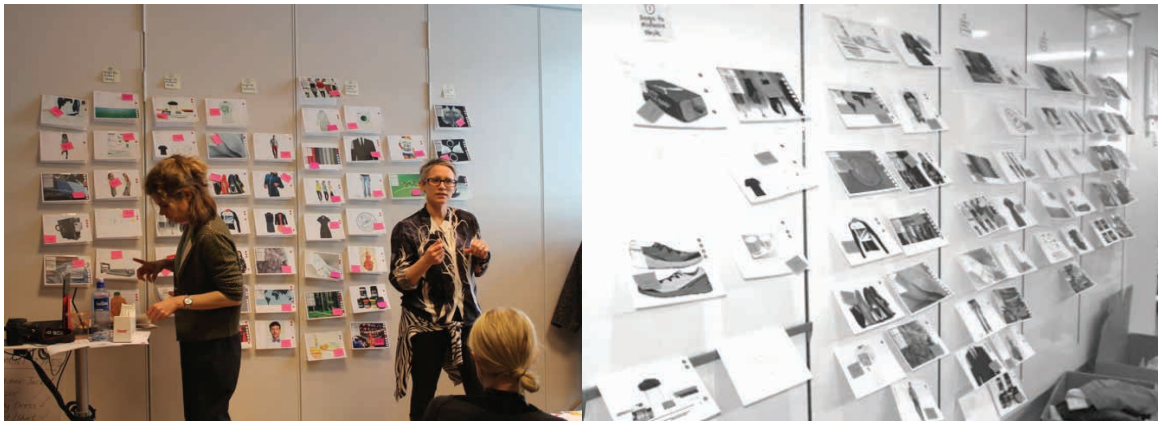
A poster was developed to explore the barriers and opportunities to engaging with the sustainability agenda as a company. The poster was adapted from a technique introduced at the consultancy training, called 'Question Fanning'. During the workshop, the group were asked to identify the barriers they encountered within the company and to use creative thinking to propose innovative solutions or opportunities to these barriers. The poster was a large A2 size, and was divided in half. The left section included graphic 'speech bubbles' to capture the barriers; the right section included graphic 'light bulbs' to capture the creative opportunities. The

method resulted in a rich discussion for the designers in the team who were able to communicate their frustrations and views on company strategy and practice.

The 'Now' Wall

This method was created spontaneously during a workshop and demonstrates the flexibility that design facilitators have with their methods.

The case study cards had been developed to demonstrate the range of sustainable design possibilities that were available for designers. In Workshop 1, the participants had been asked to rank the case studies using the categories of Now; Near and Far. This was to identify how 'ready to market' the ideas were. During this process, Earley sensed that the participants were primarily interested in the Now category, as they are operating in a fast-moving commercial environment. She spontaneously stuck the cards onto the wall to highlight their importance (Fig. 23). This evolved into the 'Now Wall' that was installed in the offices of the design team after the workshops had finished, as a research and inspiration tool (Fig. 24).



Figs. 23 and 24: The Now Wall became a method during the workshop (left) and finally installed by participants in their office (right)

Use of garments

This method demonstrates how (textile) design facilitators draw on their own implicit knowledge of textile design and making to encourage interactive learning.

One of the key methods was the use of garments as prototypes to act as the 'problem' that requires changing. The use of a garment provided participants with a learning experience that could be directly related to their own professional concerns. The workshop included a clothes rack with the garment prototypes, easily accessible for the participants to pick up and handle. During smaller group break-out sessions, the garment would be placed in the centre of the table for everyone to access.



Figs. 25 and 26: Participants handling and using garments during re-design process

The worksheets that participants used to record their findings also contained a central box, in which they were required to draw the garment being examined and re-designed. They would constantly touch, feel and hold the garments identifying the many design aspects of the garment (Fig. 25 and 26). Several participants also tried the garments on, acting as the ‘model’ or user for their fellow group members.

6.4.2.2 New skills and capabilities for fashion textile design

The above discussion demonstrates the unique methods and approach that fashion textile designers bring to the Design Facilitator role in a consultancy context. Yet, the Design Facilitator role was a new professional experience for the researcher and TED team. What were the new skills and methods needed for activating sustainable change in large-scale fashion industry contexts?

A co-authored conference proceedings (Earley, et al 2015) and journal article (Earley et al 2016) (Appendix VII) discussed the new skills for fashion textile designers acting in the Design Facilitation role, based on the consultancy and training programme the team underwent between 2011-2012. The authors use Brown’s ‘T Shaped’ framework (2008) for inter-disciplinary design skills, to describe the development from fashion textile design to the consultant facilitator role.

...in order to engage with the systems-wide sustainability agenda within the textile/fashion system across industry... the textile design researchers needed to develop skills that would sit somewhere on another horizontal stroke of the ‘T’ – empathy, skills for collaboration, curiosity and management and strategy skills. (Earley et al 2016)

The authors conclude with a revised ‘T shape’ for fashion textile design in consultancy facilitation contexts. They also argue for the ability to understand oneself in order to support change in others. This notion of the need for self-awareness was

based on the emerging insights from the PhD research on the 'inner' dimensions of sustainability, which is described below.

6.4.3 Next Steps

The facilitation process described above occurred over several months in 2013 and during this time the researcher was undertaking a further review of the sustainability literature. The literature was describing the missing element in the sustainability paradigm as the human or psychological aspects. The focus of the first workshop had been the technical/material strategies within the TEN frame-work and there was no discussion of the human aspects of sustainability. Following the facilitation of the first workshop at H&M, the researcher reflected on this in the Reflective Questionnaire:

I would like to have seen a conversation about sustainability and what it means to people – the 'fourth' element of sustainability – not social, environmental or economic, but personal. Maybe this could be a warm-up exercise. It helps people to think about what they value, at a personal level and organisational level. (Vuletich 2014c)

The workshops with industry partner H & M and the literature review done at this stage was solidifying a picture of the designer as a human being with values, ethics and psychological responses that inform their behaviour. The insight on the personal aspects of sustainability became the central focus in the next industry workshop.

6.5 Workshop 2 – SFA (2013)

This workshop also demonstrates the practice of the Design Facilitator, however here the overall research was beginning to shift towards the 'inner' aspects of sustainability, including values and mindfulness. The TEN framework was addressing a range of sustainable design strategies but the framework did not address the 'inner' aspects of sustainability. A workshop tool called *Green Question Cards*, was designed to explore inner dimensions in the TEN methodology. The workshop was in collaboration with industry partner Sustainable Design Academy, Stockholm (SFA). Whereas the previous partner had chosen to address the technical/material strategies in The TEN, for this workshop the focus was on all strategies including activism (TT10) and ethical production (TT7).

Participants included designers and staff (production, marketing, CSR) from eleven SME-size Swedish fashion companies. The workshop used The TEN methods in combination with the Higg index. The aims were to understand environmental and social impacts of garment design using both re-design and measurement tools. Representing the SFA was Schragger and Folder. The lead facilitator was Earley and

the Researcher was a co-facilitator.

The participants were given the *Green Question Cards* as a warm-up exercise, using drawing to elicit individual values in relation to sustainable design (Fig. 27). A range of questions was developed as a prompt and these were printed onto cards the same size as The TEN red cards, and coloured green to represent 'nature'. Participants were asked to draw and write their own responses individually on paper. The group then discussed the drawings and outcomes, and the findings were collated onto a group mind map created by the facilitators.

6.5.1 Focused Contextual Review

6.5.1.1 The fourth element of sustainable design

As discussed in the Initial Contextual Review, the missing fourth element of sustainability is the human or psychological. Another way of understanding the human element of sustainability is the 'inner' and 'outer' framework. Maiteny (2000, p. 341) explains there are both 'inner and 'outer' dimensions to sustainability at the level of the individual. The 'inner' dimensions of sustainability refer to psychological impulses 'in the mind' that are not visible and only experienced by that person. These impulses and inner -experiences are culturally mediated, in that the person expresses themselves through cultural constructs such as beliefs, norms, and values. For example, one such belief is that the capitalist, industrial paradigm (that creates environmental and social damage) is 'second nature' and that there are no alternatives. Maiteny argues that people cannot function without these frameworks of meaning, that are both *culturally* and *ecologically* dependent. The search for internal sustainability is therefore a search for a meaningful and fulfilled experience of life, and the frameworks that support this meaning. Humans have these internal and external aspects that are inter-dependent, and both aspects need to be addressed in order to move towards creating sustainability. A similar framework for understanding inner and outer human dimensions is Wilber's Four Quadrant framework. This framework was used by Tham (2008) to investigate fashion designers' engagement with sustainability in a large organisation.

6.5.1.2 The TEN frame-work and the missing fourth element

The TEN framework and strategies demonstrate the potential field of influence and practice that fashion textile designers could operate within, moving from the single issue of material choice through to the more complex ideas of designing systems, services and activism. In using the framework and strategies, a designer is often required to change their current behaviour and practice. Yet, if the literature suggests

that changing behaviour and creating sustainability requires an engagement with the human, how do the TEN red cards and workshop method address this?

The TEN cards and workshop method is also based on an overarching ethical framework developed by the TED team. There is an assumption to the methodology that each participant will be aligned to these underlying values and ethics. However, each participant may have a unique set of values and ethics that will drive their sustainability behaviour and practice. In order to fully engage participants with the sustainable design agenda, the TEN methodology needs to accommodate the individual, human aspects. A workshop tool was needed that acted as a compliment to the TED red cards and that could support a deeper, dialogue on individual views.

6.5.1.3 Creative workshop methods for exploring the fourth element

The previous workshop at H&M was focused on the most immediate strategies that could be integrated in a fast-moving, commercial context. The methods used were solution-focused including Barriers/Opportunities mapping. The second workshop at SFA was an opportunity to prototype a method that extends The TEN card methodology to encourage 'inner, reflective aspects.

As part of the TEN methodology, the participants would be led through an intensive design thinking process that required an ability to step outside rational thought and imagine 'possible futures' (Walker 2013b) for their professional practice. In a workshop context, a 'warm-up' exercise is a useful device for concentrating attention and removing mental barriers to creative thinking. The 'warm up' exercise was designed therefore to prepare participants for this process and to consider their own 'inner' dimensions.

The use of drawing was chosen as a technique for exploring 'inner' dimensions as drawing utilises a part of the brain that supports free-thinking and creativity, sometimes referred to as a flow activity. (Csikzentmihaly 1991). Csikzentmihaly describes flow activities as those that create a deep sense of enjoyment and pleasure and are optimal experiences. They are characterised by a high level of concentration; they take us out of our everyday lives; reduce self-consciousness; and create a sense that time has altered. The act of drawing has the ability to create these conditions and could be useful for exploring the 'inner' dimensions of sustainability.

Prior to this stage, the method of drawing had only been used to visualise the garment being re-designed - a tangible object in front of participants. The technique

being tested in this workshop was using drawing to elicit feelings and views that were internal to each participant.

6.6 Discussion and Results

This section includes a discussion of the research outcomes and methods used.

6.6.1 The fourth element of sustainable design

The aims for the workshop tool were to understand the fourth element of sustainability as a precursor to exploring sustainable design strategies in professional practice. There were eight questions/cards. The first question was: *What does sustainability mean to you personally?*

This card required the participant to reflect on what sustainability means to them personally, thereby revealing his or her own 'inner' dimension on sustainability. This was followed by a question on how these views are acted out in the real world: *How do you bring these values into your everyday life?*

This question hints at the inter-dependence between the 'inner' dimensions of the person and the 'outer' dimensions of behaviours and actions in their everyday life. Maiteny suggests that the search for 'inner' sustainability is a search for a meaningful and fulfilled life, and the frameworks that support this meaning. Hence, the participant is being asked to reflect on how they create this personal meaning in their everyday lives. The third question then makes the link between their personal views on sustainability and those of their employer or organisation: *What does sustainability mean to your organisation?*

Here the participant is being asked to reflect on this notion of 'meaning' not only for himself or herself as an individual, but for the organisation they work for.

The following three cards/questions then lead the participant into considering the unique role of professional designers in their organisations: *What do you think is the role of the designer in creating a more sustainable fashion industry? Do you think fashion and sustainability are compatible? How does 'sustainable design' differ from 'normal design'?*

By this stage of the task, the participants have been lead through a series of questions that have shifted from a focus on 'inner' aspects to the 'outer' aspects of behaviours and actions within their workplace. The seventh question hints at the

potential for change in this context by asking what help or support the designer would need to change their design practices: *What do you think would help in designing more sustainable products?*

And finally, a card/question to consider the barriers/opportunities to implementing sustainable design strategies. *What do you think are the best sustainable design opportunities for your company?*

Overall, the cards/questions act as tools to support the participants to bring their 'whole selves' to the issue of sustainable design. Ehrenfeld (2008) suggests that addressing the fourth, human domain is essential for creating lasting change towards sustainability, and this tool begins to address that human domain.

In linking the participant's everyday sustainability actions to their professional roles, the method aims to encourage a sense of empowerment and engagement. The participant responses – recorded on post it notes during the session - to the card/question: *How do you bring these values into your everyday life?* included:

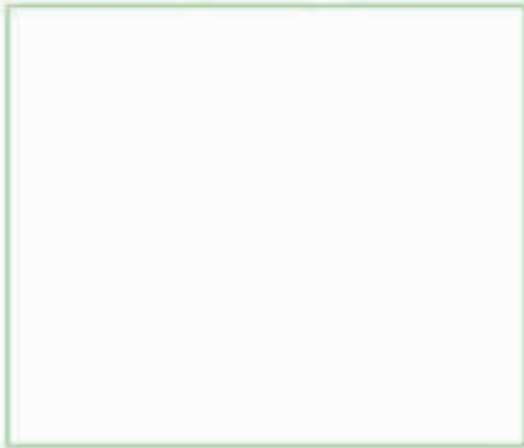
- *Recycling Waste*
- *Use less energy*
- *Selling on goods*
- *Public transport*
- *Switch suppliers*
- *Not throwing out textiles – reuse*
- *Food organic, local – not packaged*

The feedback from the previous industry workshop suggested that designers do not have control of the 'outer' dimensions of sustainability in their professional practice. There are barriers to make decisions due to economic imperatives, lack of knowledge and departmental barriers. Introducing the personal actions they can take validates their position within the company and creates the potential for full engagement with the sustainable design agenda.

A group discussion occurred following the exercise on the sustainability actions the participants can take in the workplace, such as encouraging the re-use of food waste or recycling of paper in the team kitchen.

Q

What does sustainability mean to your organisation?



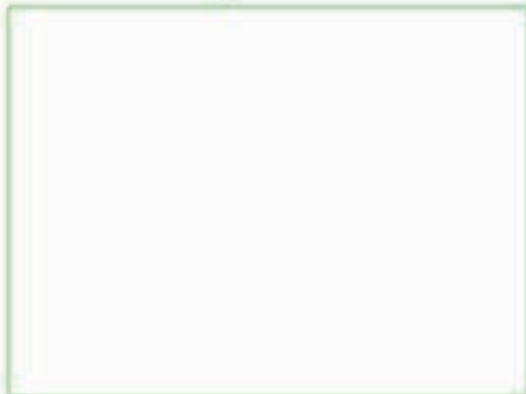
Q

What do you think is the role of the designer in creating a more sustainable fashion industry?



Q

Do you think fashion and sustainability are compatible?



Q

How does 'sustainable design' differ from 'normal design'?



Q

What do you think would help you in designing more sustainable products?

Q

What do you think are the best sustainable design opportunities for your company?

Q

What does sustainability mean to you personally?

Q

How do you bring these values into your everyday life?

Fig. 27: Green Question Cards



Fig.28: Green Question Cards in use

6.6.2 Creative workshop methods for exploring the fourth element

The use of drawing to illicit 'inner' dimensions was a new approach for the TEN workshop methodology. In the Reflective Questionnaire, the researcher describes a sense of excitement at introducing such an activity into the workshop plan:

I am interested in what happens when people draw – it was exciting. I liked bringing in the personal values, and for us to make the link with the personal and organisational. (Vuletic 2014c)

As the facilitator, the researcher perceived a sense of risk that exploring the personal would be outside the existing boundaries of what is acceptable in this professional context. By introducing such a reflective and personal method, the facilitators were also providing an alternative to the fast-paced, problem-solving approach of previous workshops. The feedback from participants suggests the method was a positive experience. In the Feedback Survey participants were asked what the best thing about the workshop was. One participant answered:

*Free discussion around the Green Question Cards.
(Earley et al 2016, p.172)*

The term 'free discussion' suggests the participant enjoyed the open and flow-like nature of the task, which allowed for sharing of personal views. The participants were all from different companies and were removed from their daily work obligations. This task was an opportunity to share views in a neutral and open way.

The fourth card/question asked participants to consider the role of the designer in creating a more sustainable fashion industry. This enquiry had been an ongoing concern for the researcher and TED team, however the question had never been directly asked of workshop participants. This card/question was an opportunity to explore the views of professional designers on how they perceive their role in industry.

6.6.3 The Green Cards in the context of Design for Social Equity

The Green cards were developed as a 'warm up' exercise for a sustainable design training workshop in industry. In the wider context of Design for Social Equity, the cards also have potential as a useful method. Manzini describes Design for Social Equity as the space where designers can re-design lifestyles and support the transition to new ideas of well-being beyond consumption of consumer goods. This idea of fostering 'well-being' for people can include a broad range of approaches, such as local community building through social innovation enterprises, supporting equal share of resources, or leading social justice projects. However, supporting people towards more sustainable living is a behaviour change process that has many challenges.

Recent research in the environmental campaign sector suggests that changing people's behaviour towards sustainability, is not effective based on fear or people's ego (Holmes et al 2011). Real change will come when you engage people at the

deeper level of their values and motivations for a meaningful and fulfilled life. This notion of the search for a meaningful and fulfilled life is what Maiteny describes as a key aspect of the 'inner' dimensions of sustainability, that the Green Cards are exploring. Therefore, the Green cards can be a useful method for designers to understand and offer support to people in this transition towards a new type of well-being.

Fashion textile designers have traditionally not had the power or role for leading change in production or in consumption of textile/fashion products. This workshop tool for facilitating a dialogue on deeper values can be useful method for the fashion textile designer in the new role of facilitator 'beyond the swatch' and 'beyond the product'.

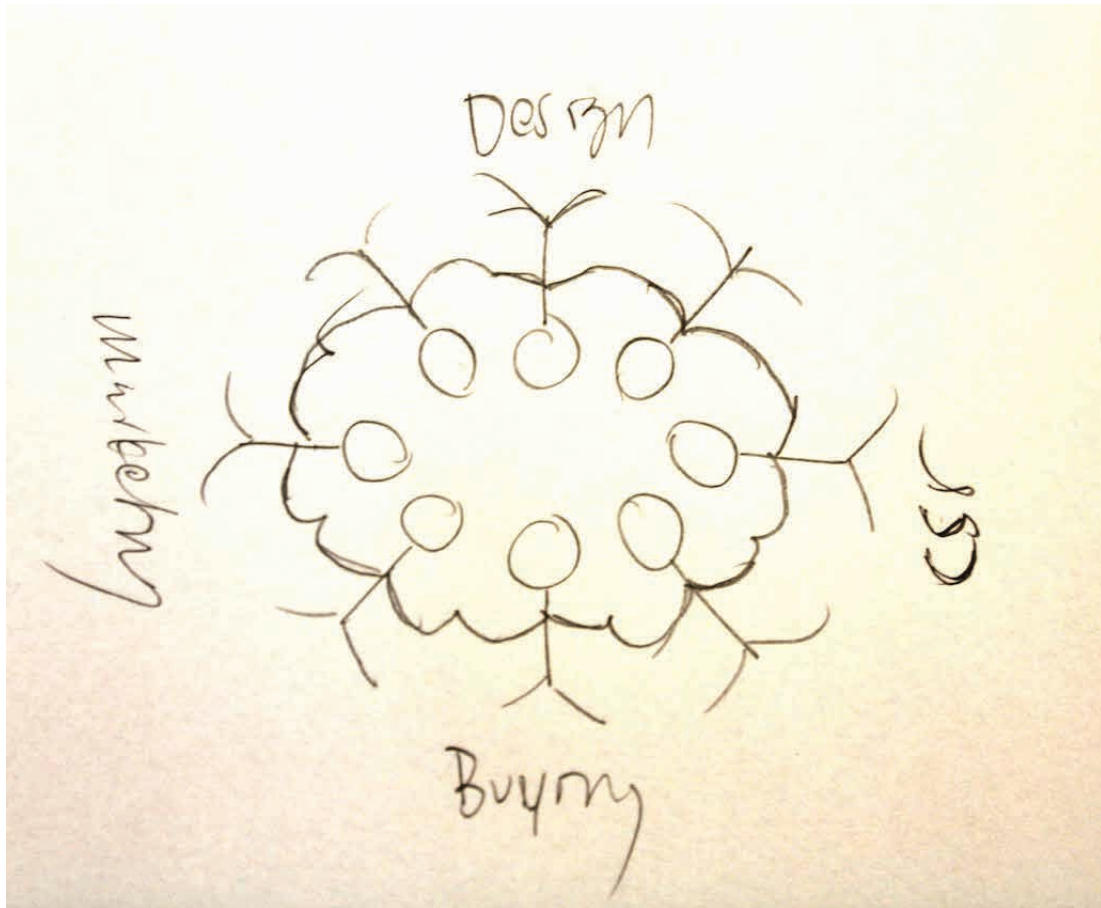


Fig. 29: Drawing by a participant – showing the desire to see design linked to buying, marketing and CSR within their company

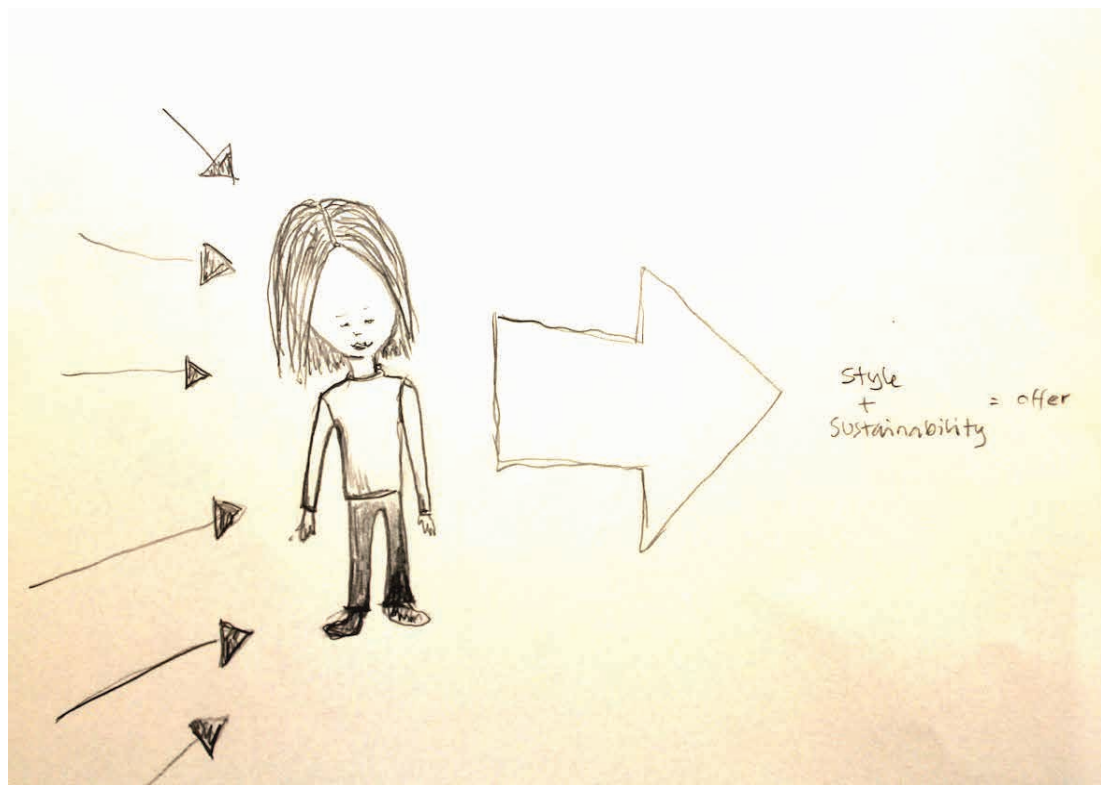


Fig. 30: Drawing by a participant – showing the need for information to enable personal choice

A participant visualised two scenarios for the designer in his organisation. The first was a straight line of human stick figures with the words 'Designing, Buying, CSR, Marketing' written underneath. This represents the design teams as separate or disconnected to other departments, including the CSR team. As mentioned above, the CSR department is often where the 'values' dialogue and strategy occurs within the organisation, and the design teams are not included in this conversation. The second, more preferred scenario involved the stick figures joined in a circle (Fig. 30). Here the departments in the organisation are shown as inter-connected. The participant was therefore visualising a real and imagined vision for the role of the designer in creating sustainability in their organisation. The drawing task therefore allowed the participant to imagine 'possible futures' for their role and practice.

6.7 Reflection on Methods Used

PLAN

At this initial stage, the researcher was reading and thinking about the theory of 'inner' dimensions of sustainability. The idea to test a workshop tool to accompany the TED red cards was not planned initially but emerged out of the insights from the first industry workshop. The format of a set of workshop cards was chosen as it accompanied the existing red cards.

ACT

The role of facilitation was used to test a workshop method to explore deeper, personal views in a sustainable design context. The facilitation role was partly used as a form of dialogue with participants. The researcher had several years of experience facilitating TED workshops and had developed an interest in group facilitation techniques. In many ways, the role of facilitation is used as a form of 'making sense' of an idea. It is through facilitating others that the researcher is able to reflect on, and make sense, of an idea or concept.

There is also an inherent tension between the roles of researcher and facilitator. Herbert (2010) explains that embodying the dual role of both researcher and facilitator can be a challenging undertaking while also providing unique insight that is not possible with other methods. There is a lack of literature on the methodology of the 'researcher as facilitator' and the most useful insights have come from Herbert. Herbert suggests that occupying both roles simultaneously requires the researcher to be highly aware of their own emotions and actions, and to record and document their research well. The researcher used the TED Reflective Questionnaire for these purposes.

REFLECT

The TED Reflective Questionnaire was used to reflect on the experience of facilitation and proved to be a highly valuable method. The main catalyst to develop a new workshop tool was the experience of the workshop process at H&M, described above. The researcher was reading the literature on the missing fourth element in sustainability, but it was only through involvement in the workshops at H&M, and responding to the reflective questionnaire, that the action was taken to develop a new tool.

6.8 Addressing the Research Questions

The above discussion is based on the outcomes and findings from the two workshops. This section will discuss the findings in relation to the project-based research questions that address Objective 2: To explore new practices for fashion textile designers in industry that extend TED's The TEN to design for Social Equity and Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity.

What unique methods and qualities do fashion textile designers bring to the role of a consultant Design Facilitator in industry?

- Fashion Textile Design Facilitators will require facilitation and consultancy skills to create sustainable change in industry
- Fashion Textile Design Facilitators demonstrate an implicit understanding of the design thinking process and ability to lead participants through the process
- Fashion Textile Design Facilitators demonstrate use of visual /diverse methods and an implicit understanding of garments/tacit elements to engage participants

What is the relationship between individual values and sustainable design; and how can the TEN cards be extended to include individual values in sustainability?

- An engagement with sustainable design requires an understanding of both 'outer' dimensions (materials/suppliers/lifecycle thinking) and 'inner' dimensions (values)
- The Green Question cards extend The TEN cards to prompt discussion and reflection on 'inner' dimensions
- Drawing is a flow activity that supports free-thinking/ creativity and is a useful method for facilitating a discussion on 'inner' dimensions

6.9 Conclusions and Next Steps

Objective 2 was to explore new practices for fashion textile designers in industry that extend TED's The TEN towards Design for Social Equity. Design for Change (2012) was the first practice project undertaken to address this objective. These two workshops also addressed this objective however the method of facilitation of designers in industry was used to achieve this. These workshops represent how the enquiry had evolved to explore the 'outer' aspects of transitional practice - the textile designer as a *facilitator* of sustainable design in industry. The context of large and SME-size Swedish fashion companies provided a unique opportunity to explore the real-world, 'outer' issues and concerns of industry and the expansion of practices for fashion textile designers 'beyond the swatch'.

The workshops also addressed Objective 3, To understand through practice the importance of individual values in the context of Design for Social Equity. The enquiry on the 'inner' aspects of sustainability emerged during the second facilitation process through a further literature review. At this stage, the focus was broadly on the missing, fourth element in the sustainability context - the human/individual. Following these workshop, research was discovered on universal human values (Schwartz 1992) and the role of values in behaviour change for sustainability (Holmes et al 2011). A prototype workshop was developed and tested using values to explore sustainable fashion business ideas with a Mistra collaborator (Suzanne Sweet/ Stockholm School of Economics). The notion of values in the context of Design for Social Equity in a fashion/textiles context would then be finally explored through the concluding Inner/Outer Project (Chapter 8).

- Academic/written outcomes included: A co-written conference/journal paper (2015 & 2016)
- Workshop tools for designers: TED Green Question Cards downloadable from Textile Toolbox web platform

Earley, R., Vuletich, C. Hadridge, P. and Andersen, K. (2016) 'A New 'T' for Textiles: Training Design Researchers to Inspire Buying Office Staff Towards Sustainability at Hennes and Mauritz', *The Design Journal*, vol. 19, issue 2 (See Appendix VII)

Chapter 7: The Inner Journey



Fig.31: Lining of Inner/Outer Jacket printed with Chinese word for 'sustainability'

This chapter begins by articulating the research questions, then maps out the methods used, before giving an overview of the review of past practice. The chapter concludes with the results and insights obtained from the review, that help build the framework for the Transitional Textile designer.

7.1 Introduction

This chapter describes the importance of self-reflection and understanding one’s own values, in a practice that is transitioning towards a Design for Social Equity context. The previous two projects had demonstrated a fashion textile design practice that moves through the Sustainable Design continuum to become a facilitator of sustainable design. In order to work effectively in this role, the importance of ‘inner’ dimensions became apparent. The researcher understood this theoretically and through the facilitation of others’ (workshop participants). However, a period of self-reflection was necessary to gain clarity on own methods, values and motivations before coming back to the ‘outer’ dimensions of industry and the supply chain. Following the industry workshops, the researcher had also started to use a research journal, to reflect on the overall research journey, described in more detail below. This reflective method heralds a deepening of the research focus towards the subjective, ‘inner’ dimensions.

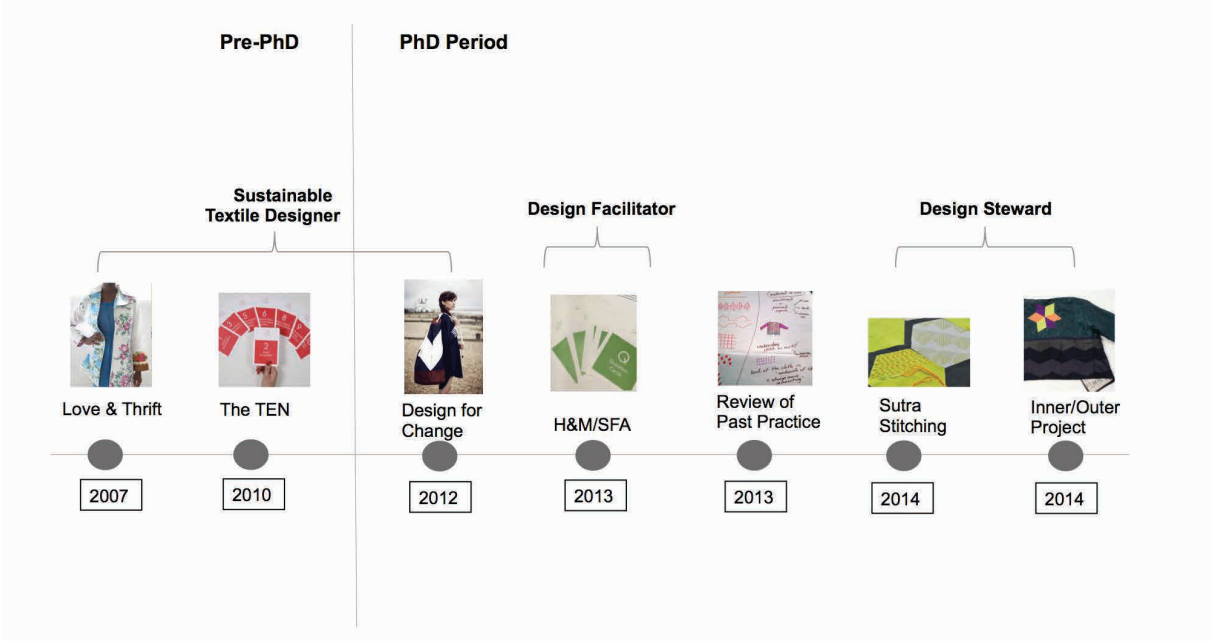


Fig. 32: Timeline of Practice

A review of past practice was undertaken to understand the unique knowledge and methods of a crafts-based fashion textile designer engaging with sustainability. The first project in the practice cycle, Design for Change had demonstrated a range of new

practices for fashion textile design in the expanded contexts of local communities and the supply chain. Following the project, it was acknowledged by the researcher, that a limited understanding of the *value* of a fashion textile design practice existed for this context. There was also a perception that the researcher lacked certain skills or methods that were barriers to engaging in social design practices. The Confirmation Examiner in May 2012 suggested the researcher consider the particular *qualities* of crafts-based fashion textile designers, as distinct from other design disciplines involved in social design. There was no representation of textile design knowledge or qualities in the design thinking literature. The only relevant insights were from Kimbell (2011;2012) and Igoe (2013). These factors prompted the review of past practice, to understand the methods and qualities of fashion textile designers motivated by the sustainability agenda, based on the researcher's own practice.

A methodology was developed for an auto-ethnographic review of seven past textile projects (2007-2011). The review took place between August – December 2013.

7.2 Focused Literature Review

7.2.1 Methods for analysing own textile design practice

There were no examples in the literature of methods for reviewing past creative textile practice. Pedgeley (2007) explains that while there has been a large body of research into methods based on the study of other people's designing (Cross 2006; Cross 2010; Lawson 1994; Kimbell 2011; 2012), there is a lack of research into the methods for capturing and analysing one's own design/making activity. There was also no account in the literature of capturing design/making activity from several years previously.

The task of capturing one's own design/making for academic purposes is beset by a number of challenges that relate to the dualisms described in the introduction. A primary characteristic of practice-based research is that it centres on a creative process with and of the self. This is a subjective process that is partly guided by emotions, memories and embodied experience. Pedgely explains that the nature of creative research requires researchers to make public their own private design discourse, and that the artefacts or outcomes alone cannot be relied on to communicate their relevance to research. He explains that the process of making visible one's own design practice for a research agenda is similar to an autobiographical research methodology, or 'ethno-methodology' (Baird, Moore & Jagodzinski 2000). The process requires researchers to fill multiple roles of "self-observer, self-analysts and self-reporter" (Pedgely 2007, p.464). The process of

making visible one's practice requires the researcher to shift from the subjective to the objective. It also requires the researcher to translate intrinsic knowledge into extrinsic knowledge that is written up in a thesis. The complexity of this task suggests why there has been little research done into capturing own design/making for academic purposes.

The timeframe of five years was chosen as this was the time the researcher was involved with the TED team. The review is longitudinal in nature and offers a 'macro' view of the researcher's practice prior to starting the PhD. Pedgely (2007) explains that a longitudinal study of a researcher's own practice provides an opportunity for the analysis of long term goals and the evolution of decision-making across project phases. A longitudinal review also reveals constraints and opportunities across the project phases.

7.2.2 (Sustainable) Fashion Textile Design Knowledge and Qualities

There were two aspects that were missing in the design thinking literature: 1) there was no representation of fashion textile design knowledge or qualities, and 2) there was no representation of a fashion textile designer motivated to engage with environmental or social issues. In regards to the first aspect, design researchers have studied the unique knowledge of a designer, as compared to other professions, since the 1960's. These studies have formed the emerging design thinking literature that defines the process of how designers 'think' and has contributed to the increasing interest in the value of design in business, government and the social sector. The research has been based on architecture, product or service design and the descriptions of fashion textile design knowledge are limited. The literature on fashion textile design knowledge and thinking includes a recent study by Igoe (2013) and early studies by Shreeve (1997) and Moxey (2000). These studies were based on observation and survey of designers rather than the researcher's own practice. Igoe suggests the existing design thinking literature is unable to account for the uniqueness of fashion textile design knowledge for several reasons: 1) the design thinking literature has a heavy focus on design as a rational, problem-solving process, whereas the fashion textile design process is not 'problem focused'; 2) there is minimal representation of a feminist position in the design thinking literature whereas the majority of textile designers are female; and 3) there is the challenge of accounting for the tacit, intrinsic knowledge of textile design in the written form, as discussed in the Introduction Chapter x.

Kimbell (2011, 2012) is also critical of the design thinking literature and has re-defined the term design thinking as 'design-as-practice', based on practice theory. The existing

literature frames design thinking in a scientific, linear way. Kimbell's definition sees design not just as a cognitive process that goes on in the mind of the designer, but as a messy, contingent, iterative practice that combines thoughts, emotions, actions, tools, symbolic and organisational structures and other social actors. Based on the insight from Kimbell, the key words for the review were chosen to represent a holistic account of practice including intention, inspiration, methods, tools and self-transformation.

The insights from Kimbell were useful for considering the past textile practice as a design process, however they did not refer to the particularities of *fashion textile* design knowledge and thinking. The research from Igoe was discovered at a late stage and filled this missing gap in the literature. Igoe explored a range of characteristics or qualities of the fashion textile designer that were used in the final stage of the review. Three of these characteristics are described below:

Visual language

Igoe explores the notion that textiles are a language and that textile designers are the translators of the world into visual and tactile form. She references Mitchell's essay 'Textiles, text and techne' (1997) which explains how the words *textiles* and *text* share a common association, through the Latin word *texere*, to weave. Textile designers 'speak' a language not in words, but 'through a complex synergy of visual and haptic language' (2013, p. 60). Igoe calls the textile created from the design process a 'communicative cloth' (2013, p. 60). When designing, the textile designer responds to a varied range of visual, tactile, auditory and sensory materials, a 'rich multi-modal language' (2013, p. 61). This range of stimuli comes from art, books, the Internet, trade shows, fashion, vintage/historic textiles and visiting car boot sales. The textile designer is able to not only 'consume' and 'make sense' of this multi-modal experience, but to then expertly translate it into the language of textiles – the pattern, colour, print and texture of fabrics, yarns and materials.

Subjective process that involves sensual/tacit elements

Igoe suggests the textile design process is deeply subjective and pleasurable for the designer. She uses the term 'making-in-partnership' (2013, p. 88) to emphasise that this process of pleasure is then also experienced by the recipient of the textiles. The process has to be pleasurable for the designer for the process to be a success, and for the recipient to engage. A large element of the pleasure inherent in the textile design process is the focus on sensual and tacit elements. The textile designer creates visual and tacit representations of the world in cloth, and through pattern, colour and texture, they bring pleasure to the recipient.

Textile design process is a form of pleasurable play

The textile designers Igoe surveyed described how they play with materials, objects and ‘paraphernalia’ in the act of designing. In the design thinking literature, design as play is often discussed, most famously by Tim Brown (2009) in relation to innovation in industry. However, Igoe draws on references to play from cultural theory and philosophy. Her analysis of play “conjures up an image of an emotive, tacit, absorbing yet episodic activity that closely resembles the act of designing”. In the textile design process, the designer is involved in this pleasurable play that is deeply absorbing and yields new designs.

The research from Igoe into the particular qualities of fashion textile designers was used to support the findings from the practice review.

7.3 Research Question

The aims for the review of past practice were:

1. To identify the *process* and *methods* used in the sustainable textile design practice
2. To identify an evolution in the practice from a material to socially-engaged practice
3. To identify what the practitioner lacked in skills/methods/experience to enable an evolution towards more ‘social-engagement’

7.4 Research Methods

The review methodology was based on a social science data collection and analysis framework (Table 8). Each stage will be described in detail below.

Method	Description
Data Collection	Use Key Words as Prompts Create Visual timeline Memory recall using stimulus materials Use of visual tools to capture reflection
Data Analysis	Write up summary using key words
Results	Table Created with summary under each Key Word
Discussion	Academic Writing to discuss findings, using Igoe (2013)

Table 8 : Methods used for auto-ethnographic review of past practice

7.4.1 Review Data Collection

Key Words used to prompt reflection: The key words represent the primary aims of the review process and were used to prompt memory recall.

- Intention/Brief
- Inspiration (Visual and Theoretical)
- Skills
- Tools
- Methods
- Social Actors
- Pivotal Moments
- Lack
- Transformation of materials
- Transformation of Self

Visual timeline: A physical, visual timeline was created to map the practice over a five-year period (2007–2011). Two parallel rows in the timeline separated the researcher's practice within the TED team and external to the TED team. Each project or event was represented with an image and the project title, placed on a wall in the researcher's studio (Fig. 33) The creation of a timeline placed each project or event in a wider context and allowed for an understanding of how the practice had evolved over the time-period.



Fig. 33: Visual Timeline on studio wall

Memory recall using stimulus materials: Sketchbooks, samples and artefacts were used as stimulus material, to prompt memory recall and reflection on each project. By

revisiting the sketchbook pages and outcomes from the projects, the researcher was immersed in her own memory and experience from the past.

Use of visual tools (mind mapping, sketching) to capture thoughts and reflections: Paper and pens/pencils was used to record words and drawings in response to the 'stimuli material' and the key words (Image). This created a 'patchwork' of thoughts, ideas and visualisations on the page, similar to a sketchbook.

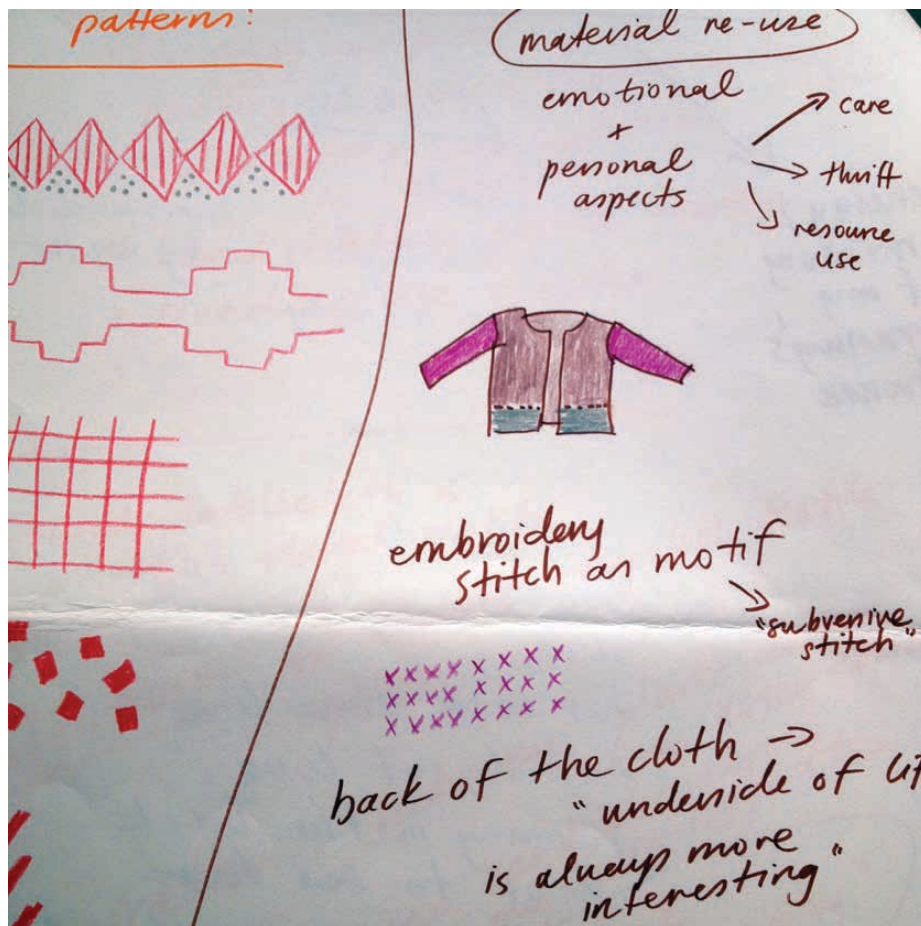


Fig. 34: Image of text/drawing in response to sketchbooks/stimuli material.

7.4.2 Review Data Analysis

The data analysis stage involves the preparation of the data for analysis. Two stages of writing were undertaken. The first stage involved reviewing the sketchbook style pages of words and drawings for each project and summarising the findings using the key word headings. The second stage involved a reflective writing process on the overall findings for each project.

7.4.3 Results and Discussion

The results were inputted into a table that summarised the findings from each Key

Word. Academic writing was also done (in the first person) to present the key findings and the reflective writing was used as quotes to support the discussion. The insights from Igoe (2013) were also used to reflect on the findings.

Project 1 - Everyday (2006)



Fig. 35: Everyday graduate collection

Theoretical/Visual Themes	Women & Domestic Practices; Object Attachment; Practice Theory; Resourcefulness; Emotional Ethnography; Traditional Textile Motifs
Skill	Photography; Drawing; Mark Making; Collage; Textile screen printing; Textile Dyeing; Colour Awareness; Hand-stitching; Interviewing
Tools	Pens/pencils; Paints; Paper; Cutting mat; Stanley knife; Silk Screen Equipment; Dye equipment; Raw textiles; Camera; Scissors/Glue; Thread; Pins/Needles; Fabric scissors; Surface coatings; Print room and table; Iron
Methods	Create Project Sketchbook; Mood-board; Visual Research; Interviews; Creative Field (Re) Search - Visit Charity Shops; Drawings/Mark Making; Develop Colour Palette; Fabric sampling; Dye/print process; Garment making
Actors	Interviewees; Print Technician; Tutors
Pivotal Moments	Identifying interviewees; Discovery of wool crepe; Juxtaposition of hard/soft materials
Lack	Garment construction
Transformation (Materials, Self)	Layering/re-combining motifs or patterns into new meanings; Used project to 'process' emotions
Feelings about outcomes	Deeply satisfying to have learnt such a range of craft skills and see finished product

Table 9: Summary of data from review of Everyday project

This Project was completed as my final Graduate Collection on the B Textiles at Chelsea College of Art. The Project demonstrates the foundational aspects of my textile practice – notions of domesticity, craft, pattern, resourcefulness, collaboration, emotion and layers of process and meaning. I designed, dyed, printed and embellished textiles that were made up into five garments (Fig. 35). The two main types of fabrics I used were wool crepe and silk. The title 'Everyday' refers to the everyday lives and domestic practices of people in general. I was interested in understanding how people lived in their homes, and what objects and tools they surrounded themselves with. I chose four people, all women, and documented their homes using a camera. I also interviewed the women about their favourite objects. The women I studied were chosen primarily because I was familiar with, and inspired by, the interior environment of their homes. For visual research, I also used interior photography of traditional houses in Eastern Europe. At the homes, I looked for evidence of the details of everyday life and use – a bundle of rubber bands kept for re-use over a bottle neck; the pattern on a milk jug contrasted with the pattern on a vase; the print on a faded tea towel worn from overuse. As a print designer, I was looking intently for colour, pattern and texture ideas. I was also sensitive to the layers of meaning embedded in the seemingly random assortment of objects and 'paraphernalia' (Igoe 2013) in their homes.

This Project demonstrates one of the methods I have since used extensively in my practice – Creative Field (Re) Search. Like the textile designers that Igoe interviewed, I had a long-held interest in second-hand objects and garments, and had collected 'paraphernalia' from charity shops and markets over many years. For this Project, I used as reference a small collection of household linens with traditional textile motifs – tablecloths, napkins etc. I also photographed the shelves in charity shops that held an assortment of second-hand objects, as they 'spoke' to me of their past lives:

There was something poetic about the abandonment of these once loved objects, a hotchpotch collection of detritus from both our craft-based pasts and mass-produced present. (Vuletich 2014)

I continued visiting markets and charity shops through many of the subsequent Projects, as described below. I have titled this method a form of 'field research' - it is used as a way to activate and inspire me at the beginning of a project; and when travelling to different countries, as a way to understand a new culture.

Following the 'field research', I created a series of drawings and collages from the visual research I had gathered. This drawing stage was then followed by a lengthy

process of fabric design and development. This included choosing fabrics; dyeing fabrics; screen-printing fabrics; and finally embellishing them with embroidery or other surface finishes such as plastic coating. This was labour intensive and required a range of hand skills and tools. The textiles I had created were then made up by a seamstress into garments – skirts, tops and a wool jacket.

The Pivotal Moments I identified in the Review process demonstrate how important the homes were that had been chosen for the initial ‘field research’. The homes (and women) had to resonate with me emotionally and aesthetically. I had to find meaning at this very early stage, in order to fully engage with the Project. The other pivotal moment was the discovery of the (undyed) wool crepe in the fabric shop. This fabric was aesthetically pleasing and suited the ‘feel’ of the collection – vintage and nostalgic. Igoe (2013, p. 101) explains that there is a strong relationship between function and decoration in textiles. The material structure of a textile determines the dyes used for printing and decorating that textile, and the finished textile (and garment) embodies these unifying qualities of function and decoration. In this Project, the wool crepe determined that I should use acid dyes for the screen-printing process. These dyes also have a particular method for their use, and a particular subsequent ‘look and feel’.

The ‘lack’ I perceived during the Review process, was my inability to make up the fabrics into garments. I was so focused on the printed outcomes that I did not consider the final garment shapes, and this is evident in the slight discord in the pattern placement on some of the garments. This also reflects the focus of my skills as a printed textile designer, rather than a fashion designer focused on garment shape and construction. I work with a seamstress in order to ‘realise’ my designs.

The Project can also be seen as a transformation of materials. The material transformation occurred through the re-combination of traditional textile motifs. The motifs found on the second-hand household linens – hearts, cross-stitch symbols, apples, floral imagery – were collaged and layered together onto the surface of the ‘new’ textiles. Some motifs were enlarged, or printed using ‘puff’ printing ink. Others were inversed or embellished with embroidery stitch. This ‘play’ (Igoe 2013) with traditional textile motifs transformed the old patterns into designs with new meanings. The work was essentially a celebration of female domesticity, creativity and beauty that I believed was often hidden from view.

In this Project, the design and craft processes of the fashion textile print designer were still new to me, and the overall feeling I identified in the Review process was

how pleasurable the process was. The ability to create a range of printed, dyed and embroidered garments from nothing but my own imagination was hugely satisfying and liberating.

The Project does not address any sustainability aspects. The focus is on the development of my aesthetic and technical craft skills.

Project 2 - Wallpapers (2007-09)



Fig. 36: Hand-printed wallpaper installed in a client home in London

Theoretical/Visual Themes	Nature; Gardens; Still Lifes; Chinoiserie; Cross Cultural motifs
Skill	Drawing; Photography; Looking at Nature; Paper Cutting; Screen printing; Mono Printing; Colour Awareness;
Tools	Pens/pencils; paints; Paper; Camera; Scissors/Glue; Cutting mat; Stanley knife; Silk Screen Equipment; Rubber Stamps; Print room and table;
Methods	Create Project Sketchbook; Mood-board; Visual Research; Drawing/Mark Making; Develop Colour Palette; Paper testing; Print Processes; Scaling for Production
Actors	Print Technician; Tutors; Client; Wallpaper Installer
Pivotal Moments	Kew Gardens vine photo; Wallpaper as an Immersive Experience; Combining print techniques;
Lack	Skill with Repeat printing; Wallpaper installation;
Transformation (Materials, Self)	Transforming natural forms into textile designs on wallpaper;
Feelings about outcomes	Very satisfying to see so many processes together and then on wall; loved creating sketchbook and visual research;

Table 10: Summary of data from review of Wallpapers project

This Project began during my undergraduate studies in 2005 and was then further developed for a commission for an interior client in 2007. The initial concept was to develop a range of wallpaper designs based on natural foliage and flora forms. For visual research, I had visited Kew Gardens in London and drew directly from nature. I also gathered imagery of interiors, still lives, object vignettes, and the decorative features from Chinoiserie.

The review of practice highlighted the unique experience of drawing from nature. The act of sitting and drawing in nature is an intense visual experience, as one looks closely at plants, trying to identify potential forms for textile patterns. It is an immersive environment of smells, touch, sight and sounds. The review also brought up earlier memories for me:

I remember vividly walking amongst the gardens, looking for something. What was I looking for? A visual cue, a form or a texture or a colour that caught my eye. This was also mixed with memories of drawing in nature as a child with my dad, after a picnic lunch in the countryside. The deep sense of satisfaction of sitting quietly, looking out over a vast landscape, and using your eyes to move or roam across the scene, and then finding an element to focus on, and to render through the drawing tools. (Vuletich 2014a)

Drawing from natural forms is very intuitive, as one is interpreting light, shape, colour and texture onto the page. The printed textile design process then requires one to translate these drawings into a pattern or stylised form, normally back at the studio. This process is a 'tidying up' of the often, messy drawings into something that is more visually coherent.

After the Visual Research and drawing stage back at the studio, I began to experiment with different printing techniques. The design brief at college required us to test out experimental forms of printing – block printing, potato printing and mono printing. I developed my own technique of using rubber stamps that I carved with small motifs. I created a range of layered and collaged wallpaper samples that combined different types of floral and geometric shapes. The samples used different techniques, such as ink wash; paper stencils; rubber stamping; and hand drawing.

A sample done at college was then further developed for the client commission. The sample chosen featured a simple vine motif that appeared to be crawling over the surface of the paper. The commission required over eight metres of hand-printed wallpaper. The vine motif was then transferred onto a 'transparency' - a clear piece of sheet plastic - for the screen-print process. The 'lack' I encountered here was technical – I was not skilled enough to do a repeat screen-printed pattern. This is an

essential technique used in developing printed patterns, where the pattern on one roll matches up to the next roll. Instead, I created a print design that was purposefully 'off-grid', where each roll of paper did not match the next one. Perhaps here my 'lack' of technical ability actually turned into a creative opportunity, as the finished effect was atmospheric and certainly original.

The 'pivotal moment' during the review process was the realisation that my skills as a designer of printed wallpapers, was to create an immersive environment for the customer. The client was not interested in the details of *how* I was going to create the work, but merely in the finished effect. Where an illustrator renders visual pattern and forms on paper and leaves it at that, the textile print designer translates those visual forms further onto fabrics and papers that become part of people's lives - in their rooms and on their clothes. This relates to Igoe's idea that textiles are, as a visual and tacit representation of nature, so all-encompassing. She suggests that textiles are a form of 'mind-body-world encounter' that the textile designer activates (2013, p. 101).

The transformation at the materials level occurred in the process of translating nature into textile print. The review highlighted how iterative the whole process had been, from the initial drawing from nature, through the design and print phase, to the final wallpaper being enjoyed by the client in their home. I understood the many stages I went through of refining and testing, and refining again. I was also struck by the wonder of turning a simple idea in your mind into an actual reality, through your own hard work and with your own hands – the mysterious workings of the creative process.

The Project does not address any sustainability aspects. The focus is on the development of my aesthetic and technical craft skills.

Project 3 - Digital Fragments (2010)



Fig. 37: Detail of digitally-printed fabric embellished with hand-stitching

Theoretical/Visual Themes	Emotionally Durable Design; digital print onto second-hand textiles; Strategies for maintaining textile heirlooms; Quilts as metaphor for resourcefulness & female experience
Skill	Identifying materials from textile stash; Scanning and Digital Design; Hand-stitching; Colour/Pattern Awareness; Blog Writing
Tools	Second-Hand fabrics; Scanner; Laptop for digital designs; Paper quilt shapes; Digital textile printer; Pre-coated sustainable base cloth; Steamer; Print room and table; Yarn; Pins/Needles; Fabric scissors; Iron
Methods	Create Project Sketchbook; Searching Textile Stash; Visual Research; Scanning and Digital Design; Writing process up on blog; Sample printing; 'Playing' with samples – hand-stitching; Colleague assists with stitching; Creating final pieces; Exhibition
Actors	My mother/godmother; Digital Print technician; Colleague; Exhibition audience
Pivotal Moments	Decide to use quilt shapes; Seeing old textiles scanned/printed digitally; Decide to create giant sampler; Blog writing for reflection
Lack	Decisiveness on how to show final samples; Hesitant to involve people in hand-stitching final piece
Transformation (Materials, Self)	Old fabrics transformed into new through digital scan and print; Layering/re-combining motifs or patterns into new meanings; Used project to 'process' emotions
Feelings about outcomes	Enjoyed the 'play' with samples and embroidery, layering; creating finished pieces for exhibition

Table 11: Summary of data from review of Digital Fragments project

This Project was undertaken during my time as an artist-in-resident at Chelsea College of Art in the Digital Print department. The initial aims I proposed were to investigate digital printing on recycled fabrics. The Project evolved to explore notions of emotional durability and digital craft. The exhibit was a range of textile samples, and a large 'digital sampler'. I also kept a blog about the process and exhibited some of the writing from the blog in the exhibition.

The initial research stage involved a search of my collection of found textiles for visual and tacit inspiration. I have titled this collection my 'Textile Stash', similar to Igoe's description of the textile designer's 'paraphernalia'. In this 'stash' were several small pieces of fabric inherited from my mother and godmother back in Australia, left-overs from old garments they had sewn in the 1970s and 80s. I began to 'play' by scanning these pieces digitally and experimenting with patterns and shapes on the image software Photoshop. A colleague at Chelsea had developed a method for scanning much-loved garments that are too worn to wear. The digital scans are then printed onto new cloth, to be made up into new garments. At TED, this was part of sustainable design strategy Design to Reduce the Need to Consume (TT8), extending the life of garments, and encouraging consumers to reduce their consumption of fashion.

At the time, I had also become interested in quilting and patchwork, so I began to incorporate quilt block shapes. I created a range of hand-stitched samples that I scanned, interested to explore how the stitch would appear when flattened digitally. A highly pleasurable process then followed in which I would create digital sample prints and then print them onto different types of base cloth; steam the fabric, wash and dry it; then cut up and rework or stitch these samples; and then re-scan them.

One of the 'pivotal moments' occurred following the experimental 'play' process. I felt unable to decide how to complete or 'realise' the Project for exhibition, as I had a large collection of two dimensional samples. A colleague suggested I create a giant digital 'sampler', based on the traditional pieces of embroidery that women would create to practice their embroidery stitches, and ask people to assist me in hand-stitching the piece. This was a good solution as it utilised the digital print technology and incorporated an aspect of collaboration. The collaborative aspect, however, was not successful at that stage, and I only managed to engage one colleague to spend a day hand-stitching with me.

By enlarging these tiny textile scraps onto a large digitally-printed cloth, perhaps I was drawing attention to the specialness of domestic craft practices that have been

practiced by women. I was also responding to my own experience of women in the home:

I was revealing the hidden meanings in the cloth as I saw them – of my mother and godmother, who had raised me through the 1970s, teaching me to sew clothes and appreciate hand skills, yet who I knew had ambivalent feelings about their roles in the home and in society. (Vuletich 2014)

Parker (1984) describes the embroidery sampler as representing the female experience of both domestic submissiveness and creative expression. There is an ambiguity about textile skills for women, due to this historic and cultural baggage. She suggests the sampler also represents the testing of female 'skills'. This giant sampler was perhaps communicating my own skills (and that of my mother/godmother) as a proud statement of my experience as a female textile maker.

The transformation during the Project was both material and psychological. The digital print process involved the scanning of heirloom textiles which were then printed onto new fabric. The physical samples that were printed using the traditional screen-printing process were flattened and became transformed into new digital prints. The old textiles, and I, were also transformed through the act of patchwork and quilting. Norris (2010) describes quilting and patchwork as a form of re-contextualising.

Quilting and patchwork are techniques that involve the destruction of objects which hold within them emotional attachments to specific people, places and moments in time, and stitching them into newly rearranged wholes, preserving certain memories while radically re-contextualizing them.

This Project was an attempt to 'make whole' fragments of textiles, as well as perhaps feelings about loved ones.

The Project had a final iteration, the following year. I took the samples to a craft enterprise in West Bengal, India that employs local Muslim women to create quilts using the traditional *kantha* stitch. The enterprise also funds a school for local children. The Director of the enterprise agreed that I could give the samples to the women to work on. Where normally the women were given guidelines on how to stitch each quilt, here they were asked to use their own creative instinct. After some initial hesitation, the women worked on the samples for two days, over stitching the samples and even unpicking my own stitching to re-stitch. I thoroughly enjoyed the notion that my designed and stitched samples had gone through another iteration and interpretation by the Indian women, who brought their own cultural and technical

approach.

The Practice was still operating at Level 1 of the Eco Design approach, the material aspects of sustainability, and perhaps exploring notions of 'digital craft'. However, my attempts to work collaboratively on the samples, with colleagues and then with the Indian women, demonstrate how the Practice was slowly evolving towards social engagement.

This was the beginnings of where my stakeholder moved from being 'the earth', to being 'people'. (Vuletich 2014a)

For myself as the practitioner, I needed some 'other' to contribute to the work, rather than merely making and hanging the work in an exhibition. The desire to engage with others, through the medium of textiles, was to become the primary driver for the work.

Project 4 - Bricolage at Brixton (2010)



Fig. 38: Interior of pop-up shop at Brixton Market

Theoretical/Visual Themes	Value of Craft in communities; Manzini and design for social innovation; Transition Towns; Female design collectives
Skill	Retail/exhibition skills; Workshop facilitation; Marketing/PR; team co-ordinator; Negotiated finances
Tools	Second-hand furniture for display; Laptop; Second-hand fabrics; Yarn; Pins/Needles; Fabric scissors
Methods	Applied for residency; Created retail/exhibit space with existing textile work; Curated/organised textile workshops; Designed publicity material; Facilitated workshops
Actors	Bricolage members; general public; workshop participants; Space Makers agency; Market landlords; historic female designer/makers
Pivotal Moments	Having a public space to work with; Positive response from audience; Connection to local community
Lack	Perceived lack of skills for social-engagement beyond teaching patchwork/craft; How to measure impact when working with people
Transformation (Materials, Self)	Didn't work with materials, but people and spaces; felt personally transformed through a feeling of connection with local community
Feelings about outcomes	Didn't do any of my own making but I gained pleasure/satisfaction from engagement with local community, passing on skills, working with environment

Table 12: Summary of data from review of Bricolage at Brixton project

This Project is a description of an artists' residency in Brixton market, South London with a textile design collective called bricolage, which I had co-founded in 2009. The residency saw us occupy an empty 'shop' in the market for one month, as part of an urban regeneration scheme. The shop exhibited and sold a range of our textile products, and we also developed a programme of textile workshops.

The collective was made up five members who were all graduates from the textile course at Chelsea College of Art. Our textile expertise included print design, knitting, stitching and weaving. The aims of the group were: to celebrate the skill of textile designers and textile making; to explore the well-being benefits of making; and to share our textile skill and knowledge through workshops and events. In the three years the collective was active, we exhibited at trade shows and Pop-Up venues; shared a studio space; and collaborated on the development and facilitation of craft-based workshops.

A description from Levi Strauss (1966) of the characteristics of a bricoleur was used as our mission statement. We changed the masculine gender to a female gender:

The bricoleur is adept at performing a large number of diverse tasks, ... [Her] universe of instruments is closed and the rules of [her] game are always to make do with 'whatever is at hand'....she 'speaks', not only with things but also through things, relating through the choices she makes among the limited possibilities, the character and the life of the creator. Without ever accomplishing [her] project, the bricoleur always puts into it something of [herself] (Lévi-Strauss 1966, p. 46)

The qualities of the bricoleur included resourcefulness; being involved in a deeply subjective and personal process; and sitting on the borders of both amateur and professional types of practice. These qualities suited our group aims and the approach to design and activating projects that we were interested in.

The by-line for the collective was also 'Crafting products and crafting experiences'. We understood that with the increase in online and digital practices, there was a desire for a more direct relationship to craft, and for 'offline' social experiences. My growing interest in the role of designers and craft makers in society was supported by a range of narratives at this time on the value of craft makers beyond the finished craft object (Schwarz & Yair 2010) (Sennet 2008). This period was also shortly after the economic crisis of 2008, and there was a parallel narrative in reaction to the negative effects of industrial capitalism and globalisation (Spratt et al. 2010) (Homer-Dixon 2010). This narrative was advocating for a return to a local and de-centralised way of producing and consuming, a way that emphasised local distinctiveness and

place (Hawken 2007) (Clifford & King 2006). The work of Manzini advocated for the new roles for designers in this emerging activity. It is this point in my Practice that is described in the Preface, relating my uncertainty on how I could contribute to this conversation as a fashion textile designer/maker.

Transition Town Brixton (Hopkins 2008), a community-led organisation, were advocating for 'local solutions to global problems', and had worked towards the recent heritage listing for the historic Brixton Market building. They were also involved in this urban regeneration scheme, which was led by two artists. As a collective, we had previously exhibited at a trade fair, yet had found the experience dull and uninspiring. This opportunity suited our aims of communicating the value of textile making and craft to a general audience, and of experimenting with different approaches to exhibition and retail concepts. The 'pop up shop' retail concept was relatively new idea at the time, and the concept of a temporary space suited our interest in hybrid creative spaces. Was this our studio? Was it a shop? The space we had been given was empty, and we used our resourcefulness to decorate it with second-hand furniture and display pieces. Perhaps the temporary and ambiguous nature of the residency suited our 'textile designerly ways'. As in the wallpaper project from 2007, our skill as textile designers was as creators of immersive environments. With products on display including printed wallpapers, hand-knitted cushions, quilts and printed textiles, the space was transformed through colour, print, pattern and texture. In the wider market environment, the shop was a unique and inviting environment for the public.

The Project was also driven by design and craft activity from the past. As a collective, we had an interest in female designers and artists from the Modernist period, who shared a certain aesthetic and approach. One such artist was Sonia Delaunay, who had pioneered textile and fashion design, and established a retail space in Paris in the 1920s (Damase 1972). Also, Joyce Clissold in the UK had set up the Footprints block-printing enterprise, with a retail space in London (Powers 1992). These were examples of female textile artists and designers who were innovating with print techniques and aesthetics, stepping out of their studios to engage with the public. These historic figures were our 'design heroines' who inspired us to activate new approaches.

We developed a programme for teaching and facilitating textile workshops called 'textile up-skilling'. Central to our motivation was a belief that fashion consumers had become passive and de-skilled through the fast, trend-led cycle that devalues both materials and skills. Our role as designers was to facilitate the development of new

or forgotten skills, so as to enable a more direct and engaged relationship between consumers and their garments. We focused on traditional textiles skills such as smocking, darning, and patchwork and quilting.

The progression from making, to facilitating others' making, felt natural to me. My experience as an educator, and of the facilitation during the Ever & Again project, had given me the skills to guide group learning. However, here I was teaching a craft skill with an activist and emancipatory agenda - the process of learning a new textile skill had the potential to empower and change the participants. We had created an immersive environment using our textile products; curated and marketed the workshops; and invited participants into the space to a collective experience of making. We did not collect any feedback or data from participants, and it was only anecdotal evidence that suggested the workshops were successful.

The Review revealed that this part of the Project was immensely enjoyable, as I enjoyed sharing and connecting with the participants in this unique space. I was not involved in any making of textiles myself. Rather, the pleasure I experienced from experimentation with materials and processes in previous projects, was transferred to working with people, spaces and local communities. The 'play' I could activate through making, was now being activated with others through their making. This local area was my own neighbourhood at the time, so perhaps there was added benefit for me as I developed a deeper sense of connection to the place.

The Review also revealed the less enjoyable aspects of the Project. The reality of working in community settings was that they were often under-resourced and difficult. Invigilating in a cold, dark and unheated shop was unpleasant. There was also the realisation that any retail endeavour required constant marketing and engagement with potential customers. Following the residency, I was asked by Transition Town Brixton's art/culture group to teach patchwork in their space over several weeks, the experience described in the Preface. The more time I spent in the Market and amongst the Transition Town community, the more I noticed the lack of interest in fashion/textile 'designerly ways of knowing' (Cross 2006). The Review provided insight into the reasons why fashion textile designers remain 'at home' and within the contexts of their profession – studios, design teams or academia. They are safely surrounded by their 'paraphernalia' and designed environments that bring pleasure and are aesthetically pleasing.

The practice here was operating at Level 3 on the Sustainable Design continuum, Sustainable Design. As a designer, I was intervening in the use phase of the garment

lifecycle and supporting better garment care practices. I had the communication and facilitation skills to teach a craft workshop to encourage slower fashion consumption, the TEN strategy 8, Design to Reduce the Need to Consume Yet how would I work in more strategic roles, 'beyond the cloth', that the next level of Design for Social Equity demanded?

This was the question and hunch that motivated the first project in the PhD, Design for Change (Chapter 5).

7.5 Overall Discussion and Results

The review produced a range of insights and revealed potential future lines of enquiry. The three main findings that would impact the next stage of the overall PhD research journey will be discussed below.

7.5.1 Evolution of practice driven by values

The importance of values in a sustainability context had been understood from the experience of facilitating designer in industry and from the literature. The practice review would verify the importance of values in a sustainable design practice through the subjective, personal insights of the researcher.

One of the primary aims of the review was to understand how the practice had evolved from a materials-based practice to become more socially-engaged. The review process demonstrated that the seven projects followed the same trajectory as the sustainable design continuum and were driven by a set of inner values and beliefs (Table 13). The discovery based on values was unintentional, as the key words used to prompt reflection had not explicitly referred to values or beliefs. This was in part because the design thinking literature that was reviewed had not included a discussion of values or ethics as drivers for the design process.

	The TEN	Project	Focus/Values
No consideration for sustainability	-	Everyday (2006) Wallpapers (2007-2009)	Creativity, Aesthetics,
Eco Design	TT1, 2, 3, 4, 5	Love & Thrift (2007) Digital Fragments (2010)	Materials
Sustainable Design	TT 6, 7, 8, 10	Bricolage at Brixton (2010)	Social
Design for Social Equity	TT 9, 10	???	???

Table 13: Past Practice on the Sustainable Design continuum with The TEN

The first two projects did not include any engagement with the sustainability agenda, and were primarily focused on the development of craft skills and aesthetics (Everyday, Wallpapers). The next stage of projects aligns with Level 1 on the continuum, Eco Design that focused on the material/technical aspects of sustainable design (Love & Thrift, Digital Fragments). The next stage was the project that aligns with Level 2 of Sustainable Design (Bricolage at Brixton) supporting consumers in more sustainable clothing behaviours. This last project Bricolage at Brixton was the practice immediately prior to the beginning of the PhD research. It was during this period that the researcher perceived a lack in skills and capabilities to operate in more strategic and social approaches, as described in the Preface. The review process helped to identify that it was the next stage of practice, towards Design for Social Equity that was the missing space (see table 13 greyed area). Thus, the review process helped to define the context for practice as Design for Social Equity and revealed a gap in knowledge for fashion/textile design practice at this level.

The progress of the practice through the continuum followed a natural evolution from a focus on environmental impacts ('earth') through to social systems (consumers, producers). The researcher's 'inner' feelings and values drove the practice through the continuum.

I understood that my practice had evolved from a focus on the 'earth' as my primary stakeholder, towards people in the supply chain (consumers, producers). The empathy I was feeling towards the earth, then shifted into empathic feelings towards consumers and producers. My actions were aligning with the empathic feelings and I was activating the practice in new ways. (Vuletic 2014)

This shifting of empathy for different stakeholders was understood as a shift in a set of values that the researcher deemed important. The review process therefore

objectified the personal, inner belief system that was motivating the practice and made it visible to the self/researcher. This outcome from the review of practice, and the insights from the previous project on the 'fourth element' of sustainability, confirmed the notion of values as of primary importance in the overall enquiry going forward.

7.5.2 Fashion textile design process and self-transformation

The second main finding from the review process was the transformative effect of the textile design process on the self/designer. The reflection on past practice highlighted the deeply emotional and subjective aspects of the process. This was also verified by the research from Igoe who is positioning textile design thinking within the 'design and emotion' discourse. As described above, Igoe explores how the textile designer has to find personal meaning in the process in order to fully engage; and that the textile design process is absorbing and deeply emotive.

One project in particular revealed the strength of emotion involved in the process. A written reflection on the use of the word 'love' in the title Love & Thrift, showed how deeply personal the project was for the researcher.

Was I referring to the emotional state that had been invested in these old textiles and that I was attempting to save and repair? Or was I trying to capture the psychological and emotional states that I felt as the designer/researcher in carrying out this project? This creative act was an act of love – to my loved ones, and to the earth's precious resources, that I was so diligently trying to preserve. (Vuletich 2014)

This quote reveals the emotional aspects of the design process – the sense of 'love' perceived from previous owners of the second-hand textiles; the sense of 'love' towards the researcher's grandmother who inspired the Project; the sense of 'love' and enjoyment experienced during the Project as a creative exercise; and the sense of 'love' towards the earth as a living system.

The personal aspects of the textile design process also relate to the notion of self-transformation. The review process showed that the researcher was finding positive benefit from each project and was partly using the process as a way to deal with, and integrate, emotions. Further reading on creativity and psychology (Dissanayake 2000; Winicott 1965) revealed a link between the creative process and a positive change in the psychological state or sense of self of the practitioner. Winicott, for example, sees creativity as a form of containment that acts as a safe, transition place similar to the space the mother creates psychically for a baby. This notion of textile design and making as a transitional space would contribute to the overall insights that emerged

from the making of a hand-quilted jacket in the final project (Chapter 8).

7.5.3 Sustainable textile design as bricolage

The third important outcome from the review was a framework and interim paper that represents sustainable textile design knowledge as bricolage (see Appendix VIII), based on Levi Strauss (1966). The review had demonstrated that sustainable fashion textile design knowledge is complex and difficult to capture and articulate in the scientific paradigm of an academic thesis. It also became clear that textile design knowledge does not sit comfortably within the design thinking literature as it is a messy, intuitive craft- process that involves emotion and subjectivity. There was also the lack of research in the literature on the relationship between values that support the sustainability agenda and the design/making process. One of the primary values evident from the past practice review was the notion of resourcefulness or reuse of materials. The interest and motivation to preserve and value existing materials or resources was important to the practice and needed to be accounted for.

The concept of bricolage was chosen because the term describes a range of characteristics that share similarities with a crafts-based sustainable textile practice. The term had been used as the name for a textile collective, co-founded by the researcher in 2009. The initial understanding of the term was a word for ‘tinkering’ or ‘making do’, using one’s hands to re-configure existing resources. A further literature and contextual review demonstrated the concept had deeper resonance. “Levi Strauss used the term to describe an intellectual and physical process that re-configures elements to create new meaning, based on a modality of human thought found in primitive cultures” (Vuletich 2014). The metaphor is useful in this context as it represents a holistic account of a sustainable textile design practice – a crafts-based process that involves tools, materials, subjectivity, values that support environmental/social change and resourcefulness.

Five characteristics were developed:

- 1) Using limited resources, within a finite set of possibilities
- 2) Designer as Professional & Amateur
- 3) Craft Skill as Knowledge or Intelligence
- 4) Self/Subjectivity
- 5) Alternatives to Consumerism (Vuletich 2014b)

Several other frameworks were considered that were holistic in nature, including the Head Heart Hands framework (Steiner 1927). The bricolage metaphor was considered most relevant for a creative, research enquiry that was based on the

implicit, emergent process of a sustainable textile design practice.

The bricolage metaphor was also useful for highlighting the differences between the design and science research paradigms, as described in the Introduction Chapter 1. The McGilchrist work on the left and right brain was also discovered during this stage of the research and was a compliment to the bricolage metaphor. The conclusion of the interim paper (Vuletich 2014b), includes a table that maps the five bricolage characteristics against the left/right brain distinctions from McGilchrist. This demonstrates the 'right brain' qualities of the bricoleur and reinforces the challenges of articulating sustainable textile design knowledge in a scientific paradigm/thesis.

The framework did not become an integral part of the main research journey, but was a useful iteration to clarify thinking around crafts-based textile design for sustainability.

7.5.4 Reflection on Methods Used

The methods for understanding own past textile design/making were not evident in the literature and had to be developed. The methods that were developed included: Visual Timeline to map practice; Key Words as Prompts; Stimuli Material to prompt memory; Visual mapping to capture insights and reflective writing on laptop.

Considering the four-stage action research framework, the whole review process can be seen as a form of reflection on action/practice that had occurred several years previously. The methods used for reflection on action in the previous projects had been relevant for collaboration and facilitation roles, such as the TED Reflective Questionnaire (Chapter 6). These methods were designed for simple, reflection on practice that did not encourage deep, inner reflection. However, the research tasks were changing towards the subtler aspects of the self and the reflective methods began to demonstrate this. The review process allowed the researcher to test out reflective methods that supported an immersion in one's inner, private world and views. The methods that were used, such as reflective writing on laptop, were also designed to capture the unique and subtle aspects of textile design knowledge. The learnings from this process would contribute to the development of a range of complimentary, reflective methods in the final stage of the research.

A textiles research journal (sub-titled *Journal of Being/Well-Being*) was also begun at this stage of the research to capture feelings and insights about the overall research. This was initiated after a workshop on writing for research in June 2013 (SKIP 2013).

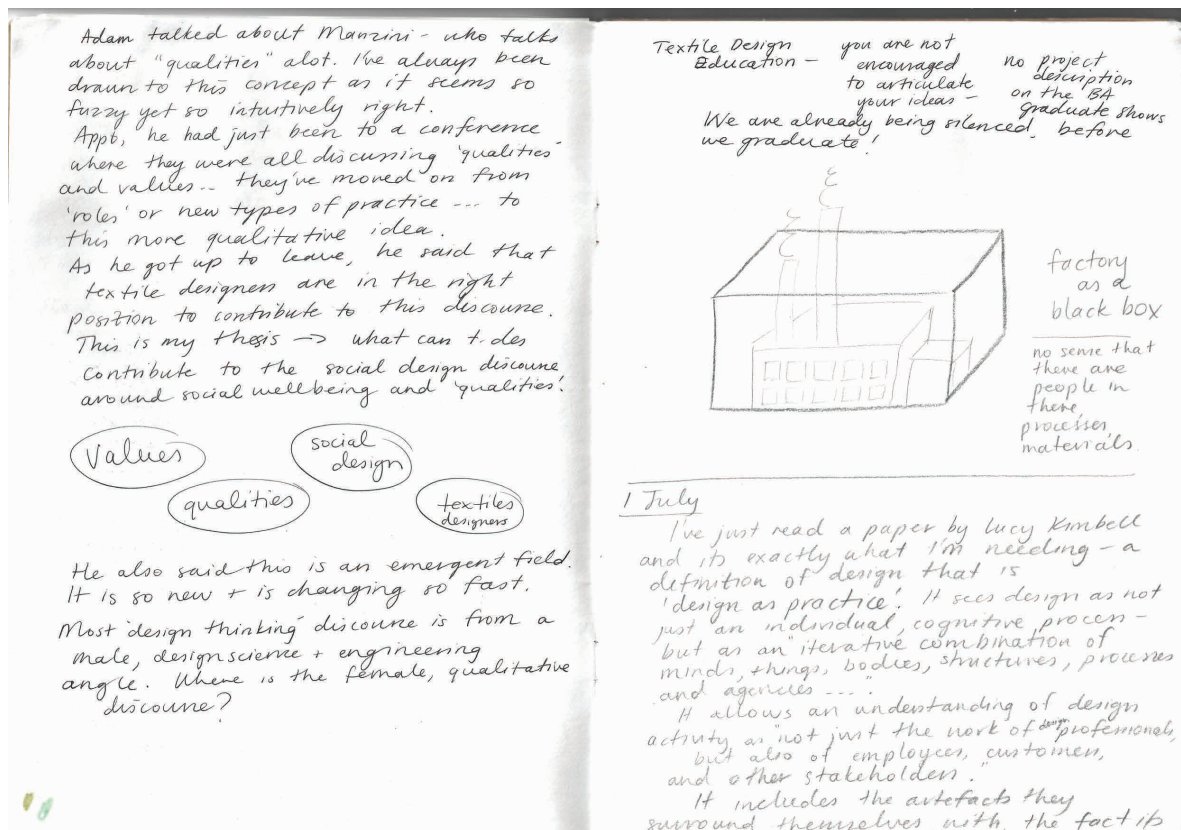


Fig.39: Image from Journal pages

The journal was a combination of a traditional sketchbook used in the textile design process involving sketches/mind-maps/images and a written journal (Fig. 39). The journal was hand-written, as opposed to the reflective writing conducted on a laptop.

7.6 Conclusion and Next Steps

This chapter explores a shift towards the 'inner' aspects of sustainability in the research. A period of self-reflection was necessary to gain clarity on own methods, values and motivations, before coming back to the 'outer' dimensions of industry and the supply chain. The discovery of the research by Igoe also provided insight into the deeply subjective, 'inner dimensions' of the fashion textile design process and provided a validation at this stage of the PhD journey. The initial insights gained from the review of past textile practice were finally understood through the concluding project in the following chapter and overall synthesis of the research.

Outcomes included:

- Methodology for review of past textile practice
- Interim research paper, 'Sustainable Textile Design as Bricolage', (2014)

Vuletich, C. (2014) 'Sustainable Textile Design as Bricolage.' *Proceedings of In a Reverse Fashion: A Critical Agenda for Sustainable Fashion*. Centre for Fashion Studies, Stockholm University, Stockholm, Sweden, 19 - 20 May (See Appendix VIII)

Chapter 8: The Design Steward



Fig. 40: The Inner/Outer Jacket

This chapter begins by articulating the research questions, then maps out the methods used, before giving an overview of the final practice projects in the research that evolved to Design Stewardship. The chapter concludes with the results and insights obtained from the practice, that helps build the framework for the Transitional Textile designer.

8.1 Introduction

This chapter defines the final stage of the practice role as a *Design Steward*. The designer has moved ‘beyond the swatch’ to support and facilitate the values of other stakeholders in the industry for sustainable change (Fig 41). The previous project had provided insight into the importance of self-reflection and understanding ‘inner’ dimensions. Following the ‘inner’ journey, the designer moves back into the ‘outer’ world with new self-knowledge to support others’.

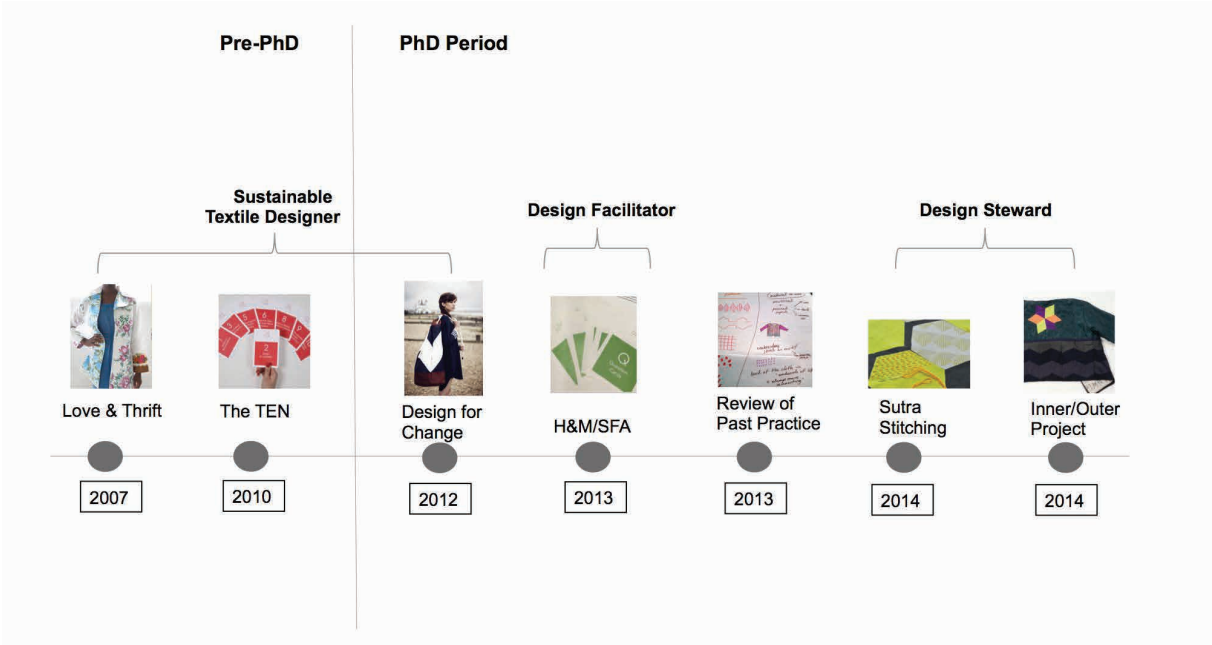


Fig. 41: Timeline of Practice

Using a creative workshop facilitation and practice project, this chapter explores a practice at the highest level of Design for Social Equity, where the designer becomes a Design Steward. The TEN strategy 10 (Design Activism) was proposing design strategies to activate change in the industry, however there was little understanding of this for a textile practice in global supply chains. Here, the notion of *activism* is re-defined as *stewardship*. Stewardship refers to a guardian or a ward of valuable resources, and the designer uses a facilitation role to act as a guardian of sustainability and well-being. This requires a practitioner that understands values, mind-sets and what motivates and inspires people to change towards sustainability. Where activism

connotes force and intervention, here fashion textile design stewardship is a gentle approach of craft processes, mindfulness, listening, and empathy for others. The Design Steward is primarily a facilitator of collaboration and shared dialogue, but they use textile craft methods and materiality as part of their facilitation tool kit.

	Approach	The Ten Strategy	Project
Green Design	Single issue, product focused	Materials Choice, e.g organic cotton	
Eco Design	Lifecycle approach, product focused	TT 1, 2,3, 4, 5	
Sustainable Design	System approach, product and service focused	TT 6, 7, 8	Design for Change (2012)
Design for Social Equity	Re-Design lifestyles, support social equity	TT 9, 10	Sutra Stitching (2013-14) Inner/Outer Project (2014)

Table 14: Inner/Outer project on the Sustainable Design Continuum with The TEN

This chapter includes two projects. The first is Sutra Stitching (2014), a workshop method that shows how the practice was in transition from a Design Facilitator to a Design Steward role, using mindful techniques to facilitate open dialogue. This workshop was a ‘sketch’ method that was developed and tested outside the PhD research context. It is included because it demonstrates a ‘right brain’, intuitive approach to the process of research. There was a hunch that the researcher wanted to pursue. There was also a belief that by connecting with people, and in helping people connect with themselves, the research insights for the project would be greater. The method involved teaching a meditation technique and facilitating a hand-stitching session; both techniques that help participants to access reflective, inner states.

The second project is Inner/Outer (2014), that included field research in China, where a dialogue with a range of stakeholders in the supply chain and a creative workshop with garment workers was conducted, to understand their personal views. This shows a practice operating as a Design Steward, working to support and inspire all stakeholders towards sustainable change.

The final part was the making of a hand-stitched jacket, as reflection on the field research and on the PhD project as a whole. The outcome also included Textile Talk Kit, a downloadable resource sheet and toolkit for the facilitation of cross-cultural

dialogues in supply chains.

8.2 Workshop Exploring Mindfulness & Textile Craft (Sutra Stitching)

8.2.1 Introduction

The Sutra Stitching methodology was developed outside the PhD project context to trial a facilitation technique that creates a mindful and open group discussion using textile craft. The experiences as a Design Facilitator in industry, contributed to an interest in facilitation techniques that support a holistic engagement with sustainability. The review of past practice had also demonstrated that reflection on one's inner dimensions is important for sustainable change.

The workshop method was initially developed as a 'warm up' exercise to a presentation of the PhD research, as part of collaborator Katherine May's artist-in-residency programme in London, October 2013. This workshop involves two techniques that are 'flow' activities (Csikzentmihaly (1991) – mantra meditation and hand-stitching.

8.2.2 Focused Literature Review

Mantra meditation

In 2012 the researcher underwent yoga teacher training in Kundalini yoga (Bhajan & Khalsa 1998). The programme taught techniques and methods for holistic health, including mantra meditation as a method for balancing the mind and body. The yogic philosophy and techniques were a compliment to the literature on values and becoming a 'whole self' (Ehrenfeld 2008). Meditation was also of interest due to the growing body of scientific evidence of the positive effects on the brain (Brown & Ryan 2003) (Esch, Frichione & Stefano 2003) (Luders et al. 2011).

Mantra meditation is a technique that uses repetitive sound to activate certain parts of the brain, and results in a state of inner calm. In the Buddhist and Hindu religions, the mantra is often part of the sutras, sacred texts that are thousands of years old. The word *sutra* means a thread or line that holds things together, and comes from the root *siv*, to sew (Oxford English Dictionary Online 2015). The reading of sutras, or chanting of a mantra, is a form of meditation on the divine. The sutras are therefore like a sacred thread, that holds humans and the divine together. This imagery of sutras as like a thread, is what links them to the textile craft technique of hand-stitching.

Hand-stitching

The researcher had prior experience teaching hand-stitching and patchwork in

some workshops and also used the technique in own textile practice. The positive benefits from practicing hand-stitching were evident for the researcher personally and anecdotally in a group workshop setting. There is also a long history of amateur textile makers who could attest to the positive benefits of knitting and textile craft. Following the yoga teacher training, the researcher became interested in the similarities between mantra meditation and hand stitching as techniques for well-being. There is no scientific evidence on the effects of hand-stitching on the brain, however there is some data that suggests repetitive hand-movements cause a release of serotonin, one of the chemicals that is also released during meditation (Jacobs & Fornal 1999). The technique of hand-stitching also involves the aesthetic and tacit aspects of textiles that are pleasurable such as colour, decoration and texture.

8.2.3 Methods Used

Meditation: A Kundalini meditation that uses a hand position (mudra) and breath is introduced to participants at the beginning of the workshop to create a sense of inner-calm. A different meditation is then done at the end of the workshop

Hand-stitching: Participants are given a range of fabrics and shown a simple hand-stitching technique called 'boro-boro' (traditional Japanese technique). This technique is a layering of many pieces of cloth together to create a collage effect. The idea was to create a 'conversational patchwork' – using the methods of patchwork and hand-stitching to facilitate dialogue amongst participants. The aims are not to produce a finished product or piece, rather to learn and enjoy the simple and calming process of hand-stitching and converse with others. Once the participants had begun the stitching, the researcher introduced the Sutra Stitching concept and the PhD research using visual images/slides, and facilitated a general discussion on sustainable fashion and textiles.

8.2.4 Reflection on Outcomes

The participants reported feelings of pleasure and calmness overall at the conclusion of the workshop. Several participants had not 'finished' the sample they were creating, and were excited to take the piece home to continue working on it.

The meditation had a positive effect on participants as well as the researcher. The researcher noticed the technique improved presentation skills and ability to make useful links between ideas/concepts. As a facilitation technique for group dialogue, both the meditation and hand-stitching encouraged a frank and open dialogue between the researcher and the participants.

8.2.5 Reflection on Methods Used:

The workshop was a 'sketch' of a method to explore the relationship between two mind/body techniques that encourage reflective, inner states in individuals. The researcher had found both techniques personally beneficial and the workshop was an attempt to share these benefits with others and reflect on the ideas.

As in the Design Facilitation role using the TED Green Cards (Chapter 6), the researcher was also using a facilitation role as a form of dialogue with participants - to reflect on, and make sense, of an idea or concept through the facilitation process. In testing out these mind/body techniques, the researcher was exploring how to translate the theories about a holistic, human-centred notion of sustainable design into practice.

8.2.6 Conclusion

The workshop demonstrates how the practice was in transition from a Design Facilitator to a Design Steward role, using craft techniques to facilitate open dialogue. Although the aims were not specific to understanding values or inner beliefs, an understanding was developing for how the method could be used for these purposes. The format was trialled several more times during the PhD research period for different audiences including at cultural events and in design education.

The workshop method is available as a digital download from the Textile Toolbox website (See Appendix XIII).

8.3 Inner/Outer Project

8.3.1 Introduction

The project demonstrates the practice of a Design Steward, working to support and inspire all stakeholders towards social equity, at the highest level of the Sustainable Design Continuum (see Table 14). It involved the facilitation of a workshop with Chinese garment production workers in Shanghai and the creation of a hand-made jacket for exhibition.

In Spring 2013, the researcher undertook field research to China as part of a collaborative research project with TED and a PhD student from MISTRA Project 1, Kirsti Reitan Andersen (2015). The initial objective was to activate a collaborative design project with production workers in a garment factory (following on from Project 1/Design for Change). However, the enquiry changed based on insights and

experiences from the field research. An interventionist, problem-solving approach to the issue of workers' rights evolved into a creative workshop with production workers to understand their individual views.

Following the field research, a jacket was hand-made for the TED/Project 3 online exhibition Textile Toolbox, a final outcome for the MISTRA project work. The process of hand-making the jacket was a solitary activity of textile making in a studio that enabled the researcher to reflect on the action and field research. The 'outer' actions in China were then reflected on through an 'inner' journey of making and reflective practice.

Project 1 (Design for Change, Chapter 5) demonstrated how a fashion textile designer can support local garment production workers through collaboration with a social business expert. It was an example of the Sustainable Designer role operating at the third level of the Sustainable Design Continuum. The researcher was not exposed to real-world individuals or communities and was constrained by an industry client brief. This project being described here took place in the real-world context of Chinese garment production and provided a unique context to explore the next level of practice. Traditionally, the fashion textile designer is disconnected from the producer or worker in a linear supply chain (see diagram in Contextual Review). This project attempted to 'close the loop' and bring the designer into direct contact and relationship with the worker. The project is an example of a fashion textile designer supporting garment production workers beyond compliance and monitoring, at the highest level of Design for Social Equity.

8.3.2 Focused Contextual Review

8.3.2.1 Beyond Design Activism

As discussed in the Initial Contextual Review (Chapter 4, one of the new roles described in the sustainable design literature is the design activist. The discussion is primarily based on the disciplines of product design, communications or architecture (Fuad Luke 2009) (Thorpe 2010). There is no description of a fashion/textile design practice in the literature. In the sustainable fashion/textiles literature, Fletcher and Fletcher and Grose provide case studies yet there is limited understanding of design methods and approaches in the activist role.

The review of past practice demonstrated there was a gap in knowledge in the TEN frame-work for a Design Activism role (see Chapter 7). When mapped against the Sustainable Design continuum the TEN strategy number ten aligns with the highest

level of Design for Social Equity. This strategy suggests designers move beyond the product to re-design the fashion system and support social equity. An analysis of how the designer does this and using what methods and approaches however is limited. The broad types of practice suggested by the TEN frame-work include using communication or events to raise awareness of issues; forming platforms/networks; facilitating craft workshops to encourage sustainable fashion consumption; and writing a manifesto.

The term activist has many meanings that suggest a particular approach to creating change. Fuad Luke defines activists in the context of design practice as people who are allied to or founders of social movements or oriented around special interest groups. He explains that all activists are involved in creating change that favours their world-view, and inherent in activism is the notion of change or transformation – of the context in which they are operating and of themselves as individuals.

This description by Fuad-Luke is useful however a deeper understanding is needed of the term for fashion textile design beyond the existing definitions and practices. This project begins to demonstrate what design activism is for a crafts-based fashion textile designer working to support social equity in the global supply chain.

8.3.3 Research Questions

What is the ‘design opportunity’ in a Chinese production context; and what unique methods or qualities do fashion textile designers bring to these contexts?

The research meets Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity.

8.3.4 Research Methods

PLAN	Reading Thinking Field Research China Purposeful Dialogue
ACT	Creative Facilitation
REFLECT	Textile Making Reflective Writing Research Journal
SHARE	Academic Paper Exhibition Workshop Tool

Table 15: Inner/Outer Project Methods

PLAN

In the first stage, the researcher worked collaboratively on developing a proposal for the TED/KRA project, including aims for the field research in China in October 2013 (see Appendix XIV). It was agreed the researcher would accompany the team and respond to the field research in an emergent way. The field research

included Purposeful Dialogue with stakeholders (see Appendix XV); observation and photography of urban life and local behaviours; visits to second-hand clothes markets and to a traditional dress museum.

ACT

The second stage of the project included answering the question through Creative Facilitation of a workshop with garment production workers in Shanghai.

REFLECT

The field research resulted in a large amount of data, including notes from the Purposeful Dialogue, images, drawings and textile stitch samples, reflective questionnaire from the workshop, and reflective writing in the Research Journal. The making of the quilted jacket back in the studio in London was used as a method to reflect on the action from the field research. Reflective writing was also done throughout the making of the jacket.

SHARE

A book chapter was co-authored with Earley, 'Holistic Fashion Design' (2015). The Jacket was photographed and exhibited in the Textile Toolbox online exhibition in October 2014. This exhibition then travelled to several partner spaces in Denmark, Sweden and New York. The Textile Talk Kit has been developed as part of the Transitional Tool Kit described in the Conclusion.

8.3.5 Results and Discussion

This section includes a discussion of the research outcomes and methods used.

8.3.5.1 Field Research

The field research involved visits to Shanghai, Hangzhou and Hong Kong. Anderson organised the majority of the interviews to address the TED/KRA research questions. Stakeholders who were surveyed in the sector included a fashion brand representative, independent fashion designers, factory managers and retired cotton mill workers. The assumption of the TED/KRA research team was that Chinese garment workers are exploited by the dynamic between the European fashion brand and Chinese factory management. The dialogue with stakeholders suggested there was a range of views and anecdotal evidence on the issue of workers' rights in Chinese garment production and that the issues were more complex than initially perceived. One view was that many workers are willing to work long-hours and

perceive their work as a route towards self-empowerment. Another view was that workers want to work maximise their ability to earn, which means they often work for long hours in unregulated workspaces, as this is the only option available to them. A final view suggested that female workers see the work as an opportunity to socialise and meet a potential husband.

A visit to a garment production factory also provided further insight. The assumption of the TED/KRA team and researcher was that factories were dangerous and unsafe for workers, and workers did not have rights for collective bargaining or fair wages. In Project 1 (Design for Change, Chapter 5) Parker (2012) had cited anecdotal evidence that managers often show European visitors fake records of working hours, to hide mistreatment or illegal behaviour. However, there was no evidence of this illegal behaviour from the factory visits and managers were friendly and helpful.

It was becoming evident that the complex issues in this context were not going to be approachable through an activist-style design intervention. The researcher was beginning to understand the socio-cultural and industrial contexts that were shaping the issue of workers' rights in Chinese production. There were mixed emotions in response to these contexts, including a sense of over-whelm at the scale and enormity of the issues, and powerlessness to make change. The visits to production factories and observations of working conditions also highlighted the missing link in the field research - the team had not directly surveyed workers for their personal views. Following one visit, the researcher wrote in the research journal:

*Do the workers enjoy their work?
Do they want a nicer work environment?
Is their chair comfortable that they sit on?
No soul in the factory building
Give people a space to think* (Vuletich 2014d)

There was a clear distinction emerging between the design researcher as the 'creative' and the worker as the 'technician' in the fashion system - one of the dualism mentioned in the Introduction chapter. The practice review into the fashion textile design process had highlighted the deeply pleasurable aspects of the activity and profession, including the studio environment of the textile designer with the 'paraphernalia' and inspirational objects that feeds the design process. Yet, the garment workers' environment was impersonal and uninspiring. Other insights from previous projects were also being reflected on - the importance of understanding the 'fourth element' in sustainability from Project 2 (H&M/SFA, Chapter 6); and the benefits of using textile craft as a mediating technique for open dialogue from the

Sutra Stitching workshop (Chapter 8).

An enquiry began to form for an action-research workshop - *Could we disrupt the dualism between designer and garment worker by teaching workers the skills of textile design and making? Could we use a creative textile task in a group-learning environment to understand the workers' personal views and values?* These questions formed the basis for the workshop that was designed and tested during the field research.

8.3.5.2 Creative Workshop with Garment Workers

The workshop took place at a garment factory on the outskirts of Shanghai, identified through a personal acquaintance of the translator. The agenda was designed to facilitate a discussion of worker's personal views on their workplace and lives, through the technique of a simple, textile print method (see Appendix XVI).

A tool was developed called *Textile Talk Kit* (Fig. 42) to bridge the divide caused by language, cultural and professional barriers. Referencing a 'design toolkit', the kit included the tools used for the textile craft process (needles, thread, scissors); a small selection from the researcher's collection of vintage textiles; swatches of textile designs by the researcher to demonstrate the researcher's own design practice; and a collection of personal photos of the researcher and her family members. The use of family photos was based on a traditional cultural practice in China, that builds trust between strangers.

The participants were then led through a simple print technique, using transfer inks on polyester fabric. To generate pattern, the participants were asked to write their own names in Chinese. During the process, Earley also drew portraits of the participants and of the researchers (Fig. 43). The final outcome was a large piece of fabric with the drawings, Chinese writing and mark-making layered together.

During this process, the researcher prompted a discussion on participant views. However, it became evident that the workers were not comfortable talking openly in front of their colleagues or in their workplace. At various stages throughout the workshop they did share some information about themselves. The participants were not surveyed after the workshop for their feedback, as there had not been enough time during planning.



Figs. 42 and 43: Textile Talk Kit at the workshop (left) and portrait drawings of the participants (right)

Although there was no qualitative data collected on participant views, several important insights resulted from the process from the researchers point of view. The first insight is based on the notion of fashion textile design as a form of ‘play’. The researchers demonstrate an ability to construct a temporary creative space in a seemingly uncreative context – the boardroom of a garment factory. The experience from previous projects and work as facilitators had given the researchers the ability to quickly design and deliver a ‘playful’ experience, using the methods and tools from textile design.



Fig. 44: The Researcher (left) doing a portrait drawing of one of the participants

The second insight was on the notion of textiles as a 'language' that can be used to communicate across language and cultural barriers, as described by Igoe. Although there was a translator present, there was still a barrier to communication between the facilitators and participants. As skilled garment technicians, the participants were familiar with the 'tools of the trade' - fabric, irons, needles, thread. The use of a textile print process and accompanying tools meant that the facilitators were able to communicate with the workers through this material language.

Another insight was in relation to the dualism of the 'creative' researcher and the 'technical' worker, who are often disconnected through geographic and industrial barriers. The aim of the workshop was to dissolve this binary opposition between the two stakeholders through a textile craft process. In using the processes of textile design, the workshop was attempting to connect the participants at a human level. The left and right brain distinction from McGilchrist also offers a useful frame to consider here. The qualities and methods of the fashion textile designer are the qualities of the right hemisphere - embodied and focused on the senses and emotions; their primary 'language' is the visual rather than text; and they show empathy and focus on the user. Whereas, the qualities of the other stakeholders in the fashion system (such as production management, lifecycle assessors and even the worker as the 'garment technician') are the qualities of the left hemisphere that align with unsustainability. In connecting the designer with the garment technician through the textile design process, the workshop was 'unpicking' the knots in this dualism and helping to create sustainability.

These insights mirrored the way in which the Green Cards had linked participants back in the SFA workshop, bringing inter-departmental employees together around a common task, in a playful way.

The use of textiles and textile tools was also important to build confidence in a creative research approach. The researcher had observed and used the methods from social science of the qualitative interview, during the field research but was challenged to find meaning in this method. A formal, structured interview method surveyed stakeholder views but did not provide an opportunity for change or new thinking. There was also the challenge of identifying research aims as separate from the aims of the TED/KRA project. The workshop with garment workers gave the researcher a sense of confidence in the methods and skills of a creative researcher:

The first garment factory I went to I felt uncomfortable and out of my depth. I was also unsure about what I was bringing to the project – Andersen and AD were fascinated by the political/cultural contexts, but I just found it foreign,

strange and like I had no way to engage. This factory was smaller and seemed less scary. I also was bringing my own skills and value (symbolised by the Textile Talk Kit) and felt more empowered. ... the workers and us as designers had a shared language – cloth, garments, irons.....(Vuletich 2014d)

In initiating the workshop with garment workers, the researcher was finally able to find a ‘voice’ in the field research – that ‘voice’ was to connect with production workers through the language of textile materials and tools.

The initial intention for the project was to activate a design-led intervention in a garment factory in China. However, during the field research it became clear that an active, interventionist approach to ‘solving the problem’ of workers’ rights in a Chinese garment factory was not the right approach. There were barriers for the designer to connect with the workers – the language and cultural barriers; lack of transparency of production/factory management; and disconnect between the ‘creative’ researcher and ‘technical’ worker. It was also understood that the ‘problem’ would not be solved by working at the level of materials or even social engagement. The most effective level in which to activate change is at the highest level of values and the self.

8.3.5.3 Inner/Outer Jacket

During the field research, the researcher was planning new work in collaboration with Earley who was a companion researcher during part of the field research. While the collaboration with Earley did not eventuate, the two researchers both undertook a range of research methods while in China. The insights and observations from the field research provided the inspiration for a jacket concept, that was completed six months later in a studio in London. The jacket was titled Inner/Outer Jacket, and was shown as part of the TED/Project exhibition as a final Mistra outcome. The field research and creative workshop can be seen as an ‘outer’ journey, and this second stage of textile making was the ‘inner’ journey, necessary for reflection and synthesis. The description of the jacket for the exhibition is below:

A hand-quilted and patch-work jacket using recycled and virgin materials, inspired by the Hundred Family Jacket in the museum at Donghua University, Shanghai. Using hand-quilting to create a layered effect for warmth, comfort and emotional durability, the jacket offers ‘psychic protection’ to designers for when they engage with sustainability.

Rather than a design brief, this jacket symbolises both the material and symbolic aspects of sustainable textile/fashion design. On a material level, the jacket offers possible solutions for the combined use of recycled and virgin materials, using a modular/patchwork design and quilting techniques (TED TEN 6), to make upcycling more efficient and scalable (TED TEN 1, TED TEN 2). On a symbolic level, the jacket is a metaphor for the psychological change process that designers will go through

when they prioritise values that support sustainability.

Sustainability requires both inner and outer change, and designers will need both skills and a 'sustainability mindset' when they go into new contexts to collaborate across the supply chain (TED TEN 7) and in local communities. Just as the Hundred Family Jacket in Shanghai was traditionally made of patchwork pieces to offer psychic protection to orphans by their extended family, this jacket represents the protection and support needed for transformation of textile/fashion designers and the design community (TED TEN10). Sustainability requires us to become 'whole selves' and this jacket can be a comforting and protective companion on that journey.

The design and making of the jacket will be described below based on the stages of the design process.

Observation

Outside of the official research duties of interviewing stakeholders, the researcher was observing daily street life in Shanghai. The local neighbourhood around the accommodation was an example of contemporary Chinese community and social life. One street in the neighbourhood was of particular interest, made up of trades and retail stores including bike repair; wood shop; food stores; hardware stores and tailor. The researcher named this street 'Repair Alley' as it demonstrated a resourcefulness and clever use of waste materials (Fig. 45). The street was also used as a laundry or drying point for residents, who would hang clothes on railings and fences (Fig. 46).

Historical Textile/Garment Research

The researcher and Earley visited the Textile/Costume Museum in Shanghai and found a quilted silk jacket for a small child from the 1800s, called a 'Hundred Family Jacket' (Fig. 47). This jacket was based on a traditional practice – when a child was orphaned, the extended family all contributed textiles to make a patchwork jacket. The jacket provided the child with both physical protection and warmth, and emotional support from the extended family. The patchwork shapes of the quilted jacket were similar to the use of patchwork in the recycled denim bags created for Project 1, Design for Change, Chapter x. The notion of material resourcefulness and emotional durability were continuing themes in the researcher's textile practice and this jacket was chosen as the primary visual inspiration for the final project.



Figs. 45 and 46: Local activity along 'Repair Alley' in Shanghai



Figs. 47 and 48: Images of traditional Chinese dress used for visual research including Hundred Family Jacket (left)

Second-hand Textile/Garment Research

The researcher and Earley also visited second-hand clothing markets to understand

the second-hand trade in clothes in Shanghai (Fig. 49). Several pieces of vintage textiles and garments were purchased as inspiration for the project.

Sampling/Prototyping – Back in London

The design and making of the jacket occurred six months after the field research. No textile making had occurred during the PhD period and the researcher was mindful of the challenge of returning to the creative making process after a long period. A temporary studio space was set up that included iron; ironing board; sewing kit; sketchbooks; mood board and laptop. Further visual research was done on quilted jackets from current fashion and historical images, identifying shape, cut and fabric. A collection of personal textile pieces was also accessed for inspiration. At this stage, several samples were created using hand-stitching, as the researcher began to ‘play’ with a lop-sided diamond patchwork shape (Fig. 50). There were also several visits to fabric shops to identify appropriate fabrics to test.



Fig. 49 (left): The Researcher visiting a second-hand clothing market in Shanghai

Fig. 50 (right): Sampling process for Inner/Outer Jacket



Figs. 51 and 52: Laying out textile pieces for final garment construction

Making final artefact

The fabric for the jacket was made up of two elements – a top level that was hand-quilted and a lower level that was patch-worked by hand. Both these elements needed to be hand-stitched, and this process took ten days. Initially, the jacket was to be reversible however this proved to be technical difficult. Instead, a lining was created that contrasted with the outside layer. The lining had a decorative print of the word for sustainability in Chinese characters. A seamstress was chosen to make up the jacket from the two elements of hand-stitched fabric (Fig. 51 and 52).



Fig. 53: Samples from Inner/Outer Jacket

8.3.5.4 From Design Activism to Design Stewardship

The review of past practice identified the gap in knowledge for The TEN strategy, Design Activism. The wider sustainable design literature was also lacking detail on approaches to activism from a fashion/textile design perspective. Fuad-Luke (2009) explains that all activists are involved in creating change that favours their world-view. The term activism however connotes a certain approach to creating change that is action-oriented and interventionist, evident in the direct-action approach of environmental campaigners. The field research and direct experience of Chinese garment worker issues provided insight into a more nuanced notion of activism for fashion textile design practice.

The central issue at the fourth level of Design for Social Equity is that every human being has the right to a fair distribution of resources - natural, social or financial resources. To support social equity in a garment production context means to ensure that workers are treated and paid fairly and equally to other stakeholders in the supply chain. As explored in the Design for Change project, the existing approaches to addressing workers' rights issues are limited. The Design for Change project tested a design-led method that moved beyond compliance and monitoring. The Inner/Outer project evolved this approach even further towards understanding the 'whole self' of the workers – their values, beliefs and motivations.

Fuad-Luke explains that inherent in activism is the notion of change or transformation of the context in which the activist is operating in. Activating change for the Chinese garment production worker was an ambitious aim that was not achieved however the experience provided unique insight into the approach of a crafts-based fashion textile designer practicing in this space. Rather than using force, intervention or political rhetoric suggestive of an activist, the project demonstrates a textile designer using a more gentle, subtle approach.

The notion of stewardship provides a useful alternative to activism in this context. Stewardship refers to the responsible management of resources (Leopold 1977) and a steward was originally a guardian or a ward of valuables (Oxford English Dictionary Online 2015). The practice described above can be defined as Design Stewardship. The designer is driven by a responsibility to ensuring a fair distribution of resources and towards supporting the deeper values of stakeholders. An activist approach would not necessarily engage individuals at the level of values or beliefs. The research on the effectiveness of environmental campaigning to effect change of behaviours towards sustainability, also suggests that people are not motivated to change by an activist, fear-based approach (Holmes et al 2011). In a stewardship

approach, the designer uses the relational and 'feminine' qualities of the fashion textile designer – the slowness and mindfulness that comes with a craft practice; the empathy of understanding human values and needs; and the listening and even silence of a steward.

Fuad-Luke also explains that inherent in activism is the notion of change or transformation of the activist. The challenging experience of the field research and facilitation of workers was personally transformative for the researcher. The experience also reinforced the insights gained from the review of past practice on the importance of self-reflection - to encourage others to become their 'whole selves' the designer also needs to become a 'whole self'.

The reflective writing during the making of the jacket is below:

The making process allowed me to understand that in this final stage of the Research, I had come 'full circle' back to my textile craft practice. This materials practice was based on my professional training, and on the skills passed down to me by the women in my family – my mother, grandmother and godmother. Rather than forcing myself to become like other designers – social or service designers – I finally understood my own unique 'textile designerly way'. I did not need to 'solve a social problem' through a design intervention. Nor did I need to leave my textile skills in the sewing basket at home, because I was unconfident about these skills. I could bring those skills and tools out into the world to support the higher levels of human values in the fashion system. I could do this in the subtle, gentle, and mindful way of the textile designer. I could listen, speak, serve, stitch and listen some more.

The further away I went – Sweden and China – the more I was forced to come back to my own pace and methods. I also understood that the higher level of values merely asks us as humans to sit and connect with each other. While I was not able to create a positive change in the lives or working conditions of the garment workers, I was able to share with them a creative process that I had learnt from my teachers. In teaching these skills that I value so much, I was offering them a gift - the gift of up-skilling and the potential gift of transforming the self through creative making.

The journey I took as a textile design researcher to China can be seen as transformational for myself as a researcher. Textile (and fashion) designers rarely visit or experience the Chinese garment production issues, and through the direct experience of immersing myself in the context, I gained a level of understanding and shifted my perceptions on the issues. For other designers, my journey and the jacket acts as a guide and protection, for venturing into the supply chain. I created a textile piece that has personal meaning for me, as well as offering insight for other designers. I 'came back home' to my practice, in order to deliver the insight and message from the supply chain. (Vuletich 2014e)

8.3.5.5 Holistic Design

At the conclusion of the research there was a clear understanding of several types of practice, demonstrated through the practice cycle. The 'inner' dimensions of sustainable design practice, including self-reflection and values, were as important as the 'outer' dimensions, such as materials choice and technical specifications. Together these two elements make up a holistic account of design practice for textile and fashion design.

The notion of holistic design was explored in a book chapter co-authored with Earley, titled 'Holistic Fashion Design: My Inner/Outer Journey' (2015) written for students studying fashion design (see Appendix IX). The chapter uses a fictional character to explore the skills and practices needed for 21st Century fashion designers engaging with sustainability. There are two parts of the chapter divided into Inner Work and Outer Work. In the Inner part, the authors define several aspects from the psychology literature that future designers need to be aware of, including Mindsets, Empathy and Self-Reflexivity.

The dominant mindset is that the earth's resources are available to be indiscriminately used up and discarded by human kind...if your mindset is not attuned to these impacts in the fashion industry, it is very difficult to act in a sustainable way. In order to fully engage with these impacts in the industry, you need to do some work on yourself...to identify your core values, and make explicit the ethical framework you embody and want to act from.
(Earley and Vuletich 2015)

The two aspects of empathy and self-reflexivity were also explored based on the insights from the PhD research. The authors argue these higher-level skills and abilities are necessary for designers acting as facilitators of sustainable change in the future fashion and textile industry.

8.3.6 Reflection on methods used

PLAN

The majority of the reading of literature had already occurred by this final stage of the research, however a range of ideas were still being considered from the literature including the role of the designer to activate change in global production contexts, and the particular qualities of fashion textile design thinking. During the field research phase, the interviews with stakeholders were used by the researcher as a form of Purposeful Dialogue, to understand the key issues and stakeholder concerns but also as a two-way dialogue, to reflect on issues and create shared meaning. The catalyst for the action research workshop was the observations of working conditions in factories and the lack of interaction or dialogue with workers during the stakeholder

interviews.

ACT

The workshop with workers was a prototype method developed in response to the perception of the missing 'voice' of the production worker. The previous role of the Design Facilitator with designers in Swedish industry evolved to explore the deeper, personal views of a different set of stakeholders – the Chinese garment worker. As in previous projects, the researcher used a facilitation role to share knowledge and also to reflect on key ideas through practice.

This method of creative facilitation is a novel approach for understanding the personal views of garment workers in supply chains. The participants are being led through a creative process, and inherent in this is the ability for change or transformation. While it is difficult to prove the participants underwent any change or positive benefits, observations of the participants suggest there was a pleasure and interest in learning a creative technique.

The Creative Facilitation method also explored textile craft as a tool for mediating dialogue on self/values. This enquiry began with the Sutra Stitching workshop and was further explored in China. The researcher wanted to share the benefits of a craft process – the well-being benefits, as well as the pleasure gained from the aesthetic and decorative aspects of textiles. Using the shared language of textiles and visual imagery, the researcher was attempting to connect with a group of participants on a human, personal level. Using the language of textiles and making also overcame the cultural and language barriers in this context.

REFLECT

This project used a range of reflective methods that provided valuable insight and synthesis. The three main reflective methods used were: 1) textile making; 2) reflective writing and 3) use of a Research Journal. In the first two practice projects (Design for Change and Industry Workshops), the reflective methods had been limited to short questionnaires or dialogue with industry collaborators. By the review of past practice in the third stage, an understanding had developed into the value of reflective methods for exploring deeper, personal dimensions. This final project shows how the researcher utilised a range of reflective methods to capture, deep insights and to synthesise the theory through practice.

	Design for Change	Industry Workshops	Review of Past Practice	Inner/Outer Journey
REFLECT	Purposeful Dialogue Written Report	TED Reflective Questionnaire	Data Analysis Reflective Writing Textiles Research Journal	Making Textiles Reflective Writing Textiles Research Journal

Table 16: Reflective methods for all projects

The most valuable reflective method was textile making. Three weeks were spent hand-making the jacket in the studio. The intention was to produce a piece of work for the final TED exhibition (Textile Toolbox 2014), based on the field research to China; but the making process ended up being a reflection on the research overall.

During this process, the many different elements and concepts of the research were synthesised and made 'whole'. The simple, slow technique of hand-stitching created a sense of inner-calm and mindfulness that was conducive to free-thinking and an ability to make connections. Through using hands and body to make textiles, the researcher moved around the studio, analysing the data from the research through textile making. The studio setting was an essential aspect of the process, with tools, materials and laptop readily available (Fig. 54).

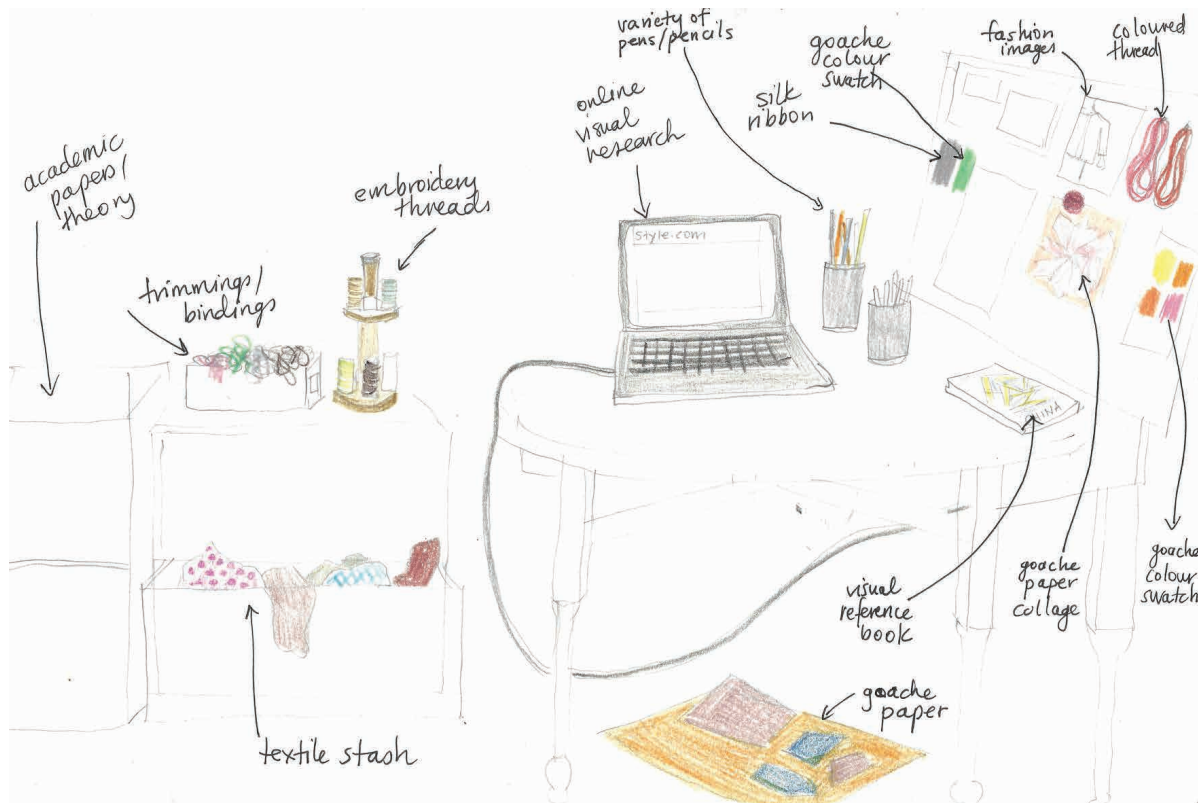


Fig.54: Drawing from the project sketchbook of the studio, tools and materials used for the design and making of the Inner/Outer jacket

Walker explains that during the design and making process, a design researcher is engaging with the intimate relationship between materials, form, aesthetics, concepts and motivation (Walker 2013b). Each of these elements starts out as distinct but they are adapted and merged as the researcher begins the process of making. With this process, the *concept* was to hand-make a quilted jacket, but the exact type and style of jacket was unknown at the outset. The *motivation* was to produce a piece of work based on field research to China for exhibition. The *materials, form and aesthetic* evolved as the process unfolded. Various ‘triggers’ were used – the silk satin in the Chinese jacket; the patchwork shape; the colour palette – to guide the process. The researcher had a range of theoretical notions in mind – Chinese garment workers; role of (textile) designer in supply chain; transition of practice through the three levels of the sustainable design continuum – and she began to interact with a range of materials. It was through the use of the materials, using the hands and body, that the concepts in the mind began to ‘make sense’. This interaction was a lengthy process of understanding the limits and possibilities afforded by the materials and tools being using.

Carter (2004) also provides useful insight on the making process in creative research. He talks of the ‘creative intelligence of materials’ and suggests that it is the materials

that guide the maker, rather than the maker guiding the materials. In this project, a silk satin material was not going to work with hand-stitching, as it was too 'slippery' and difficult to work with considering the timeframe. The forest green polyester suited the 'story' of rich, deep colours found in Chinese textiles and costume. This material also felt like it was slightly plastic-coated, a tactile quality that was pleasing to the researcher. The blue silk/cotton and silk/hemp blends described above were a perfect material for delicate patch-work, and the colour suited the 'story'. All of these factors were in play as the researcher tested and experimented with the materials. This very intimate relationship between the researcher and the materials is the essential element: the maker has to be attuned to the materials and how they respond, and to adapt the motivations and concept accordingly. It requires an empathy for the materials, and a sensitivity to their potentiality.

The main insight that emerged from the making process was the notion of *transition* for two different aspects of the research - as a re-definition of the theory of sustainability and to define the practice of textile design and making. The literature was discussing the importance of the human aspects in the theory of transition, however it was the making process that provided a true understanding of the theory. Likewise, the review of past practice had highlighted how the textile design process is a transformation of the materials and of the self. The researcher obviously understood this from past experiences of practice, however the notion of transformation was re-visited and synthesised during the making process. The researcher would therefore not have conceptualised the notion of transition with these two layers of meaning, without the physical and tacit experience of textile making.

The final jacket that was made also has two layers of meaning. It is both a symbolic representation of the key theoretical ideas and material evidence of the researcher's crafts-based skills. The jacket symbolises the 'inner' and 'outer' dimensions of the journey to sustainability - the inside of the jacket is lined with the Chinese word for sustainability (inner), and the outer part of the jacket is made using recycled, patch-work materials (outer). The jacket is also a value-laden artefact, based on a traditional Chinese jacket. The jacket therefore has a holistic quality – it represents the importance of the 'whole self' in the designer's engagement with sustainability; and the process that created the jacket is also 'whole' as it involves both thinking and doing.

The second reflective method used was reflective writing on a laptop that took place concurrently with the textile making. The researcher had used reflective writing during

the review of past practice however it was reflection on practice that occurred several years previously and was in response to stimulus material such as sketchbooks to prompt memory. In this instance, the researcher moved between textile making and writing on the laptop, capturing thoughts and insights as the making process unfolded. This created a very close relationship between the making and writing and proved effective for recording emerging insights and synthesis. The free-association and connections captured in the writing are evident in the text above.

The third reflective method used was the Research Journal, described in section 7.5.4 This journal was started in the second year of the research and was a combination of a traditional sketchbook used in the textile design process involving sketches/mind-maps/images and a written journal.

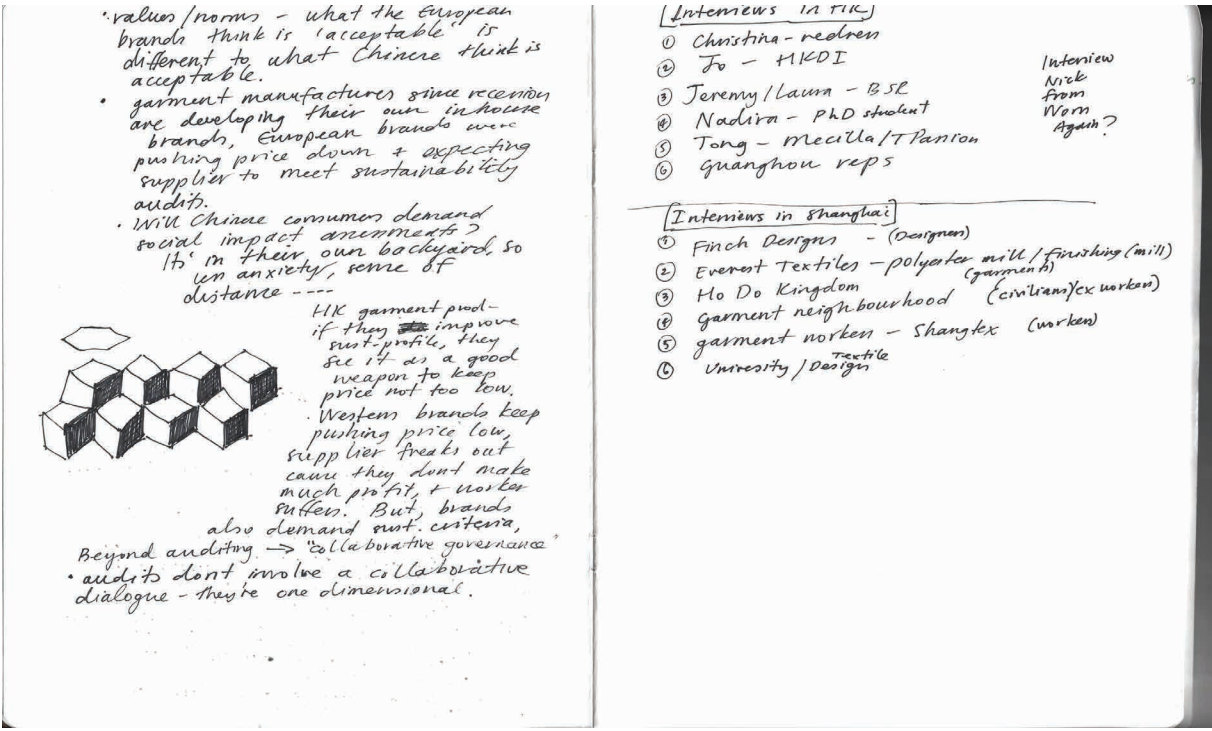


Fig.55: Page from research journal during China field research

The journal was hand-written, as opposed to the reflective writing done on a laptop. It recorded personal feelings and thoughts on the overall research combined with mapping of ideas and concepts. During the field research to China, the journal was used to reflect on the emerging insights and challenges of the experience.

8.3.7 Reflection on MISTRA Collaboration

The collaboration in this project were not straight forward yet provided useful insight into the unique approach of a creative research enquiry. The researcher was invited to accompany the MISTRA social science PhD researcher during the

field research, to understand the key issues through site visits and qualitative interviews with stakeholders. While this experience revealed the limitations of traditional qualitative methods in the context of social impact issues, it also gave the researcher impetus to test a prototype workshop with production workers.

8.4 Addressing the Research Question for Project 4

The above discussion is based on the outcomes and findings from the Inner/Outer Project. This section will summarise the findings in relation to the project-based questions that address Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity.

What is the 'design opportunity' in a Chinese production context?

- Addressing social impact issues in the supply chain through design requires an understanding of workers' individual views
- A shared creative task is a useful method for addressing the disconnection between the designer and worker in global supply chains (often impenetrable due to cultural difference and geographic distance)
- The term Design Activism is re-defined as Design Steward, a more mindful and gentle approach in the context of Design for Social Equity
- Design practices that are motivated towards positive social change in the supply chain can be personally transformative for the designer

What unique methods or qualities do fashion textile designers bring to these contexts?

- Ability to connect with stakeholders through creative facilitation methods
- Ability to communicate through the materiality of textile craft

8.5 Conclusion

The Inner/Outer Project presented in this chapter addressed Objective 3 to understand individual views in the context of Design for Social Equity. The project demonstrates how the design practice evolved from the Design Facilitator out in industry, through an Inner Journey of self-reflection, and back out again to become a Design Steward. At this highest level on the Sustainable Design continuum the designer is supporting sustainable change in the supply chain through a dialogue on values and the self. The fashion textile designer moves 'beyond the swatch' while also utilising the crafts-based skills and materiality of textiles as a mediator of dialogue.

The first workshop method Sutra Stitching was a 'sketch' method that was developed and tested outside the PhD research context. It is included in this chapter because it represents how the practice was in transition towards the final practice of Design Stewardship. The second project, the Inner Outer Project, was part of a MISTRA collaboration and involved field research to China, creative facilitation of a workshop with workers, and the making of a jacket. Although the garment worker views were not formally captured, the researcher gained a deeper understanding of the complex factors involved in Chinese garment production, and opportunities for fashion textile designers to support change in this context.

The final project Inner/Outer also demonstrates how the reflective methods from the practice review were further developed and utilised. The methods of textile making and reflective writing were found to be highly effective for synthesising theory in a creative research context. These reflective and mindful methods are being included in the Transitionary Tool Kit described in the Conclusion, as essential methods for designers operating at the highest level of sustainable change.

Creative outcomes included:

- hand-quilted jacket
- range of hand-quilted samples
- Textile Talk Kit tool

Academic/written outcomes included:

- A book chapter, 'Holistic Fashion Design' co-authored with Earley, R.

Earley, R. & Vuletich, C. (2015) 'Holistic Fashion Design', in Vaidya, K. (ed.) *Fashion Design for the Curious: Why Study Fashion Design*. Canberra: Curious Academic Publishing (See Appendix XVI)

Part 3:

The Transitional Textile Designer



Chapter 9: Outcomes and Main Insights

9.1 The Journey's End

The research aimed to investigate crafts-based fashion textile design practice towards Design for Social Equity and the new practices of fashion textile designers 'beyond the swatch' in industry settings. This was carried out through activating collaborative projects and facilitating professional designers in industry. The image on page 175 shows the researcher (right) during the facilitation of H&M designers, with Mike Schragger (left) from Sustainable Fashion Academy, a Mistra Future Fashion programme industry partner.

Prior to the PhD period, the TED team and the researcher had established a unique framework and methodology for sustainable design strategies in fashion/textiles (The TEN) based on a holistic, lifecycle approach. Yet there were missing gaps in knowledge on several of the strategies, including Design for Ethical Production (TT7) and Design Activism (TT10). The motivations of the research were also based on a desire to move beyond the craft-based textile skills as described in the Preface, towards more strategic and socially-engaged approaches. During the research journey, the researcher moved through various stages of practice and eventually came 'full circle' back to materials-based textile skills with a range of new experiences, methods and an extended understanding of the TEN strategies.

The research engaged with a wide range of discourses and ideas that informed the practice journey. The literature on designer's roles in social innovation and Design for Social Equity (Manzini 2010) provided initial impetus. Following this, other discourses included designers as facilitators (Tan 2012); T-shaped, inter-disciplinary skills for designers (Brown 2009); sustainability as a deeply, human process of change (Maiteny and Reed 1988; Ehrenfeld 2008); the multi-perspective transition discourse; and the unique knowledge and thinking of fashion textile designers as distinct from other design disciplines (Igoe 2013).

This primary literature was also interspersed with a range of diverse, secondary discourses on the cultural significance of the left/right brain distinctions (McGilchrist 2009); the concept of bricolage (Levi Strauss 1966); textiles and textile making as transformative (Gordon 2011); the benefits of 'flow' activities (Csikzentmihaly 1991); and the scientific literature on the positive benefits of meditation.

The ideas present in this diverse range of discourses were then explored in practice with industry partners through methods including co-design fashion product workshops; facilitation of designers and production workers in the supply chain;

and the final reflective process of making a hand-quilted jacket. These projects and experiences contributed to the development of the three levels of fashion textile design practice in transitional contexts, and the model of the Transitional Textile Designer and the set of tools for designers.

The Mistra Future Fashion programme therefore provided a unique and valuable context in which the Researcher was exposed to a broad range of industry stakeholders and research approaches. As the PhD student attached to TED/P3, the researcher was given the freedom to investigate both the 'inner' and 'outer' aspects of the sustainable fashion textile enquiry and provide a reflective counter-balance to the technocratic approach of the Mistra Future Fashion scientific research programme.

9.2 Key Insights from the research

Project	Insights
The Sustainable Textile Designer - Design for Change (Chapter 5)	<ul style="list-style-type: none"> • A Design for Social Innovation approach to supporting local garment workers extends TT7 strategy Design for Ethical Production to include collaborative design and/or product design that supports employment • The designer will need to collaborate with strategy/brand/social business experts to create new products and business models • The designer will require new skills in facilitation and project management to practice at the system level
Design Facilitator – Industry Workshops: H & M (Chapter 6)	<ul style="list-style-type: none"> • Fashion Textile Design Facilitators will require facilitation and consultancy skills to create sustainable change in industry • Fashion Textile Design Facilitators demonstrate an implicit understanding of the design thinking process and ability to lead participants through the process • Fashion Textile Design Facilitators demonstrate use of visual /diverse methods and an implicit understanding of garments/tacit elements to engage participants
Design Facilitator – Industry Workshops: SFA (Chapter 6)	<ul style="list-style-type: none"> • An engagement with sustainable design requires an understanding of both ‘outer’ (materials /lifecycle thinking) and ‘inner’ dimensions (values) • The Green Values cards extend the TEN cards to prompt discussion/ reflection on ‘inner’ dimensions • Drawing is a flow activity that supports free-thinking/ creativity and is a useful method for facilitating a discussion on ‘inner’ dimensions
Inner Journey – Review of Past Practice (Chapter 7)	<ul style="list-style-type: none"> • Sustainable design practitioners are motivated by ‘inner’ values and beliefs that drives practice • Fashion textile designers have particular qualities and methods that are unique to the discipline including activating ‘play’ spaces and speaking a visual/haptic language
Design Steward – Inner/Outer Project (Chapter 8)	<ul style="list-style-type: none"> • Addressing social impact issues in the supply chain through design requires an understanding of workers’ individual views • A shared creative task is a useful method for addressing the disconnection between the designer and production worker in global supply chains (often impenetrable due to cultural difference and geographic distance) • Fashion Textile Designers demonstrate an ability to connect with stakeholders through creative facilitation methods and shared dialogue • Design practices that are motivated towards positive social change in the supply chain can be personally transformative for the designer

Table 17 – Key Insights from each Project

The four objectives have been used to draw out the primary insights from the research:

Objective 1: *To critically review The TEN and understand the transition from Sustainable Design to Design for Social Equity in fashion industry.*

- The first stage of the research involved a critical review of The TEN strategies,

with a focus on Design for Ethical Production (TT7) and Design Activism (TT10). There was a lack of granularity on the methods and approach for the strategies from TED, and in the sustainable fashion/textiles literature.

- The supporting literature from the sustainability and sustainable design discourse was also reviewed, which defined the context of the intended practice as Design for Social Equity, based on work by Manzini & Vezzoli.
- The notion of a natural evolution through different levels and stakeholders of the Sustainable Design continuum was also defined, and this was further supported by the review of past practice conducted in the middle stage of the research.
- A further review of the sustainability literature in the middle stages also contributed to an alternative definition of sustainability as transitions, which provided a more human-centred and holistic definition.

Objective 2: To explore through practice new roles for fashion textile designers in industry that extend TED's The TEN to Design for Social Equity

The review of The TEN, the literature, and the researcher's past practice, identified a lack of understanding of a fashion textile design practice in the highest level of the Sustainable Design continuum - Design for Social Equity. Four projects were undertaken to test approaches and contributed to the development of three levels of practice.

- The first project defines **The Sustainable Textile Designer** practice. The project Love & Thrift (2007) and the first project conducted during the PhD, Design for Change (2012), demonstrated a practice focused on the material and socio-cultural aspects of the lifecycle.
- The second project defined the **Design Facilitator** practice, and was a collaboration with TED researchers on facilitation of industry workshops.
- The final project defined the **Design Stewardship** practice in the supply chain, at the highest level of Design for Social Equity. In this context, the designer uses the crafts-based skills of the textile discipline to support a dialogue on individual values.

Objective 3: To understand through practice the importance of individual values in the context of Design for Social Equity

The literature review on sustainability identified that the 'fourth element' of the human/personal was missing from existing definitions of sustainability. The literature also identified that sustainability consists of 'outer' and 'inner' dimensions. The 'inner' dimension includes individual values and beliefs that inform behaviour and these are an important element in the context of Design for Social Equity.

- The final practice projects explored the role of individual values in sustainable design training and in supporting production workers in the global supply chain.

Objective 4: To propose new tools to support designers in the context of Design for Social Equity

The practice projects demonstrated new roles and approaches for fashion textile designers in local communities and the global supply chain. These projects aimed to support communities or individuals towards more social equity or sustainable living. A range of methods and tools were developed that extended The TEN workshop methods to support designers in these new contexts. These tools have been developed to assist the fashion textile designer in the new context of Design for Social Equity while also acknowledging the particular qualities and methods of the discipline.

- *Tool 1 – Green Cards*
- *Tool 2 – Textile Talk Kit*
- *Tool 3 – Sutra Stitching*

The above discussion summarises the main insights from the research for practitioners and designers in both industry and academia. The following discussion provides a summary of the key insights on the methodology that was developed for creative research in art and design academia.

9.3 A new framework for sustainable textile design research in Industry

At the beginning of the research journey, there was little clarity on the research methods that would be useful for the tasks. The existing frameworks in the literature for creative research in sustainable textile design were not adequate to account for the 'real-world' contexts of an industry-focused programme. There was also a limited understanding of the methods that would be useful for creative research in

sustainable textile design. These factors created an emergent process that saw the development of a range of unique research methods. The basic four stage action research model described at the start of the thesis, now contains a more nuanced set of methods. Table 13 summarises the methods that were developed and used for each stage of the practice cycle.

	Sustainable Textile Designer <i>Design for Change</i>	Design Facilitator <i>Industry Workshops</i>	Inner Journey <i>Review of Past Practice</i>	Design Steward <i>Sutra Stitching Inner/Outer Project</i>
PLAN	Reading Thinking Develop Proposal Purposeful Dialogue	Reading Thinking Develop Workshop Tool	Reading Thinking Develop Review Methods	Reading Thinking Field Research China Purposeful Dialogue
ACT	Creative Collaboration Case Study Review Co-Design Workshop	Creative Facilitation Test Workshop Tool	Collect Data from Sketchbooks	Creative Facilitation
REFLECT	Written Report Purposeful Dialogue	TED Reflective Questionnaire	Data Analysis Reflective Writing Research Journal	Textile Making Reflective Writing Research Journal
SHARE	Academic Paper Exhibition	Academic Paper Workshop Tool	Method for Reviewing Past Textile Practice	Academic paper Exhibition Workshop Tool

Table 18: Summary of Methods developed and used during each stage of the research

The key methods are summarised below:

9.3.1 PLAN - Purposeful Dialogue

In the planning stage, *Purposeful Dialogue* was developed as a type of dialogue with either collaborators (to identify shared vision/goals and reflect on outcomes) or with industry experts (to understand a person’s perspective and gain feedback on outcomes). Similar to an unstructured interview, the researcher had a set of open-ended questions that were pre-planned but remained open and willing for the dialogue to be led partly by the other person. The purpose was to gain professional insight from the person, while also to remain open to co-creating shared meaning around the topic of discussion. All the conversations were initiated by the researcher, recorded digitally, and notes were made in situ. Several of the dialogues were transcribed from the audio, however none were analysed using traditional qualitative

analysis.

9.3.2 ACT - *Creative Collaboration and Creative Facilitation*

Creative Collaboration is a method of creative practice for research that involves collaboration with partners. In this method, the enquiry begins from a problem or set of questions that arise from practice and the answers are sought in collaboration with others. Carter (2004) considers collaboration as an essential element of creative practice that propels the practice outside the studio walls to the real, local world. He describes collaboration as “passing the shuttle of creative vision back and forth” (Carter 2004, p. 35). To describe collaboration as the tool used in weaving cloth, is an appropriate use of a textile metaphor in the context of these projects. In *Creative Collaboration*, the researcher reaches out to collaborators who have a different range of skills and knowledge and together they create new cloth, new outcomes and new meaning.

Creative Facilitation uses facilitation to support participants through a creative design process. This position was used to observe and understand the role of the fashion textile designer as a facilitator, and to explore creative methods for facilitating a dialogue on values. The role of facilitation was also used by the researcher as a way to ‘make sense’ of an idea or concept through dialogue and interaction with others.

9.3.3 REFLECT - *Review of Past Practice, the Research Journal, Textile Making and Reflective Writing*

The *Review of Past Practice* was developed to understand the methods, processes and motivations for past textile practice. There was no framework in the literature for capturing data on design thinking and knowledge in textiles. The methods have been developed to understand how a textile practice has evolved and developed through time; and to capture the implicit, subjective knowledge of fashion textile design practitioners.

Another key reflective method used was the *Research Journal*. This journal was started in the second year of the research and was a combination of a traditional sketchbook used in the textile design process (involving sketches/mind-maps/ images) and a written journal. The journal was hand-written, as opposed to the reflective writing conducted on a laptop. It recorded personal feelings and thoughts on the overall research combined with mapping of ideas and concepts.

The most effective methods used for reflection on action was the combination of *making textiles and reflective writing* on the laptop. These methods were used in the

final stage of the research to reflect on the overall research journey and synthesis the main theoretical concepts.

9.3.4 SHARE – *Real and Digital Tools*

The final stage in this action research framework is sharing the insights and research. This is a vital aspect of a research project that is investigating change of behaviours and mindsets in the fashion textile industry. The tools have been made readily available to be downloaded and used in education, research and stakeholders in the industry.

Values Cards

These cards are developed to illicit personal views of participants when considering sustainability as a concept in design practice. The cards were designed as a 'warm up' exercise to build trust and group cohesion at the beginning of a TED TEN workshop on sustainable design strategies.

The Green Cards were developed to support a deeper dialogue on sustainability for a sustainable design training workshop in the fashion/textile industry. In the wider context of Design for Social Equity, the cards also have potential as a useful method. As discussed in section 6.6.3, recent research into environmental campaigning suggests changing people's behaviour towards sustainability, is ineffective when based on fear or people's ego (Holmes et al 2011). Real change comes when you engage people at the deeper level of their values and motivations for a meaningful and fulfilled life, the 'inner' dimensions of sustainability described by Maiteny & Reed.

Removing or replacing the cards/questions that refer directly to design or fashion, the cards could be used to facilitate a dialogue in a range of contexts. In other industries or sectors, such as infrastructure, building works, or manufacturing the cards/questions could be useful for exploring what sustainability means to professionals in organisations; or in collaboration with local community members who are directly affected by building/infrastructure works. At a local community level, the cards/questions could be used to engage citizens in sustainability initiatives by local councils or third sector organisations.

Sutra Stitching

This is a workshop methodology that explores the relationship between hand-stitching and meditation. Both activities increase general well-being and allow participants to enter a 'flow' state. The methodology can also be used to support focused dialogue amongst participants on issues of concern.

Textile Talk Kit

This is a toolkit for fashion textile designers for use in production countries with diverse cultural contexts. In order to communicate with stakeholders, the designer will need the skills of a cross-cultural facilitator – empathy and understanding of cultural values. The designer will also bring their craft-based tools to facilitate a creative textile workshop to open up dialogue, build trust and provide confidence for the designer in new contexts. The kit consists of – needle, thread, scissors, fabric, samples for demonstration, photo of designer’s family/friends/life, camera, favourite objects/paraphernalia.

Several of the workshop tools and methods that were developed during the research have been made available as digital tools for others. These include:

- Downloadable resource sheet, making a Textile Talk Kit
- Downloadable resource sheet, for running a Sutra Stitching workshop
- Values Cards

All are available from the Textile Toolbox website, www.textiletoolbox.com.

Chapter 10: The Transitional Textile Designer



Fig. 56: The three Tools – Textile Talk Kit, Green Question Cards and Sutra Stitching Worksheet

10.1 A new Model and Set of Tools for Fashion Textile Design in a Sustainable Fashion Industry

The transitions that are occurring in the fashion textile industry are complex challenges across environmental, industrial, social and human domains. These challenges will entail change and uncertainty, and will produce a range of new design practices, business models and approaches to engaging with consumers. Designers will activate and facilitate multi-disciplinary practices and become stewards of sustainable change across the supply chain and in local communities.

These changing industrial and professional contexts will also require designers to develop new skills and methods. This research frames a model of new practice for fashion textile design in transitional contexts as *The Transitional Textile Designer*. The model of *The Transitional Textile Designer* is divided into the 'inner' and 'outer' dimensions, each with a set of tools. The framework is based on the notion of interdependence between both dimensions. The designer will need to engage in 'inner work' such as reflective writing and meditation, to be able to support other's in

the 'outer' dimensions of local communities, industry contexts and the global supply chain.

The 'inner' dimensions of the model includes a set of tools for personal development and self-reflexivity. There are methods for *reviewing past practice* to identify methods, values and drivers; *reflective writing and journaling* to record insights and reflection-on-action; and *meditation* for general well-being and development of the self.

The 'outer' dimensions in the model are the contexts of *Local Communities* and the *Global Supply Chain*. These two contexts are outside the current realms of practice and represent new ways in which to engage. The closest geographic realm to the designer is their local community or neighbourhood, visualised in the diagram by the first outer circle around the designer. Here the fashion textile designer can engage in a variety of ways - identify local waste streams as material for product design, facilitate textile up-skilling with fashion consumers or partner with social enterprises to provide employment/training opportunities. The outer circle in the diagram is the global supply chain, most often geographically distant to the designer. Here the fashion textile designer can work with stakeholders including workers, suppliers or NGO's on design collaborations or to facilitate multi-stakeholder dialogue.

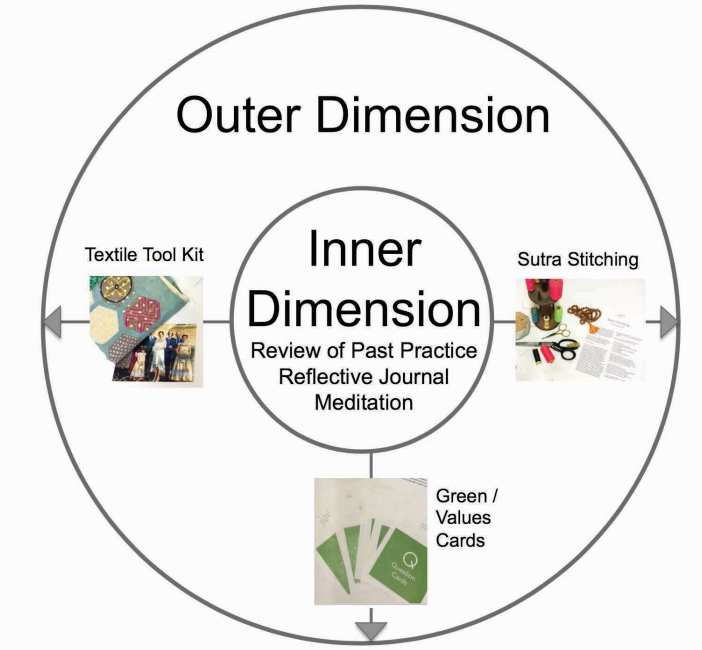


Fig. 57: Inner and Outer Dimensions & the three tools for the Transitional Textile Designer

In these realms of local communities and the global supply chain, the fashion textile designer will be practicing 'beyond the swatch' and outside their comfort zone. A range of new methods and ways to engage will be needed and the model includes

a set of tools to support designers. These include *The Green Question Cards* to facilitate values mapping/dialogue with stakeholders, *Sutra Stitching* workshop methodology to facilitate dialogue and mindfulness and *Textile Talk Kit* to support cross-cultural dialogue in the supply chain. These tools have been developed to assist the fashion textile designer in new contexts outside their existing practices, while also acknowledging the particular qualities and methods of the discipline. The fashion textile designer can utilise their craft-based skills and knowledge of textiles while also working with new knowledge and skills from other disciplines.

10.2 New Journeys Begin

The key outcome from the research was the Transitional Tools and the three-level model of Transitional Textile Design practice. The intention for further research would be to understand the effects of the 'inner' tools on designers and practitioners, and understand how they support practices in the context of Design for Social Equity. Another area of interest is to find physiological evidence of increased well-being reported by participants during textile craft techniques such as hand-stitching. This would be done by studying brain activity using brain imaging technology, based on similar studies of people meditating.

The research is already being used in the context of the sustainable fashion textile user – the consumer. The researcher presented a talk at TEDX Sydney in May 2016 ([How to Engage with Ethical Fashion](#)) (Fig. 45) that has had 35,000 views on YouTube at the time of writing. The research findings were also presented as part of the TEDX Adventure series (Fig. 46), a tour of sustainable fashion studios/brands in Sydney curated by the researcher.

The beginning of the research journey began in the market in Brixton, as described in the Preface. Through the activation of four practice projects and a wide range of discourses, the researcher went on a transformative journey both geographically and at a professional and personal level. The researcher's own practice has been transformed and is now focused on acting as an independent consultant to industry and research organisations in Australia, where the sustainability agenda in the fashion sector is at an early stage. In the ongoing transition towards a more equitable and sustainable fashion industry, the researcher's hope is that the insights and outcomes from this research will enable other designers and researchers to develop and evolve themselves both professionally and personally.

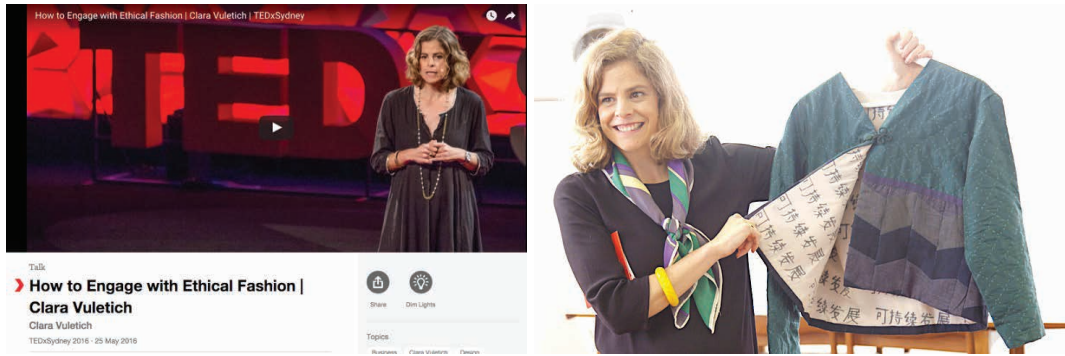


Fig.58 and 59: The researcher's TEDx Sydney talk online and the Researcher at TEDxSydney event with Inner/Outer Jacket

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- Vuletich, 2014c, Answers from TED Reflective Questionnaire
- Vuletich, 2014d, Writing from Research Journal
- Vuletich, 2014e, Reflective Writing during Making Textiles
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Appendix I: MISTRA Future Fashion Phase 1 Executive Summary

The Mistra Future Fashion research program was initiated in 2011 by Mistra, the Swedish Foundation for Strategic Environmental Research, to address the sustainability challenges of the Swedish fashion industry. The call was to take on a system approach and address changes in markets and business models, sustainable design processes and innovative materials, sustainable consumption and consumer behaviour, the development of policy instruments, and the clarification of what is meant by sustainable fashion.

The program goals are:

- to support Swedish business in creating a circular economy for materials and products in fashion and clothing
- to have a decisive impact on policy and practice which encourage systemic change of the Swedish fashion industry

During phase 1 (2011-2015) the research program ran eight projects in various disciplines. The program continues with a second phase until 2019. The cross-disciplinary research group is expected to generate novel ideas, research and interpretation of results. The mix of researchers and industry participants' ought to assure research quality and highly relevant results for industry and research. The consortium spans from universities to research institutes, from very small to very large companies involved in the production and retail of clothes, to stakeholders such as governmental organisations and policy makers. The long-term intent is to establish a continuation in some form of this systemic approach after this next phase and be an enabler for the industry in the future.

There were eight individual research projects in Phase 1:

P1: Changing markets and business models: Towards sustainable innovation in the fashion industry

P2: Clarifying sustainable fashion

P3: Interconnected design thinking and processes for sustainable textiles and fashion

P4: Moving towards eco-efficient textile materials and processes

P5: Reuse, recycling and End-of-Life Issues

P6: Fashion for the public sector

P7: Sustainable consumption and consumer behaviour

P8: Policy Instruments

For the next phase, research and learnings from Phase 1 are built on to enable closing the loops of the fashion industry. The eight projects are transformed into four themes on circular economy: how to design for circular economy; how to promote a sustainable circular supply chain; how users can contribute to more sustainable fashion; and how to increase textile fibre recycling.

Appendix II: Project Collaborators and Partners

Project	Name	Affiliation	Role
Chapter 4 - Design for Change	Tom Rowley	Good for Nothing (UK)	Creative Collaborator, Branding/Social Business Expert
	Liz Parker	Freelance (UK)	Workers' Rights Researcher
	Ana Diaz Schiavon	SokFok (UK)	Animator
	Katherine May	Freelance (UK)	Textile Designer
	Selina Cheong	Freelance (UK)	Bag Designer
	Burak Cakmak	Consultant (UK)	CSR Expert Advisor
	Rob Self	Freelance (UK)	Fashion photographer
	Amy Neill	Freelance (UK)	Fashion Stylist
Chapter 5 - Industry Workshops	Johann Ward	H&M (Stockholm)	Project host, MISTRA FF
	Mike Schragger	Sustainable Fashion Academy (Stockholm)	Collaborator
	Andreas Foller	Sustainable Fashion Academy (Stockholm)	Collaborator
Action Workshops in Higher Education	Dr. Zane Berzina	KTH Weissensee (Berlin)	Collaborator
	Dr. Susanne Sweet	Stockholm School of Economics (Stockholm)	Collaborator
Chapter 6 - Sutra Stitching Workshop	Katherine May	Freelance (UK)	Collaborator
Chapter 7 – China Fieldwork	Kirsti Rae Anderson	Project 1, MISTRA FF	PhD Researcher
	Ana Diaz Schiavon	SokFok (UK)	Film maker
	Echo Tan	Freelance (Shanghai)	Translator
	Christina Dean	ReDress (HK)	Local Advice/Expertise
Chapter 7 -Inner/Outer	Alex Cox	Freelance (UK)	Jacket Construction
	Josefin Landalv	TED/Freelance (UK)	Hand-stitching
Framework discussions	Dr. Elaine Igoe	University of Portsmouth (UK)	Academic Advisor on Textile Design Thinking/Knowledge

Appendix III: PhD Project Publishing

Design Items

Vuletich, C. (2014) *Inner/Outer Jacket*. [Quilted jacket]. (<http://www.textiletoolbox.com/exhibits/detail/innerouter-jacket/>)

Exhibited at:

- Chelsea College of Arts, London. 13 – 14th November 2014
- Textile Symposium, Zero Waste Scotland & Scottish Textile & Leather Association (STLA) Design in Action, Glasgow. 20th November 2014
- MA Material Futures, Central Saint Martins, UAL, London, 28th Jan 2015
- RSA and The Great Recovery, Resource Event, Excel, London. 3rd March 2015
- London Innovation Forum, London 16 – 17th March 2015
- DAFI, Copenhagen, Denmark. 16-17th April 2015
- SP symposium, Fashion Textile Centre, Borås, Sweden. 27th April 2015
- Falmouth University, Falmouth. 28th April 2015
- Fashion Institute of Technology (FIT), New York. 8 – 19th June 2015

Vuletich, C. (2012) *Design for Change* [3 bags and film]. North Carolina: Futurewear - VF Corporation. 20 – 21 March. Also exhibited at:

- Almedalsveckan, Visby, Sweden. 28th June - 5th July 2015

Journal Articles

Earley, R., Vuletich, C. Hadridge, P. and Andersen, K. (2016) 'A New 'T' for Textiles: Training Design Researchers to Inspire Buying Office Staff Towards Sustainability at Hennes and Mauritz', *The Design Journal*, vol. 19, issue 2

Book Chapter

Earley, R. & Vuletich, C. (2015) *Holistic Fashion Design*, in Vaidya, K. (ed.) *Fashion Design for the Curious: Why Study Fashion Design*. Canberra: Curious Academic Publishing.

Conference Papers

Earley, R., Hadridge, P., Vuletich, C. and Andersen, K. (2015) 'A New 'T' for Textiles: Training design researchers to Inspire Buying Office Staff Towards Sustainability at Hennes and Mauritz (H&M)' *EAD11: The Value of Design Research*. Paris Descartes University - Paris College of Art – ISTECA, 22 – 24 April.

Vuletich, C. (2014) 'Sustainable Textile Design as Bricolage.' *Proceedings of In a Reverse Fashion: A Critical Agenda for Sustainable Fashion*. Centre for Fashion Studies, Stockholm University, Stockholm, Sweden, 19 - 20 May. (http://www.academia.edu/7707960/Sustainable_Textile_Design_as_bricolage)

Vuletich, C. (2013) 'We are disruptive: New practices for the Textile/Fashion Designer in the Supply Chain.' *Proceedings of EAD10 Crafting the Future European Design conference*, Gothenburg, Sweden, 17 – 19 April. (<http://www.academia.edu/5690575/We_Are_Disruptive_New_Practices_for_Textile_and_Fashion_Designers_in_the_Supply_Chain>)

Blog Post for Academic Research Project Website

Vuletich, C. (2014) 'Design and garment production', *Textile Toolbox*, 24 Nov. Available at: <http://www.textiletoolbox.com/research-writing/design-and-garment-production/>

Vuletich, C. (2014) 'Production contexts', *Textile Toolbox*, 30 Apr. Available at: <http://www.textiletoolbox.com/research-writing/production-contexts/>

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Workshops

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Appendix IV: Blog posts written for Textile Toolbox (2012 - 2013)

Part 1

There are people involved in the production of fashion garments from the harvesting of raw materials such as cotton, all the way through to the sewing on of buttons of the final garment. Most of these people are hidden from the view of designers, spread across the world working in a variety of conditions and contexts. How can we bring these people closer to the designer and encourage designers to see their position as being the intermediary between the makers of the clothes and textiles and the people who wear them?

To design or produce fashion with sustainability in mind requires an awareness of the complete lifecycle of garments, taking account of the environmental and social impacts at each stage of the lifecycle. From a sustainability perspective, equal weight is always given to all three pillars of economic prosperity, environmental stewardship and social well-being. In most industries, businesses find it easiest to engage with the financial and environmental elements of sustainability, as they are easier to measure and involve less reputational risk, whereas the social element often poses the greatest challenges. The fashion industry is different. Shocking stories in the last decade of poor working conditions in the supply chains of several leading fashion brands has forced the industry to focus on the social elements.

Zooming out to a broader view, the 'social well-being' of stakeholders involved in the supply chain could also include the impact on communities living near factories and even the 'size zero' impacts on consumers and their body image. However, in these articles I will focus on the people involved in textile and garment production, either factory, small workshop or individual workers. This is the stage where the majority of negative attention has been focused, with little attention given to design-led solutions.

So what influence does a designer have in ensuring that the people involved in the production of their designs can be treated fairly and respectfully? Some designers may argue that these issues are not their responsibility and are symptomatic of the larger system of high-speed fashion and the behaviours of the companies they work for. Designing for ethical production asks designers to consider the ethics of their decisions, and ultimately the ethics of being a designer. What are those personal and often long-lasting beliefs and values we each hold and should we bring our personal value system into our working lives as designers? Although the potential for ethical actions by a designer working for a large fashion brand will be very different to a designer working independently, in both contexts designers are being asked to take responsibility for who produces their designs and how those people are paid and treated.

While 'human-centred design' encourages designers to consider the user first, here I am proposing 'human-centred production', that encourages designers to consider not only the user or person who purchases the garments and wears them, but the people who were involved in the making of the garment. The designer is the intermediary between the makers of the clothes and textiles and the people who wear them.

The design and production processes are deeply interconnected, and the decisions made by designers will have impacts on people working in production at all stages of the supply chain. The type of garment being designed will determine in which country production occurs; the type of fabric or yarn chosen will have impacts on the people involved in extracting the raw materials, such as cotton farmers; the finishing and dye treatments may affect the water

ways and rivers used by local communities; and any surface decorations such as embroidery embellishments may involve unmonitored or low paid labour.

Currently, the most common actions for ethical production by fashion designers include: at the garment level, choosing fibres and materials that are Fairtrade certified or non-commodity fibres (non-cotton fibres including Tencel, Bamboo) (image 1); and at the production level, include engaging suppliers who abide by codes of conduct and co-operate in monitoring labour conditions, choosing vertically integrated production (Image 2); or working with artisanal producer groups ¹(Image 3).

So how do designers unpick this over whelming array of impacts and choices? There are such things as Lifecycle Assessments (LCA), which tell us the environmental and social impacts of a garment, but these tools do not tell designers how to reduce these impacts or even much about the people that are involved in the supply chain. Ideally there would exist a tool to help designers in their studios to make the right decisions for both the design brief and the people involved in production. But this doesn't exist yet and developing such a tool is one of the long term aims of my research.

In the meantime, I will investigate some of the key issues facing designers when considering ethical production with two people who understand the context from different perspectives - a specialist in international human and workers' rights issues in garment factories, and a Corporate Social Responsibility (CSR) manager for a fashion brand. Together we will explore the barriers that are stopping designers from engaging in ethical production issues and look at the potential for new ways of designing that ask the designer to not only bring their ethical beliefs to work, but also to consider an expanded role for themselves, as facilitators, activists and entrepreneurs.

Part 2

In my last post, I suggested that while 'human centered design' encourages designers to consider the user first, what does 'human centered production' look like for textile and fashion designers in the fashion system? How can designers consider the people involved in the production of the textiles and garments and design in ways that considers the producers as human beings with their own values, needs and skills.

In this and the next post, I will explore the social impact issues from two production contexts: firstly involving people who are artisan producers, often in traditional craft communities, fulfilling small to medium size orders of either textile or garment production; and secondly the context that involves people working in garment factories, often fulfilling large volume orders for multi-national fashion brands, producing garments. As Liz Parker, researcher and educator in international human and workers' rights in the fashion industry explains, the employment and social impact issues affecting the people in these contexts are both different, mainly due to the employment relationship they are in. A weaver who is part of a co-operative in a rural community will have different issues and needs compared to a worker in full-time employment in a garment factory. This means the barriers for designers to create change are different, and the two contexts require different levels of design knowledge and skills.

Producers with traditional craft skills

The first production context I would like to analyse is of workers who are involved in production that mostly utilises a traditional craft skill that is part of the cultural heritage of

the community, such as the hand weaving communities of Northern Thailand, or a particular embroidery technique such as kantha, seen in many parts of West Bengal in India. Some of these communities are part of a global supply chain for the fashion industry, often employed through co-operative structures, working either as home workers, or in small production centres, creating either woven textiles or performing embellishment work such as beading and embroidery. While these producers are highly skilled in the crafts aspects, there is often a lack of knowledge and understanding of consumer needs and tastes. In this context, the designer can be seen as the intermediary between the producers and the consumers. However, this role as the intermediary is often easier than it seems, and there are multiple challenges and complexities for designers when engaging in these contexts, Issues that can arise include the designer exploiting the skills of the producers, so the producer is merely seen as skilled labour, and the lack of reference to, or respect for, the cultural context of the work. The Australian government has recently set up an initiative with the Indian government, to co-develop best practice guidelines for designers wishing to work with Indian craft producers ([Sangam Project](#)).

There is also the issue of livelihoods. Many of these producers do not have access to basic services such as clean water and health care, and working on product design is not going to be sustainable and effective if the community cannot support the production due to lack of materials or basic services.

So, how can designers support these artisanal communities in a more sustainable way? I would like to use a definition of design, that highlights the unique epistemology and skill of a textile or fashion designer, as a 'designerly way of knowing', based on Cross (Cross 2006). By engaging this 'way of knowing' with an intended goal – to support the people involved in textile production in artisan communities – the designer is able to intervene to create positive change. I have identified three different levels of design intervention *Design for*, *Design with* and *Design beyond the Product*. These levels of design intervention move beyond the 'normal' way of designing that exists completely disconnected from the producers as human beings with lives, skills, values and needs.

Design for

This type of design practice asks designers to consider the craft skills and capabilities of the makers of the garments and textiles, along with the aesthetic and cost considerations of a 'normal' design practice, and to synthesise all of these elements into a garment or collection that will be commercially successful. Whereas some designers may design their collections, and then try to find production partners who have ethical credentials, this approach is more pro-active, and asks the designer to consider the human skills and resources first and then to design to support it. In this way, the producers gain access to markets and economic benefit, through the engagement with the designer.

[People Tree](#) is a fashion brand that demonstrates this approach. Working with small producers in India, People Tree design collections based on the existing skill set of the producers, mainly hand weavers, block printers and hand embroiderers. As Parker (Parker 2011) noted in a [report](#) on People Tree's role in the Bangladesh textile industry, "People Tree is a design-led company that sees clothing as a vehicle for poverty alleviation. Thus its focus is on community centred sustainability through economic stability, skills preservation and low impact production methods". The company has a ten-year business plan, which shows their long-term commitment to supporting these producers, working with them each year to build technical skill.

Design with

A second level of design intervention is *Design with*. Here the designer works in collaboration

with the artisanal community and co-designs garments or products based on their skills. This type of design is rarely seen in a fashion context, possibly because most textile artisans are not involved in producing garment shapes, but are just constructing or embellishing fabric.

An example from product design is the work of German designer Isabelle Dechamps. [Dechamps](#) who worked with a group of Bangladeshi potters to develop new products. Rather than merely dictating the form or style based on her understanding of their production/making process, she engaged the makers in initial design activities, such as drawing, form studies and prototyping experiments. Dechamps calls this method 'participatory design education', and is attempting to transfer the 'designerly way of knowing' and thinking to the producers, in the process of co-designing with them.

Design beyond Product

The third level of design intervention is Design *Beyond the Product*. Here the designer uses their 'designerly ways of knowing' to begin to address the systemic livelihood issues that affect many of these artisan communities beyond their ability to create hand made goods, such as a lack of access to materials, marketing, finance and skill development. So the designer is not applying their design knowledge and value at the product level, but is applying it at a system/service level, as in TED's Design for Systems/Services.

Priti Roa (Rao 2012) has recently completed a design research project on how design can contribute to the challenges facing rural ikat weaving communities in Orissa, India, focused on designing for services. She emphasises that the study was not an attempt to solve the problem, but to use a design approach to reframe and reconsider the existing problems that other stakeholders – policy makers, aid workers etc – have been grappling with, and to offer a guide and new methods.

Roa reframes the artisan weaver from being a *producer* of craft objects or *beneficiary* of government aid, to being an active *customer* of services, who makes conscious decisions to fit their capabilities and circumstances. Roa also utilises all the skills of a design approach in her study, such as visualising, actor and journey mapping and empathising, based on participatory design methods, working directly with the weavers themselves. The proposition is that through 'empathising' with the community members, and demonstrating the design approach to the other stakeholders who are involved, more effective approaches can be found. Although, Rao is a sociologist using design methods, not a fashion or textile designer, this project demonstrates the inter-disciplinary nature of a design intervention that is required into such a complex context.

Textile and fashion designers have a 'way of knowing' that is embodied in, and through, the design of textiles and garments. This definition of a design practice allows us to consider how the textile/fashion designer may be able to impact and influence the producers involved in the supply chain for positive change. By exploring several levels for design intervention in a textile artisan community context, an understanding of how designers can design *for* producer's needs and skills is revealed.

Part 3

In my last post I discussed the role of design and social impact in production contexts that involve people who are artisan producers, most often in traditional craft communities. Using the notion of a 'designerly way of knowing' (Cross 2006), I explored how designers can engage their unique design knowledge and value to support producers as human beings with lives, skills, values and needs. In this post, I will look at the production context that involves people working in garment factories, fulfilling large volume orders

for global fashion brands. Here the barriers and opportunities for the textile/fashion designer to intervene for positive change are different but as equally challenging as the artisan context.

Definitions of design

The designer in a fashion brand is often part of a team of buyers, product developers, production staff and Corporate Social Responsibility (CSR) managers. They are most likely working within a fast-moving trends landscape that requires lean and flexible supply chains. Although the design and production processes are deeply interconnected, the designer often has no point of direct communication, or understanding, of the worker who is making up their garment designs, as seen in the diagram in Image 1. We will explore the barriers and opportunities for the designer to connect and positively impact the garment worker below, but firstly it is important to understand what is meant by design in this context.

Cross's definition of design activity as a 'designerly way of knowing', is used to describe designers' epistemology as different to scientists, artists or other professions, however most research into design practice is based on product or service designers, not fashion or textile designers. So does a 'designerly way of knowing' describe a fashion design practice in this context? While there is no scope here for the specifics of fashion/textile design thinking, it is important to identify that fashion designers, as opposed to the other actors in this context (production, CSR or management staff) demonstrate a particular way of 'thinking and doing' design, that works with fabric, colour, pattern, form and the human body. I will call this type of design practice here a 'textile/fashion designerly way of knowing'.

Garment Workers in Factory Settings

The issue of ethical production and workers' rights in garment factories has been a contentious one for the fashion industry worldwide for more than a decade. While on the one hand fashion brands demand that their supplier factories (based in countries such as China, Bangladesh, Cambodia) enforce humane working conditions and fair labour rights, on the other hand, the brands have increased pressure for lower prices for products and for faster production times, called 'race to the bottom', which in turn affects the garment workers. As a response to the work of several activist NGO's such as Clean Clothes Campaign and Oxfam in the last fifteen years, and a growing demand from consumers for more transparency, fashion brands have established Codes of Conduct for their suppliers, that are monitored either by independent auditors sent in by the brands, or by the brands own production or CSR staff. However, there is evidence to suggest that working conditions and labour rights in garment factories in these countries continue to be violated. It is now widely understood that the auditing process is a quick-fix solution to a 'wicked' problem that requires a more systems-based approach to be most effective.

So what are the more systems-based approaches to improving social impacts in garment production and what is the role of the designer and their 'textile/fashion designerly way of knowing'? There are several opportunities within the organisational structure outlined above, that include: educating the designer about the impacts of their design decisions on workers; and new models for a design and values-led approach to managing social impacts in garment production.

Better design and purchasing practices

While brands have been heavily focused on the monitoring of their suppliers' factories, there is now evidence to suggest that it is the purchasing practices of the brands, such

as last minute changes to either design or quantity of an item by the designer or buyer, causing negative impact on factory conditions (Galland & Jurewicz 2010). Although many brands have developed 'internal alignment' initiatives (Cisco and Wong 2008), the importance of the designer in this system is underexplored. A CSR manager at H & M in Stockholm explains, "The aesthetic changes made by the designers at the last minute really effect everything.... we need to produce more samples, there are delays in the process, there is overtime for the workers and we may even need to find a new supplier." (H & M, 2013) The problems arise because the designer, and the organisation as a whole, are prioritising the aesthetic and design value of the garment, without considering the impact of each design decision on production. The problems are also exacerbated due to a lack of communication between departments, and this reflects a wider issue of who carries the 'values' within an organisation, with designers often being excluded from the sustainability or values narrative.

Several fashion brands have begun to incorporate strategies that support the designer in understanding the impacts of their designs on production workers. Nike has created a cross-department Overtime Task Force, to study the impacts of design and merchandising on factory working hours (Business for Social Responsibility 2010). And H & M in Stockholm is currently developing an internal strategy to communicate impacts on production workers to buyers and designers (H & M, 2013). Hence, the 'textile/fashion designerly way of knowing' in fashion brands is being expanded or developed to consider other actors who are involved in, or effected by, design decisions.

New partnerships in production countries

While improving brand's purchasing practices is vital to reducing impacts on production workers, these are still only incremental changes. The Business for Social Responsibility (BSR) initiative advocate a values-based and stakeholder model that attempts to create a shared vision across the whole system, what they call 'beyond monitoring', (2008) an approach that has been adopted and tested by brands including Nike, Gap and H & M since 2008. This approach works with four tiers that includes all the stakeholders – brands, suppliers, workers, NGO's and the local government of the supplier country. Rather than the brands or NGO's dictating what is 'ethical', a values-based approach is creating initiatives that meet the specific needs of workers in the specific country, such as the BSR/Her Project (2014), a workplace-based empowerment programme for women in garment factories, that brands are investing in.

However, again the fashion or textile designer is missing from this conversation. From a design perspective, designers are best at visioning possible futures and are comfortable in 'wicked' contexts. While the design thinking discourse has been highlighting the value of design beyond the product/artefact - in services, social innovation and strategy/management contexts, fashion and textile designers are absent from the discussion. New roles for designers such as 'Designer as Facilitator', or 'Designer as Capacity Builder' (Tan 2012, Fletcher and Grose 2012) have been discussed in theory for several years, but what would it look like for a fashion designer to use their 'textile/fashion designerly way of knowing' to work with CSR/production staff and factory workers on a values-based initiative?

My project Design for Change (Vuletich, 2012) attempted to explore this question. For this project, I developed a business model concept in collaboration with a social business expert, where the fashion designer within a US- based denim brand creates a range of fashion accessories, using denim waste from the supply chain, and sets up a social enterprise that trains and employs people from the neighbourhood around where the garment factory is located (based in the US). The designer brings their 'textile/fashion designerly way of knowing' to collaborate with a range of stakeholders, including a local community initiative and the CSR department, and uses design- led innovation methods to create a 'shared vision' to improve the livelihoods of people in the community.

Appendix V: Design for Change Animation Script

Scene 1

This model shows how design can play a role in transforming a factory or mill into a hub for positive change. It's a 'call to action' for designers to take them out of the design studio and into communities and new contexts.

Scene 2

So, how could this model work? Well, start by looking at what you have to work with. What the existing assets of your brand and your supply chain?

At any mill or factory, it is most likely people and waste materials.

Scene 3

The first step then is to ask your employees what their community's needs are. You could even partner with a local community group who understand the issues.

Scene 4

The next step is to identify a waste stream, either from your mill or the factory, or even worn jeans that have been returned by your customers.

Scene 5

Now you combine these existing assets with designers, to create a business that employs local people, to make products from waste.

Scene 6

In this model, not only is the designer developing new products from waste that people will want to buy,

But they also become a facilitator, working with a range of partners to 'design' this new system.

Scene 7

So, what could this do for your brand?

It would encourage employee retention and increase productivity; it would deal with the waste from the production process; your designers would start to see their role as having a positive impact; and it would create interesting stories for you to tell your customers.

Scene 8

How could you design change into your brand?

Appendix VI: Conference Proceedings, EAD10 (2013)

Vuletich, C. (2013) 'We are disruptive: New practices for the Textile/Fashion Designer in the Supply Chain.' *Proceedings of EAD10 Crafting the Future European Design conference*, Gothenburg, Sweden, 17 – 19 April.

http://www.academia.edu/5690575/We_Are_Disruptive_New_Practices_for_Textile_and_Fashion_Designers_in_the_Supply_Chain

ABSTRACT:

Most fashion brands and textile/fashion designers have maintained a limited set of sustainability strategies that are focused at the product/processes level, while missing the opportunities for transformative actions that can 'disrupt' the existing fashion system. This paper will explore a recently completed project as part of the author's PhD research (funded by MISTRA Future Fashion research project 2011) that explored how a designer can use design skills throughout a supply chain to identify opportunities to improve both environmental and social impacts for a company.

Whilst some fashion brands limit their Corporate Social Responsibility (CSR) policy to monitoring working conditions in their suppliers' factories, this project asks how a fashion brand could use an innovation process that brings both economic and social value, outside of the factory walls. While the business model concept being proposed is not new, the method being proposed to develop the concept, led by the textile/fashion designer, is where the novelty lies. This project proposes a new role for the textile/fashion designer within the business, bringing the designer closer to the CSR activities within the brand, and closer to the communities in which the business operates. This context requires new practices by textile/fashion designer and new skills, collaborating with a range of actors across private and third sector boundaries. Designers are increasingly engaged in working within communities and across the third sector to design for social good (Emilsson et al 2011) and researchers are beginning to study and capture the methods being used (Tan 2009), however fashion and textile design activity is under represented within this discourse. This paper proposes to explore what these expanded design opportunities could mean for fashion/textile designers.

Key Words: sustainable design strategies, fashion brand, innovation, fashion/textile designer, corporate social responsibility (CSR), Designathon, design thinking

1. Introduction

Most fashion brands and textile/fashion designers have maintained a limited set of sustainability strategies that are focused at the product/processes level, while missing the opportunities for transformative actions that can 'disrupt' the existing fashion system. This paper will explore a recently completed project as part of the author's PhD research (funded by MISTRA Future Fashion research project 2011) that explored how a designer can use design skills throughout a supply chain to identify opportunities to improve both environmental and social impacts for a company. This project is the first in a series of 'design interventions' planned for the PhD research and as such, the findings are still in preliminary stages.

Whilst some fashion brands limit their Corporate Social Responsibility (CSR) policy to monitoring working conditions in their suppliers' factories, this project asks how a fashion brand could use an innovation process that brings both economic and social value, outside of the factory walls. While the business model concept being proposed is not new, the

method being proposed to develop the concept, led by the textile/fashion designer, is where the novelty lies. This project proposes a new role for the textile/fashion designer within the business, bringing the designer closer to the CSR activities within the brand, and closer to the communities in which the business operates. This context requires new practices by textile/fashion designer and new skills, collaborating with a range of actors across private and third sector boundaries.

Designers are increasingly engaged in working within communities and across the third sector to design for social good (Emilson et al 2011) and researchers are beginning to study and capture the methods being used (Tan 2009), however fashion and textile design activity is under represented within this discourse. This paper proposes to explore what these expanded design opportunities could mean for fashion/textile designers.

2. Project context and aims

'Design for Change' was initiated via a consultancy commission for a large American apparel company (a parent company who owns and operates over 15 fashion brands) in late 2011, with a brief for the author to explore concepts of philanthropy and social enterprise for a fashion brand. The commission was one of ten exhibits in a showcase dedicated to sustainability, part of an Innovation Summit for the client's employees. The section was curated using a set of ten sustainable design strategies for textile/fashion designers called TED's TEN (Earley & Politowicz 2010). The strategies work as a framework to assist designers and businesses in addressing the complexity of sustainable design and when offered as workshop experiences, the strategies can be a catalyst for using sustainability thinking to drive innovative product and sustainability initiatives. Focusing on two of the ten strategies – Design for Cyclability and Design for Ethical Production - this commission allowed for an investigation focused on a designer in the context of a large fashion brand.

Fashion brand will be used in this paper to refer to a clothing manufacturing company that either produces their own products in their own factories, contracts production out to domestic or offshore factories that they do not own, or a combination of both (Dickson, Loker and Eckman 2009: pg 16). The differences between textile and fashion designers are marked, however in this paper the two disciplines will be discussed together. *Textile/fashion designer* will refer to the designer within a fashion brand who designs either textiles or garments.

3. Research Methods:

The aim of the project is to use a real design commission to investigate what new practices fashion/textile designers would need for systemic change in a supply chain.

For the commission, the author developed a business model concept and a collection of three fashion product prototypes made from textile waste. The business concept was illustrated for exhibition purposes through a film and animation, that was shown alongside the product prototypes. The author worked with a team of strategy and management consultants, Pipeline Projects (PP) experienced at embedding sustainability into business, to develop the business model concept.

The methodology used was a workshop for generating creative concepts and two workshop tracts ran parallel: the business model workshop and the product prototype workshop. Other methods used included desk research and open-ended interviews with the project collaborator and an industry expert.

The project was a combination of two approaches - a process that was initiated as a brief

for a commercial client's innovation department, that was also carried out and reflected on as a practice-based design research process. Practice-based design research uses design practice and knowledge to develop and propose new perspectives and as such is an ideal process for investigating the notion of 'change'. As Walker (2011) argues, the conventions of design that we have become used to, that are linked to mass production, intensive resource use, and disrespectful human relations, need to change. Fuad-Luke in Walker confers and states that "design must de-couple itself from the existing drivers of the discipline if it is to provide a new paradigm for design" (2011). In order to begin developing alternative approaches to our existing production systems and material culture, we need design work that is experimental, probing and iterative.

As outcomes from an innovation process, the film and products acted as a 'rough sketch' of an idea, similar to a prototype from a design process. Prototypes are future-oriented and are useful tools to be shared, discussed and critiqued with the various actors involved, to act as a catalyst for new directions. In design research, prototypes play an important role in keeping people focused on design (Koskinen et al 2011). A focus on design was essential for this project as it was an investigation into a design thinking process and the practice of a textile/fashion designer. The process of developing the business model concept, could have produced a report or other types of outcomes for strategic CSR approaches for a fashion brand. However, this process was led by a textile designer, with textile/fashion product outcomes being generated alongside the business concept. As Rowley from PP stated when asked to reflect on the role of the textile designer in the process:

That is why I think it [the project] was good. It may not have been a fully fledged social business, as it was 'engineered', but what is good is that there is a tangible product [the bags]. In my role going into companies, it is often difficult to convince everyone involved about making changes. To have a 'prototype' that is produced is a really effective way to facilitate this change process, particularly when the company is a garment manufacturer (Rowley 2012)

4. Sustainability, CSR & Systemic Innovation

While there is no agreed definition of sustainability, one of the most cited definitions is from the Brundtland Report (1987):

Sustainable Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.^[13] It contains within it two key concepts: the concepts of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs.

This definition incorporates the three pillars of environmental, economic and social elements and can be applied at the organizational or societal level (Gardetti and Torres 2012). The Brundtland Report was a blueprint for how countries and organisations need to manage economic growth with the inevitable consequences of ecological damage and to equalize out the growing imbalance between the world's rich and poor.

The way organisations in the private sector have approached these challenges is through Corporate Social Responsibility (CSR) policies. Corporate Social Responsibility (CSR) is another very contested term. One of the most commonly used definitions is "the economic, legal, ethical and discretionary expectations that society has of organizations at a given point in time" (Carroll 1979). Since the 1960's when CSR became a firmly established practice,

most businesses have approached their CSR policy by abiding by existing regulations and making incremental changes at the product and process level. More recently, businesses have begun to take an anticipatory and forward-looking approach that sees sustainability as a driver for systemic innovation (EABIS 2012). A much-quoted example of a leader in the UK is the food and clothing retailer Marks & Spencer and their Plan A strategy, that reframes their environmental and social responsibilities, from being expensive problems to strategic opportunities (Marks & Spencer 2013).

Brands in the fashion industry, who have begun to re-align their whole value proposition towards sustainability, include Nike and Puma, introducing best practice in monitoring labor conditions; creating environmental profit and loss statements; introducing product stewardship that includes using lifecycle thinking and leading the field in developing sourcing and design tools for measuring impacts.

If this project is to demonstrate ways to 'disrupt' the existing fashion industry for systemic change, inspiration can be found in innovation processes. 'Disruptive innovation', was defined by Christensen (1997) who identified the way small firms were able to innovate, by combining existing technologies in a novel way, for an under-served consumer market. Christensen found this activity to mainly occur in small firms who had the flexibility to respond quickly to emerging trends. A disruptive new business model would be unfeasible for a large apparel business, however the concept offers this project a useful framework. If to disrupt is 'to break or interrupt', this project hints at the potential for a novel way a fashion brand, aided by a designer, can use existing assets (textile waste and design knowledge/skills) to disrupt the existing system for two aims: for new profits and for positive social benefits.

5. The Fashion industry

Within the Triple Bottom Line approach to sustainability (Elkington 1999) of 'people, profit, planet', most businesses find it easiest to engage with the financial and environmental elements, rather than the social elements, because they are easier to measure and involve less reputational risk. As Greene states, 'The social element, which encompasses the ethical, moral, and philanthropic responsibilities of a business, pose great challenges for business. ... making it that much more difficult to integrate social initiatives as a core part of the sustainability strategy' (Greene 2012). Within the fashion industry however, it is actually the social elements of the Triple Bottom Line that have dominated CSR policies, although environmental issues are now emerging as equally important (Dickson et al 2009).

5.1 Why the focus on the 'social'?

There are several reasons why firms in the fashion industry have focused on the 'social' aspects, and these can be traced back to the historical development of the global garment industry. Taking the US industry as an example, the apparel industry began to flourish after the Second World War and this continued into the 1970's. The boom was fuelled by an absence of trade unions to push for higher wages and an abundance of white female workers in the rural South who were willing to work for low wages. By the 1970's, many garment manufacturers were competing with retailers, and were at a disadvantage if they owned their own factories. The brands began to focus primarily on design and marketing of their brand names, and production shifted towards the Far East, first to Malaysia and Indonesia and then to China (Dickson et al 2009)

This search for lower wages and the dispersal of production across the globe, has resulted in global supply chains with multiple layers and geographical locations. In 2005, Gap Inc. worked with over 2,000 suppliers in 50 countries across the globe (Dickson et al 2009). Finally, there is the fact that the garment manufacturing industry has a low usage of

technology and is highly labour intensive (Desai, Nassar and Chertow 2012). Unlike the textile manufacturing industry, the construction and production of two dimensional fabric, into three dimensional garments, is all done by humans and not machines, hence the need to look for the lowest possible wage option for it to make economic sense to the brand.

While garment production spread across the globe during the 1990's and 2000's, over two thirds of all jobs in garment manufacturing were lost in the US to overseas production within a 25 year period (American Apparel and Footwear Association 2002). Unusually, the brand on this project actually owned and operated their own factory in Los Angeles and this presented an interesting opportunity to test a CSR approach that looked beyond the working conditions of employees at this factory. This was based on an assumption that as the factory was local to brand and management headquarters, it was likely that workers conditions are already well monitored and maintained. It was also proposed that partnering with a local community organisation would have potential positive outcomes, as the brand already has a strong, local identity.

5.2 Labour rights and beyond monitoring

CSR policies in the fashion industry that could be defined as 'social' rather than 'environmental' include philanthropic activities such as donating a percentage of sales profits to a charity; developing cause-related products such as H & M's 'Water Aid' collections; (H & M 2011) and the monitoring of workers rights in suppliers' factories.

The issue of workers rights has been a contentious one for the fashion industry worldwide for more than a decade, for many of the reasons described above. As a response to the work of several activist NGO's such as Clean Clothes Campaign and Oxfam, fashion brands have developed Codes of Conduct, in consultation with their suppliers, that ensure workers are treated fairly and humanely. However, there is evidence to suggest that working conditions and human rights in the workplace continue to be violated. As the Clean Clothes Campaign states "In spite of the tens of thousands of audits that are taking place each year, the patterns of exploitation and abuse of workers is continuing...the lack of progress is scandalous" (Clean Clothes Campaign 2005). While brands have been heavily focused on the monitoring of their suppliers' factories, there is now evidence to suggest that it is the purchasing practices of the brands having the most negative impact on factory conditions (Galland & Jurewicz 2010). An example of this is last minute changes to either design or quantity of an item by the designer or buyer, which puts increased pressure on suppliers and therefore workers (Parker 2012).

There is some work being done on how 'internal alignment' can create more effective communication channels between departments in fashion brands. There are also some attempts to create a shared vision for managing social impacts in the fashion industry that is 'beyond monitoring', such as brands becoming more involved in educating workers about their labour and human rights (BSR 2010). However this paper takes the position that new creative approaches to addressing these organisational and strategic CSR challenges are needed along with a re-framing of the responsibilities brands have to the communities in which they operate.

The next generation of CSR recognises that business and society are interdependent, and that opportunities to pioneer innovations that benefit society and a company's own competitiveness, can and should be found in the supply chain, or what Porter and Kramer call 'shared value'. (Porter and Kramer 2006). This project aimed to find out how a clothing manufacturer could begin to see their responsibilities as broader than merely following regulatory working guidelines for their factory workers and to prototype a business model

concept that would directly address the social context of where the garment factory was located.

6. Creative approaches to local community engagement within a fashion brand

6. 1 The Local community as a stakeholder

The question of how much responsibility a firm has to their various stakeholders is an ongoing debate. 'Stakeholders' are individuals or groups that the firm is responsible to and that have a stake or interest in the firm's operations and decisions. There are five most commonly understood stakeholders - owners (shareholders), employees, customers, local communities, and the society at large (Carroll 2008). In regards to the local community as a stakeholder, the most common form of CSR engagement is normally philanthropic donations to a community group or sporting initiative, or employees volunteering their time at one of these organisations (Crane, Matten & Spence 2008). However, these types of engagements have begun to be seen as too paternal, or merely as a public relations device. Firms are now engaging in more strategic approaches that add value both to the cause and to the firm and that are based on the core competency of the firm, as in the 'shared value' approach described above. Crane, Matten & Spence explain that an example of this 'strategic philanthropy' is the way firms have developed partnerships with community organizations that build reputation and legitimacy with the public, as well as building competence around social issues.

This strategic approach to local community engagement is also evident in new business models that are emerging - strategic partnerships such as the social business Grameen and fashion brand Uniqlo – who have developed a clothing brand made and sold locally in Bangladesh (Grameen Uniqlo 2012) If firms are developing more strategic approaches to their engagement with local communities, what innovation methods are they using to do this? And what role does the fashion/textile designer play?

6. 2 Social Innovation

The role of business models and methods in solving social problems is currently being explored in an evolving innovation landscape within business, government and the third sector. One of the most recent forms of innovation practices to emerge is social innovation, where the innovation processes normally used for the market are being utilised to build social capital. Social innovation is defined as 'new ideas (products, services and models' that simultaneously meet social needs and create new social relationships or collaborations..... innovations that that are both good for society and enhance society's capacity to act' (Murray et al 2010 p 3) Examples of social innovation include The Open University or The Big Issue magazine, both in the UK. Murray et al (2010) explain that social innovation has emerged because the existing social structures and government policies lack solutions to some of today's most challenging issues such as climate change, social and economic inequality and an ageing population. A key characteristic of social innovation is that it occurs in all sectors - public, non-profit and private and often in the boundaries between sectors.

There has also been important contributions coming from designers getting involved in social innovation (Murray et al 2010, Emilson et al 2011), who are applying methods such as user-centered approaches and prototyping. The role of design is central to the innovation methods being used in this project, where the textile/fashion designer is encouraged to use design thinking and prototyping, to create novel ideas for the fashion brand's CSR policy.

One type of social innovation is a business model concept called 'social enterprise', a business that trades for a social or environmental mission, where all the profit is re-invested

to further the mission (Social Enterprise UK 2013). Examples of social enterprises in a fashion context, include Social Studio (2009), that offers garment production training/employment to members of local refugee communities in Australia, and People Tree (2012), who works with small craft producers in India.

There are also examples of initiatives in high-end fashion, that support people through training and employment, such as Kate Spade's 'Hand in Hand' initiative, that works with women in Afghanistan and Bosnia producing hand knit accessories (Kate Spade 2013); and several initiatives by luxury brands in Italy who have developed similar models that work with disadvantaged members of society (Cakmak 2012). Initiatives like 'Hand in Hand' are designed, where designers from the brand are designing product which is then being produced by the people who need employment. This project however, proposes that the designer is not merely designing the product to be produced, but is involved in the development and 'ideas generation' phase of such a project.

6.3 New CSR Methods:

Considering that firms are now developing more strategic approaches to engaging with local communities, and there are new ways to solve pressing social problems using innovation methods, how could these concepts work together and how could designers contribute? This project investigated a new method for achieving this, referred to in this paper as a Designathon. This methodology is still being developed, and will be one of the key methods used in the author's PhD project, so has not yet been tried out or tested in a real context. It is inspired by the methods being developed by Pipeline Project (PP) who are running workshops to develop creative branding and strategy solutions for charities and NGO organisations, (Good for Nothing 2012).

Through participation and observation of the methodology, the author has concluded that the PP method is a hybrid of three different methods: a traditional brainstorm used in creative brand/strategy contexts; a design thinking approach used by designers, where tangible outcomes are produced (Brown & Wyatt 2010); and the open-source, collaborative methods called Hackathons (Hackathons 2011). The PP method grew out of: 1) a desire to contribute to positive social change, 2) a frustration with the slow and ineffective innovation methods they were experiencing in large business contexts and to work in more collaborative and faster ways 3) to bring the designer upstream to the beginning of the innovation process and allow designers to create tangible outcomes such as web sites, products and brand identities (Rowley 2012). Each workshop normally involves one or several people representing the charitable organisation; five to ten designers/strategists/creatives and up to four people representing PP, who are the lead facilitators. They work in fluid groups over two days, with a self-defined brief, based on the needs of the charitable organizations.

In this project however, the PP method would be adapted, as the aims are different. The fashion brand/garment manufacturer will partner with a local community organisation, to understand the social context of the surrounding population. A concept is developed for an initiative that aims to address persistent social issues, that could also become part of the brand's core value proposition. A range of stakeholders would participate in the Designathon including a business strategy team, fashion/textile designers from the brand, CSR and management representatives from the brand, and representatives from the community organisation. Therefore, the aims of the Designathon are to marry the corporate and commercial agenda of the brand with the needs of the community organisation and their clients.

The outcomes from this type of Designathon could be varied, and may not be developed as

far as product outcomes. However, in this theoretical scenario, a concept was developed for a Design Hub to be set up either on site at the factory, or nearby to the community organisation. From here, a design team would develop a new product range, using textile waste from the production process. The products would be produced by the members from the community organisation, who would be trained in garment and product production. A social enterprise model would be established, that could exist along side their existing for-profit business model, with a percentage of profits from the sales of the products used to cover operating costs.

This model offers a template for 'small steps' that a large clothing business can undertake, whose only current competitive advantage is their operational efficiency. The 'disruption' is the combining of existing components in a new way, for new markets and for social benefits to the community. The existing assets are both human and material - the members of the local community are human resources that are under utilised and the textile waste is also under utilised. While the social enterprise type of business model is not new, here the enterprise is being led by a fashion designer within a fashion brand, working collaboratively with a range of actors.

6. 4 Barriers & Opportunities

The author's experience suggests that the most challenging aspect of using this method, would be engaging the various actors within the brand itself. Within the organizational structure of a fashion brand, the fashion/textile designer sits within the buying team, which is separate from the CSR team. The designer's role is to design garments or textiles, and the designer is not included in developing the CSR objectives of the brand. So how to link the designers with the CSR objectives? This Designathon method is a useful method for achieving this but for the method to work successfully, the brand's management would need to see the value in allowing the CSR team to work collaboratively with the design team.

The method asks the fashion/textile designer in the organisation to also understand and engage with a new role for themselves. Irwin (2012) talks of there being a very limited view of the power and potential of design, within the design discipline itself. Introducing the designers to the PP team, or equivalent partners who have experience in these workshop methods, would reveal potential new ways for the designers to work.

This method also relies on the engagement of the community organisation. As the brand is offering potential benefits to the organisation's members – in this instance employment and training - it seems highly likely that the organisation would be willing to engage. For an initiative that offers training and employment to members of the community, the community organisation would work closely with the brand production team, to assess and implement the appropriate set up. Some community organisations already work in this way, such as the HomeBoy Industries Project in Los Angeles, that has set up several social enterprises that offer community members training and employment (Home Boy Industries 2013).

For the CSR team within the organisation, this method allows an opportunity to bring new, creative perspectives to their strategy. The Designathon could be an effective method for identifying what aspects of their responsibilities to their stakeholders they wish to prioritise. In this scenario, it was decided to develop a range of bags using waste from the supply chain and for the production to be done by newly trained community members. However, the CSR team may not prioritise the re-use of textile waste as important and may choose to focus on a different set of priorities.

7. The fashion/textile designer

7.1 New design practices

The challenges that businesses, society and individual designers face in our globalised, resource- constrained world are forcing a change to the current design, production and consumption systems. While there is growing awareness amongst textile/fashion designers as to these issues, most designers approaching sustainability have remained focused at the material and product level. Material knowledge is one of the characteristics and key skills of a textile/fashion designer, and is also the part of the production process that is most controllable for designers (Fletcher & Grose 2012). However, such a limited focus misses the opportunities for new types of design activity for systemic change.

This limited view can be seen in the context of how textile/fashion designers consider the social impacts of their decisions, strategy No. 7 in the TED's TEN framework 'Design for Ethical Production'. This strategy suggests actions that include:

- Design that utilises and invests in traditional craft skills in the UK and abroad
- Ethical production which supports and values workers rights
- Sourcing of fair trade materials
- Designers acting as facilitators of sustainable enterprise in traditional craft communities

This is also supported by Fletcher & Grose (Fletcher & Grose 2012) who identify that the most common actions for 'people friendly' fashion design include: at the garment level, choosing fibres and materials that are FairTrade certified or non-commodity fibres (non-cotton fibres including Tencel, Bamboo); and at the production level, include engaging suppliers who abide by codes of conduct and co-operate in monitoring labour conditions, choosing vertically integrated production or working with artisanal, producer groups. While some of these actions allude to new roles for designers beyond material/production choice, such as 'Designers acting as facilitators', there is a lack of research or investigation into how designers can and are acting in these new ways. So if textile/fashion designers are being asked to think outside of the boundaries of designing fabrics and garments, what new types of practice are needed? Fletcher & Grose (2012) have recently identified several new roles for fashion designers to bring about systems change, including Designer as Facilitator and Designer as Activist. "Fashion designers will move from working in the supply chain to working at the 'hub' of change – using their skills differently, envisioning change, organising it and enabling something different to happen" (2012: pg162) Design thinkers such as Fuad Luke (2010) and Thorpe (2012) have also been exploring new activist roles for designer in a 'post-growth' world of sustainable consumption. There are also examples of independent designers in the UK who demonstrate what these practices could be including Nin Castle from Goodone (Goodone 2013) and Lizzie Harrison from Remade in Leeds (Remade in Leeds 2011), who work with post-consumer textile waste to create upcycled garments, collaborating with business and with local communities. The author plans to include these designers as case studies within the wider research, so an understanding of their practice is not defined at this stage. While most of these examples are of designers working independently, this project allowed for an investigation of a designer within the context of a large fashion brand.

7.2 New Design Skills

This project is proposing that fashion/textile designers have a central role to play in innovation methods within organisations, and within communities, and is inspired by the skills being implemented and tested by designers involved in social innovation (Emilson et al

2011) and social design (Tan 2009). In these contexts, designers are using design thinking methods, where solutions to complex problems, often outside of the realm of traditional design, are tried and tested. The process involves skills such as using your intuition, recognising patterns, starting with the 'user' and expressing ideas using visual language. There is growing research in design and management that is capturing and defining the design thinking methods being used in these new contexts, with most activity generated from product, service or graphic design disciplines. Within the fashion/textile design disciplines, there is a lack of research of new design practices and new design methods, except for some work being done on the contributions of the textile design process to design research in general (Igeo 2010). The intention of this project and subsequent paper, was to demonstrated through practice the potential new roles and behaviours a textile/fashion designer in a large organisation may adopt, working with a range of actors, across business and the third sector, taking inspiration from the emerging design practices mentioned above.

Brown & Wyatt (2010) explain the design thinking process as involving several key stages: it begins with 'Inspiration (the problem or opportunity that motivates the search for solutions); this leads on to 'Ideation' (generating and developing ideas and prototypes) and ends with 'Implementation' (takes the project into people's lives). It could be argued that a design thinking approach was used for the development of this model. A textile designer collaborates with a creative innovation team to identify the social needs of a particular community near to a factory site and the different waste streams (Inspiration); then to develop a prototype for a new business and new product range (Ideation); and then through feedback from the client to implement the 'model' (Implementation). The process of this commission can be used as a formula for what the designer and team within the 'Design Lab' are being asked to do - to use design thinking skills to create new CSR approaches.

Embedding the fashion/textile designer on site at the factory, or within the local community, is a radical shift within the fashion design and production system. Looking now just at the fashion design process, traditionally a fashion designer for a large company is part of a large vertical system, where the process of design and production often involve different people working in separate parts of the company/supply chain, and often in different geographical locations (Gwilt 2011). The fashion designer rarely has the opportunity to interact with the people who make the garments. However, in this process the designer is being asked to not only interact more closely with the people who make the garments (through identifying the waste streams and being 'on site' at the factory), but to begin to identify and discover what the needs are of the people in the community around the factory.

In effect, this project proposes the textile/fashion designer is a 'designer-in-residence' in a garment factory. Using design thinking skills, and the 'scent' of a fashion/textile designer, they are able to identify existing assets (both human and material) and propose viable solutions. This role is not being carried out by an environmental, human resources or CSR manager but a designer who has a unique set of skills that allow for systems-wide thinking and implementation.

Conclusion

The debate about the relationship between business and society is on going, but in recent years there has been a convergence in the boundaries between civil society, government and business. Business is beginning to play a more engaged role in society, and designers are also engaging in new ways.

This project exists in the intersections between the corporate responsibilities of a fashion brand and the potential social innovation opportunities within a community where the fashion

brand operates. Here the designer is centre stage, employing two design strategies: using pre-consumer textile waste and designing for positive social change. The project takes inspiration from designers working in social innovation contexts and new forms of innovation methods emerging that are utilising design skills and processes.

While the context for the design practice was within a large fashion business, which has its own limitations of departmental divisions and budgetary/time pressures, the author did not actually practice in this context. However, the process of designing and developing the project with a live brief from a client, and collaborating with partners experienced in business contexts, is the first stage in investigating potential new design practices for textile/fashion designers for positive, systemic change in the fashion industry.

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Appendix VII: Journal Article, The Design Journal (2016)

Earley, R., Hadridge, P., Vuletich, C. and Andersen, K. (2016) 'A New 'T' for Textiles: Training design researchers to Inspire Buying Office Staff Towards Sustainability at Hennes and Mauritz (H&M), The Design Journal

ABSTRACT:

The paper is based on a training programme given to researchers in the Textiles Environment Design (TED) project at the University of the Arts London (UAL). The programme took place over three years (September 2010 to October 2013) whilst the researchers were engaged as consultants and researchers for Hennes and Mauritz (H&M) and the Sustainable Fashion Academy (SFA) in Stockholm, Sweden. The project was developed as part of the Mistra Future Fashion research consortium, which aims to bring scientists and designers together to find sustainable and profitable industry solutions. The TED's TEN sustainable design strategies for textiles and fashion was the framework for the Sustainable Design Inspiration (SDI) work at H&M – a broad and holistic approach to redesigning products including materials, process, systems, services, consumer behaviour and activism.

<http://www.tandfonline.com/doi/abs/10.1080/14606925.2016.1130380?tokenDomain=eprints&tokenAccess=YTqIaEnIEKmkXAVCyFq2&forwardService=showFullText&doi=10.1080%2F14606925.2016.1130380&doi=10.1080%2F14606925.2016.1130380&journalCode=rfdj20>

Keywords: Textile design, Practice-based research, Sustainability, Skills, Training, Leadership

This is 5310 – again, could be 3k

Introduction

The paper is co-written by Earley, a practice-based textile design researcher who was the project leader (PL) for the Sustainable Design Inspiration (SDI) initiative at H&M; the project PhD student Vuletich (PhD1); and Hadridge, a leadership coach with a background in management consultancy (PH). The fourth author – Andersen, a Mistra consortium PhD researcher (PhD2) with a background in cultural studies - was an engaged scholar with the PL during the project phase.

The paper draws together insights from the training that the team of traditionally trained practice-based textile design researchers received through interventions with PH, and the feedback from the SDI project team and participants at H&M, to arrive at a proposal for new skillsets for textile designers and researchers to acquire in order to contribute to a more sustainable industry. Are sustainable textile design researchers 'T'-shaped?

AN INDUSTRY IN NEED OF A NEW SHAPE

The underlying context of this paper is the sustainability agenda and the need for the fashion system to move towards practices and attitudes that are environmentally, socially and financially sustainable. The textile and fashion industry is one of the most polluting industries in the world (Deloitte, 2013; EIPRO, 2006), and its environmental and social costs are compounded by increasing levels of garment consumption, on a global level. The numbers

are staggering. According to the Ellen MacArthur Foundation (2013), 91 billion garments are sold annually. In 1997, the average British woman bought 19 items of clothing per year; ten years later she bought 34 (Poulton *et al.*, 2014).

Our increase in consumption has resulted in similar increase in disposal, i.e. in the UK the average citizen disposes 23 clothing items in a year, textiles that by large end up in landfills. While our attention has mainly been directed towards the supply chain, laundry creates around one-quarter of the carbon footprint of clothing (WRAP, 2012). China, which is still the largest producer of textiles and garments, has some of the worst water pollution in the world. While the textile industry is not the only one to blame, it carries considerable responsibility. As much as 70% of its rivers, lakes and reservoirs are affected (Greenpeace, 2011). The Rana Plaza building collapse in 2013, killing more than 1,100 garment factory workers, demonstrates the continuous lack of social responsibility that marks an industry that competes on the “race to the bottom.”

There has been a plethora of engagement and interest on sustainability issues from stakeholders across the industry in recent years, with fashion brands collaborating on transparent supply chain initiatives (Sustainable Apparel Coalition, 2014); cross-sector partnerships for closed-loop recycling systems (I:Co, 2014) and an increase in consumer and government engagement with social impact issues in response to the Rana Plaza event (Rana Plaza Arrangement, 2014). However, these responses do not constitute the systemic approach needed to make positive, long-term change and there is also a lack of design-led interventions at the mass-market scale. Researchers including Fletcher (2010) and Tham (2010) have been advocating for a systems approach to the fashion industry for several years, and Tham has noted the lack of effective outcomes within the mass-market by researchers working with lifecycle approaches (Mc Donough and Braungart, 2002) or product service systems (Manzini and Vezzoli, 2003) in the fashion industry.

This paper takes the position that sustainability is essentially a change process, and requires transformation at multiple levels – material/technical, financial and human/personal (Ehrenfeld, 2008). Making design-led environmental improvements at the product level needs to be supported by change at the organisational level. Whilst the framework being used – The TEN – are design strategies which prioritise design solutions to sustainability challenges from products through to systems, and had been tested in education and with SME's and CEO's, the set had not been utilised with designers in a large organizational context. Thus, in order to introduce sustainable design thinking to designers at this scale, it could be argued that the researchers were facilitating a training course for designers at the micro level, and an organisational change process, at a macro level. This context demanded particular skills and capabilities from the researchers, hence the engagement of PH for a team-training programme.

METHODOLOGY

The development and delivery of the training programme that was a collaboration between the PL and PH began in 2010. A suite of capability building interventions were applied from 2011 onwards – involving professional development training courses for the PL's team in some key skill areas (such as group facilitation, structured thinking, consultancy training, online webinar leadership) and certain tools (such as after action review, opinion research). Five of the participants on the training course were then surveyed in 2014 using a questionnaire, which uses the 'left and right column' method, popularised by Peter Senge (1994; 2006) and colleagues at the Society of Organisational Learning. The basic principle (of distinguishing between what has observably happened and the thoughts and feeling about it) was expanded into a set of research intentions to explore a broader set of

dimensions:

- What intervention happened, and when?
- What was the purpose of this, and how far that was recognised?
- The impact and value of the approach?
- Any ideas for improvement and innovation?

Whilst at each stage of the training programme immediate feedback and evaluation was sought (as those 'happy sheets' were positive), the subsequent review in 2014 has provided an opportunity to consider the impact of the support more formally.

The SDI project at H&M generated a wide range of qualitative data, including visual records and many reflective texts by the authors PL and PhD1, written after each H&M session was delivered. The PL used an adapted after action review framework of six questions for the team to complete after each session – specifically the pilot lecture and the workshops. The PhD1 used reflective writing and participant observation at H&M.

PhD2, an engaged scholar during the project period, brought valuable social science methods to the practice-based research team. She mainly used participant observation and semi-structured interviews to gather data at H&M and within the academic project team (Spradley, 1980; Kvale, 1996; Bernard, 2006; Dewalt and Dewalt, 2010). This was supported with more informal talks. She developed a framework of themes to be explored, but kept conversations open to allow new ideas to be brought up. She conducted participant observation of the three workshops, the re-cap session, as well as mid-way meetings and the final evaluation meeting between the PL and key H&M staff. The mid-way meetings and final evaluation meeting lasted 1-2 hours.

PhD2 also participated in TED's development and evaluation sessions before and after each workshop and the re-cap. She conducted a total of 10 semi-structured interviews with TED researchers and H&M stakeholders and 4 semi-structured interviews with groups of workshop participants. The individual respondents were selected for the study because they represent voices from a variety of positions within the organization and reflect different degrees of organizational power. On average each semi-structured interviews lasted about one hour.

PhD2 used DEVONthink to manage and support the analysis of field data. In the first stage of analysis interviews, planning and evaluation sessions have been selected for transcription. General field notes, photos, and short video recordings from fieldwork have supported this process. In the second phase, PhD2 read through all transcriptions, focusing on moments where the topic of sustainability and the role of designers and design tools are negotiated in discussions and in practice. In the third stage, PhD2 selected extracts for deeper analysis, again with a particular focus on the materials (tools) and TED's role as facilitators. Insights from the PL's reviews and PhD1 and PhD2's interviews make up the content in section 7, *Results at H&M*.

THE 'T' SHAPE OF TRADITIONAL TEXTILE DESIGN

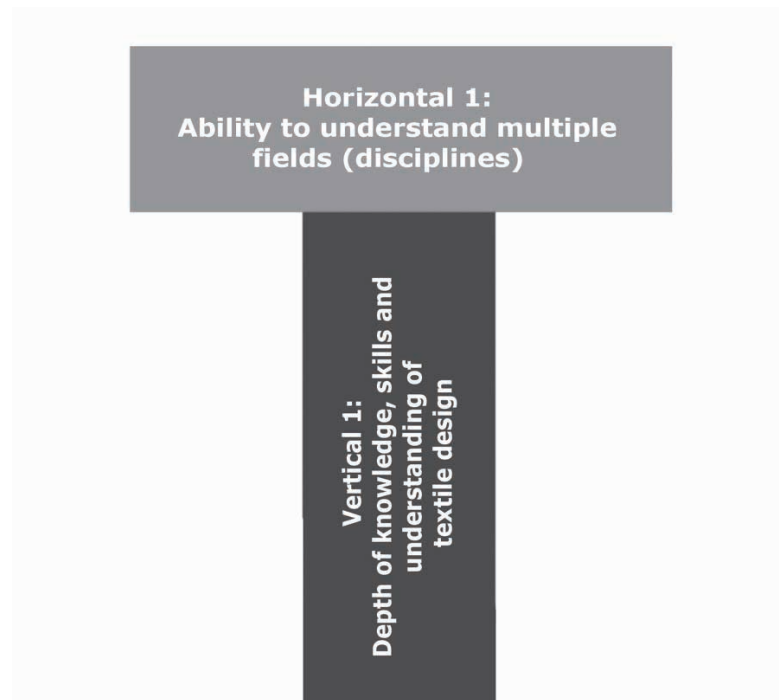


Figure 1 – The horizontal/vertical attributes of the T shaped textile designer, according to Brown (2009)

This discussion of skills and attributes within a textile design context will refer to Brown's framework of the 'T-Shaped Designer' that outlines the skills required by professionals in order to operate in collaborative and inter-disciplinary contexts. The term 'T-shaped skills' has been used in management and innovation studies by researchers such as Iansiti (1993) and has been popularised by Brown and his company IDEO. The term is based on the notion that creative ideas and innovation come from the combination of people with different knowledge and experience, and proposes that team productivity will be most effective when the individuals involved have the ability to integrate multiple areas of knowledge (Madhavan and Grover, 1998).

Brown explains that the vertical stroke of the 'T' represents the depth of skill an individual has acquired as a professional – designer, social scientist or engineer. The horizontal stroke of the 'T' represents the skill required to step outside the disciplinary boundary, and to use empathy and curiosity to up skill in another discipline. Brown argues that in order to work in complex contexts, that 'T-shaped designers' are desirable, however not all designers will excel as 'T-shaped'. The designers who have a natural disposition towards collaboration, social-engagement, communication of concepts, and the values and motivation to work as 'change-agents', will require up skilling and professional training.

While Brown did not specifically refer to designers working on the sustainability agenda, many sustainability theorists such as Ehrenfeld suggest that the ability to collaborate across disciplines is essential for working at systems level change for sustainability, with various stakeholders (2008). This is also in line with Wood (2010) and his Meta Design methodology that asks what skills and methods do designers need to be 'Meta Designers'? This is about working at the higher level of designing for systems, and having enough self-reflexivity to redesign design itself.

This paper argues that skills and attributes both outside the field of textile design and beyond

the current realms of practice or agency are needed, if researchers are to fully contribute to systemic industry change. Traditionally, a textile design education involves the development of a design process based on craft skills of weave, knit, embroidery or printed textiles (the vertical bar). Students learn to develop visual, tacit and perceptual knowledge, all qualities that are intrinsic to learning how to craft textiles (Shreeve, 1997).

As graduates, textile designers work across a very broad range of activity including designer/makers and freelance designers, and the applications for their designs include fashion, automotive design, medical/technical, architectural and interior design. However, while there is a focus on craft skills and creative thinking, students are generally taught to create artefacts as outcomes rather than concepts, and there is a paucity of training in business, marketing, strategy/management and collaborative skills.

The unique knowledge and skill of a designer, as compared to other professions, has been extensively by design researchers since the 1960's; what Cross calls a 'designerly way of knowing' (2006). The research has been based on architecture, product or service design; not textile or fashion design, and there has been a lack of investigation on professional textile design thinking and process. Exceptions include a recent study by Igoe (2013), and early studies by Shreeve (1997) and Moxey (2000).

This paper takes the position based on Igoe that textile designers have a unique design thinking process distinct from other design disciplines, referred to in this paper as a 'textile designerly way of knowing'. PhD1 has analysed the design and material thinking literature, along with Igoe's study, and has developed a preliminary set of textile design qualities and attributes. These include: material experimentation; subjective process that involves sensual/tacit elements; light focus on customer profiling; reliance on 'paraphernalia' to feed inspiration; a 'whole life practice' that covers professional/personal realms; motivation by the pleasure in designing rather than external accolades; and as the majority of textile designers are female, an emphasis on 'feminine' qualities and 'ways of knowing'.

Using Brown's framework of the T-shaped designer, the qualities and attributes listed above would also sit on the vertical stroke of the 'T'. They are the particular, expert skills of the textile design discipline.

As designers who had gone through a traditional textile design education, both the PL and PhD1 demonstrated the above set of attributes and qualities associated with being a textile designer. In addition, the PL and PhD1 had focused their career and professional development on exploring and advocating for the sustainability agenda and the values that accompany this, including an understanding of lifecycle and systems thinking. (See the TED's The TEN (Earley & Politowicz, 2010) for an overview of the sustainable design strategies deemed most important by PL and PhD1).

In order to become practice-based design researchers and educators, the PL and PhD1 had developed a range of skills and attributes, including: the facilitation of group learning; communication and presentation skills; and a level of emotional intelligence (EQ) that is required in learning environments. However, it became clear that in order to engage with the systems-wide sustainability agenda within the textile/fashion system across industry and academia, the textile design researchers needed to develop skills that would sit somewhere on another horizontal stroke of the 'T' – empathy, skills for collaboration, curiosity and management and strategy skills. What would these skills, attributes and roles look like for textile designers working to deliver a sustainable design inspiration experience in industry?

EMERGING ROLE; THE DESIGNER AS FACILITATOR

Alongside the need to up skill as textile designers, the PL and PhD1 also understood the expanding context for design – from the creation of artifacts through to services and social innovations. Pastor and Van Patter (2011) have divided these new design contexts into four connected fields: Design 1.0 is traditional artifactual design; Design 2.0 is product/service design; Design 3.0 is ‘organizational transformation’ and Design 4.0 is ‘social transformation’. While most textile designers were focused on artifactual design, what would it look like if textile designers began to design for ‘organisational transformation’? In the delivery and facilitation of a sustainable design inspiration experience within a large fashion company, the PL and PhD1 were demonstrating how a traditionally trained textile designer may act in the new role of a facilitator.

The discussion and debate around new roles for designers has been ongoing for several years from authors including Julier (2007), Manzini (2009) and Fletcher and Grose (2012). Within the sustainable fashion discourse, Fletcher and Grose discuss new roles for designers including Designer as Facilitator, but there is a lack of granularity about what these roles actually are, and the focus is on designers who are either independent or SME’s. There is also a distinct lack of research into design practice within an organisational context in the sustainable fashion discourse, as most sustainable fashion researchers are highly critical of the mainstream fashion industry, and are focused on exploring ‘alternative ecologies of practice’ (von Busch, 2013), outside of the so-called ‘fast fashion’ industry.

As mentioned above, the designer acting as a facilitator is a role that has been recognised within the design literature but with little elaboration. Brody et al (2010) and Tan (2012) provide the most comprehensive descriptions of the practice. A facilitator is “an individual who enables groups and organisations to work more effectively to collaborate and achieve synergy” (Kaner et al, 2007). The professional role was developed in the 1980’s within organisations in order to cope with the increasing complexity, level of change and available information (Tan, 2012). Many have described designers as intrinsically playing the role of facilitator using skills such as empathy, listening, observations and synthesis to bring different stakeholders and perspectives together (Tan, 2012). Both Brody et al and Tan state that what sets a design facilitator apart from a general facilitator is the use of visual tools to represent ideas back to the group; and an emphasis on the creation of possible futures rather than analysis of an existing situation.

As textile designers, with a unique skill set based on a crafts-based design training, it could be argued the PL and PhD1 brought a ‘textile designerly approach’ to the facilitation of the SDI course at H&M. A range of methods and approaches were used that were highly visual and experiential, as seen in figures 2 and 5. The process also followed a typical design innovation process as seen in figure 3 that encouraged participants to create new sustainable solutions.

A TEXTILE DESIGN RESEARCHERS’ DESIGN FOR THE SDI PROGRAM AT H&M

The PL designed the SDI programme for H&M after an 18-month period of negotiation and planning with the company by using a ‘T’ shape. Adapting the Tim Brown shape here the ‘T’ was a construct to reach a broad audience through a one-hour presentation delivered six times (to 350+ staff in total); as well as offering 30 staff from the ‘New Development’ (ND) team a practical experience of 3 workshops, each one 4 hours long, over a six-month period.

TIME FRAME	TASKS
Sept 2011 – March 2013	NEGOTIATION & PLANNING: Email exchanges, discussions and ‘run through’ sessions in Stockholm took place over an 18-month period
April 2013 – October 2013	KEYNOTE LECTURE: A one-hour lecture given six times to a total of 350+ employees from the Buying Office in Stockholm. TED’s The TEN used to landscape terrain of sustainability for fashion and textiles within a high volume context using current and future industry case studies
April 2013 – October 2013	WORKSHOPS: 3 x 4-hour workshops and 1 x 1-hour recap session with 30 staff from the New Development Team. Knowledge from the lecture used in practice by redesigning existing H&M garments. The first 5 strategies of The TEN used to direct staff within a workshop framework by adapting Idenk’s ‘Decision Making Diamond’ (see fig 2) of Pre Survey; Framing the Question; Exploring Options Creatively; Evaluating and Agreeing; Ensuring Through Implementation; Post Knowledge Survey. EVALUATION: Online pre survey; redesign worksheets; interviews; feedback forms; email exchanges
November 2013 - May 2015	EVALUATION: Post course testimonial statements; interviews; online survey

Table 1: The content and time plan for the TED team’s SDI programme at H&M

TRAINING THE TED TEAM WITH PH

During the H&M project period the PL worked with several experts and advisors on project planning, organisational and management methods, and reflective tools. The PL and PhD1 also practiced mindful meditation and yoga, and encouraged the rest of the TED team to use it to build their personal skills, in particular their sense of empathy and wellbeing. Other skills developed during this time included digital software like Prezi, to improve the ability to communicate using very sophisticated tools – befitting of designers talking to designers. The formal support and training, integrated learning (coaching and team membership) and process and personal skills, were all introduced by PH to the team through a range of interventions prior to and during the project period at H&M.

For the focus of this paper we are only reviewing this support work conducted with PH. Authors PL and PH first met when PH was running a 3-day workshop for a global fashion conglomerate where the PL was an expert speaker and participant. This contact led to a discussion of how far process consulting and facilitation skills could be of use to supplement the work of specialist and academic design researchers. These methods were seen as additions to their existing approaches for bringing about sustainable changes for a more ethical fashion industry. A ‘natural experiment’ emerged – starting with attendance of a group of UAL team members at formal training programmes in 2011 and 2012. In 2012 and 2013 there was some additional coaching support. This embedded assistance focused on helping the application of the taught ideas into a major national conference in June 2012 as well as client work through into 2013.

The 5 main participants who were part of the team learning and capability building completed a short email survey in Autumn 2014. The responses were collated and illustrative comments are in tables 2 and 3 below.

Q1. WHAT SUPPORT DO YOU RECALL FROM PH? PLEASE BE SPECIFIC.	Q2. WHAT DO YOU RECALL THINKING ABOUT IT AT THE TIME? DIFFERENT REACTIONS ARE FINE TO DIFFERENT INTERVENTIONS.
<p>These courses took us completely out of our comfort zone and into new territory but the atmosphere created by PH and team was always supportive and open.... and fun!</p> <p>Facilitation Training, a one-day session in Cambridge in 2010. I think the over whelming feeling for me was that I felt that a missing piece of a puzzle had been found. This day gave me tools, methods and references that gave me more confidence to take this leadership to the next level, which were facilitating occasions with more complex industry stakeholders.</p> <p>Learning in a group about the barriers to communicating complex ideas effectively. Learning tools and methods to capture and visualize complex data. Turning barriers into opportunities, and question fanning, in particular.</p> <p>Learning that consultants are there to support the learning, reflection and insights of others, and not necessarily answer the specific questions – offer knowledge – was reassuring.</p> <p>In this case he helped us to refine the design of the sessions and the materials. In particular probably the 'homework' aspect.</p> <p>The tools we designed were all felt to be very useful, but we needed more time to test them, and understand them more fully, to really be the researcher and facilitators we aim to be.</p>	<p>As a consequence, it highlighted how training situations in a physical space with verbal and spontaneous interaction created a more engaging dynamic than online-based training, where the technology requires a test run through to make it work smoothly.</p> <p>In the consultancy session, my big take-out was the 'tools for thinking' – I really felt I wanted to research more of these kinds of tools as a follow up and have done to a small degree... but need to do more.</p> <p>In the facilitation session the 'role-play' element seemed more useful as it involved running a 'real' mini session with the group... I felt I learned loads from this and from watching others do the same. It was incredible to see how many different styles worked. My key take-out for this session was 'be yourself'!!</p> <p>The consultancy training was great, as it made tangible a role I am intrigued in but have little experience of. Having done the PhD though I can see it would be even more beneficial now, as I am clearer about what knowledge/value I can bring to an organisation, and this is where I would like to focus the next part of my career.</p> <p>The facilitation training I also enjoyed as I am fascinated by the role of a facilitator and how the role was perceived outside an educational context. The methods we were being introduced to also felt beneficial, because up to this point we had been operating intuitively as educators who had ended up in research and begun to use workshops as a research method.</p> <p>Tools are great – you need a bag of them to give you confidence when striking out with these projects. The sessions with PH have definitely driven us to place more importance on our own tools, and see them as part of the team.</p>

Table 2: The 2014 survey asked participants to think back and reflect on the support they received from PH during the team training sessions.

Q3. WHAT DO YOU SAY ABOUT IT NOW, OVERALL AND SPECIFICALLY?	Q4. Q4. WHAT ONE WORD SUMMARISES HOW YOU FEEL ABOUT IT NOW?
<p>Specifically: The big outcome for me was a 'Question Coding' exercise in which the subject of our research is framed as a series of questions, translated into specific problems followed by barriers to solutions with some specific suggestions to act on each barrier. It felt like a breakthrough for me in terms of re-framing the research questions as practice-led actions, resulting in objects as evidence of the thinking. It also serves as a system to communicate a way to identify and solve problems that are otherwise intractable.</p> <p>I believe that the training program achieved that the skills and information were absorbed subconsciously through the exercises and direct application, and that I since used these skills in facilitation and consultancy situations. Generally: It opened my eyes to the subtle interventions I could include to any session I design and started a journey of continued self-learning and research into tools for thinking.</p> <p>Specifically: It made me aware of the importance of rhythm and in particular variation of tasks within a consultancy framework. This has been something I have referred to again and again in planning both teaching and industry workshops.</p> <p>Overall, and in retrospect, I see the Idenk training as crucial to the contexts we ended up in with the MFF project.</p> <p>This has become one of the key questions of my PhD project – what new skills and methods do textile/fashion designers need when they go into new contexts for the sustainability agenda. And how do we translate crafts/design-based knowledge into value for organisations?</p>	<p>Empowered</p> <p>Experienced</p> <p>Energised</p> <p>Enlightened</p> <p>Upskilled</p>

Table 3: Team reflections around what they think and feel about the training now.

The main observations from this reflection were that:

- The three formal training interventions (Brilliant Thinking, Facilitation and Consulting) are the best remembered.
- The formal support was of value – though it took a while for that to be appreciated by some.
- The integrated learning (through coaching support as part of team membership) is less well recalled – though when prompted some of the methods that were introduced more informally (e.g. pre-survey and analysis, personal workbooks, printed posters, evaluation cards, after action review) are recalled favourably.
- The process and personal skills are a useful addition to the 'kit' bag of the contemporary designer.

The training was well received and widely felt to be of benefit; leaving the designers feeling ‘empowered’, ‘experienced’, ‘energised’, ‘enlightened’, and ‘up skilled’. The authors argue that this is good for productivity, wellbeing and morale, and enables designers and researchers to work in teams. Such training for design researchers could be on offer in design research organisations; or perhaps even preferably, readers could look to collaborate externally. Although not covered by the paper, the influences of this collaboration worked in both directions; PH was in turn inspired by the way in which the project team worked, particularly in their development and use of visual tools.

RESULTS AT H&M: DESIGNERS INSPIRING DESIGNERS THROUGH TEXTILES AND VISUAL COMMUNICATION TOOLS

NEW TEXTILE AND VISUAL COMMUNICATION TOOLS FOR H&M

The questions we have been considering is what new skills and capabilities do textile designers need to inspire sustainable design innovation in large fashion corporations; and how these skills might create a new ‘T’ for textile designers? In this section we primarily use images and captions to demonstrate and reflect upon the way that the team worked at H&M, and in what way this was influenced by the support given by PH.

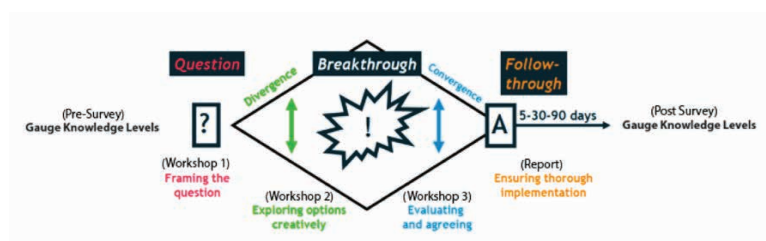


Figure 2 – the PL using PH’s Decision Making Diamond gave clear themes to the 3 H&M workshop sessions, which focused on framing the question, creative explorations, and evaluating and agreeing.



Figure 3 –The workshop tasks focused on the team and the participants and their ‘textile designerly ways of knowing’, using garments and textiles in a hands-on way throughout to inspire H&M to embed sustainable thinking in their every day work. PH supported the team in formalising this approach and designing visual tools to help map the outcomes.



Figure 4 – The ‘Now Wall’ at H&M happened in the moment during workshop 1, when the participants had been asked to ‘code’ sustainable industry innovations in terms of being usable ‘now’, ‘near’ or ‘far’. H&M wanted the participants to feel empowered by what they could implement now, so the ‘Now Wall’ took their selection and formed a display by the coffee machines that stayed up for several months.



Figure 5 –The ‘Barriers to Opportunities’ workshop poster created by the team for H&M, inspired by the Question Fanning work with PH. The exercise at H&M led by the PL asked them to consider the barriers they all experienced in being more sustainable as a company, and to then use their creativity to come up with innovative solutions that offered the company a new opportunity.

FEEDBACK FROM THE H&M PARTICIPANTS

Researcher PhD2 interviewed SDI participants to find out if the TED team being designers themselves made a difference to the participants – who were all from the Buying Office, specifically the New Development Team (perhaps the most creative of the design teams at H&M):

“It’s good. It was also like high technology. I mean the team is really inspiring, very energetic and normally the other education we have here is with people from H&M, internal courses and so on. It’s nice to get another view of things.”
“Yes... she has some knowledge of course about the production chain. I think for really doing our job more sustainable here it would be so good to have somebody actually watching our production chain from the inside and sometimes with our research... because our production chain is maybe not so different from any other company’s. But in a sense it’s ... to find that there are actually tools for us.”

PhD2 also asked them about the visual tools like the ‘Now Wall’, and overall if the course was inspiring:

“Yes, the Now Wall we had in the kitchen so I think everybody saw it...”
“Yes, really good to have it physically and not only digital. Digital, I think people seem to forget; it’s always better to have something physical to look at. It creates a buzz more than a digital version.”
“I think they make you think in a way that maybe it wasn’t the set things that we were talking about but just the mindset.”

What did the H&M participants take away from the SDI course?

“It refreshed your mind and also think once more, I think that’s what I got from the workshops...”

“What I got back was mainly to think one more time when we are doing decisions, a reminder I think.”

“... It did increase the discussion. I mean we discussed it over the table after.”

“... For me it’s a lot about finding a really good way of working where I can save some time to do some reflections sometimes about the collection...”

CONCLUSION: THE NEW ‘T’ FOR TEXTILES IS AN ‘I’

This paper seeks to find an appropriate mix of skills – a revised ‘T’ shape – for sustainable textile design researchers to aim for, bearing in mind that sustainability and the systemic change that is required will demand that we approach the field with a greater sense of our ‘whole selves’ so that we, others and the planet may ‘flourish’ (Ehrenfeld, 2008; 2013). As textile designers are most often female, this paper speculates that there are certain ‘feminine’ qualities of textile designers that may be of value when working in sustainability contexts. Igoe claims that textile designers, more than other design disciplines, are involved in a design process that draws on subjective and emotional aspects of the designer. This focus suggests textile designers demonstrate some of the ‘soft’ skills that are associated with a person’s Emotional Intelligence (EQ) required for inter-personal skills in organisational and management contexts, including empathy and listening.

We maintain that the ‘T’ shape is still relevant for textiles; we conclude that we need both the broad (horizontal 1) knowledge of design and industry; as well as a set of specialist in depth textile knowledge and skills (vertical 1). Yet we also need a deep knowledge of design for sustainability for now and for future scenarios, as TED’s The TEN maps out (vertical 2). To embed this knowledge and use it effectively - both for ourselves for our own personal and professional growth - to make our ideas impactful, useful and relevant, we need another horizontal element if we are to aspire to real systemic change (horizontal 2). Thus, we arrive at a new ‘T’ for textiles: the ‘I’.

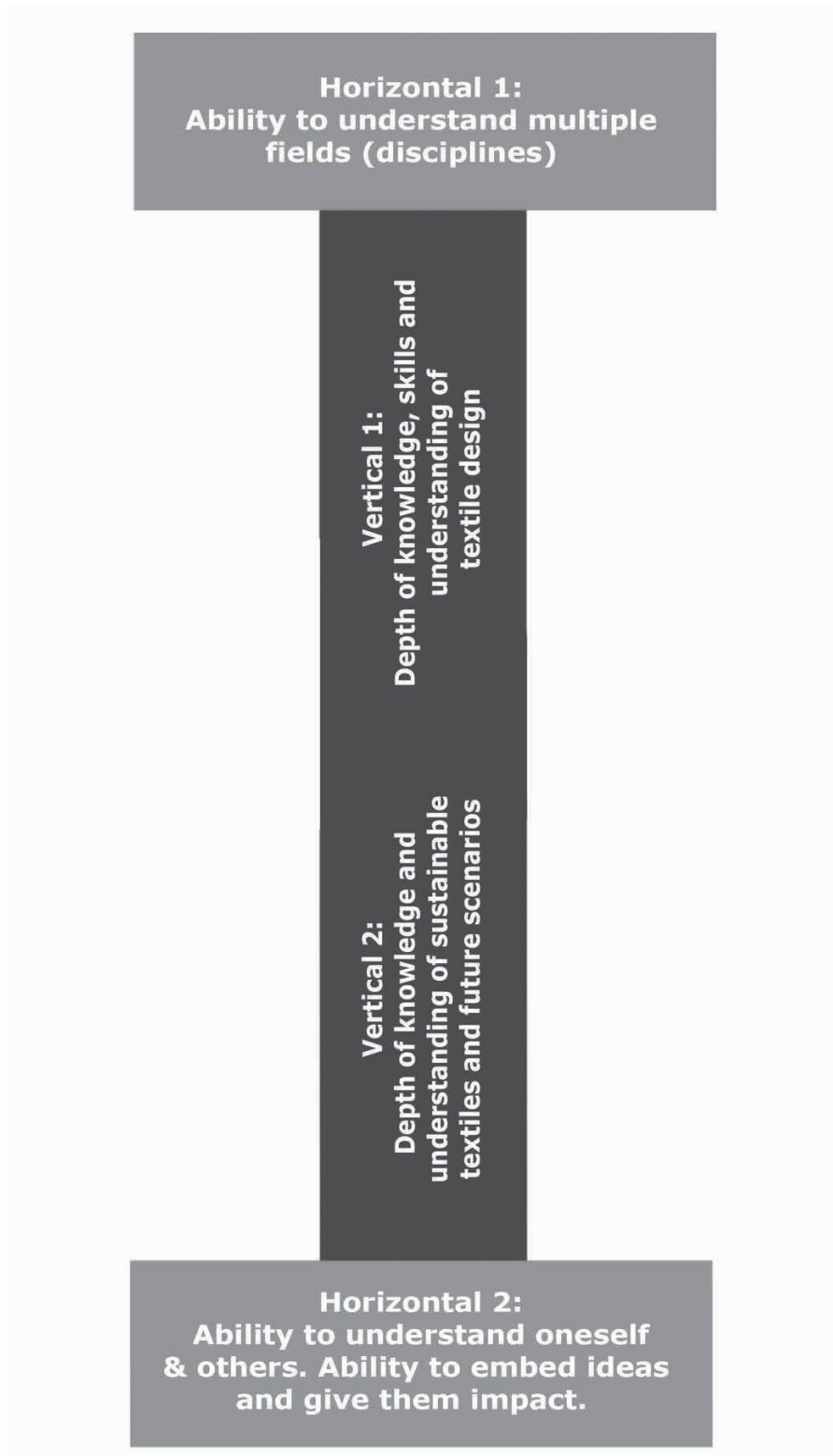


Figure 6 –The ‘I’ shape of the sustainable textile designer; adding two more bars to allow for in depth sustainability knowledge and the unmapped attributes of the textile designer, the self, and empathy.

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Appendix VIII: Conference Proceedings, In a Reverse Fashion (2014)

Vuletich, C. (2014) 'Sustainable Textile Design as Bricolage.' *Proceedings of In a Reverse Fashion: A Critical Agenda for Sustainable Fashion*. Centre for Fashion Studies, Stockholm University, Stockholm, Sweden, 19 - 20 May.

ABSTRACT:

This paper aims to explore bricolage as a metaphor for a sustainable crafts-based textile design practice, using Levi Strauss's (Lévi-Strauss 1966) bricolage concept as a framework. The author's practice-based PhD project is part of MISTRA Future Fashion (2011), an international research consortium of scientists and designers, that is investigating the sustainability of the Swedish fashion industry. The author's PhD is attached to Project 3/ TED within the consortium, Sustainable Design Thinking and Processes, and aims to create pedagogic methods that develop sustainability mindsets in textile and fashion design students. In order to achieve this, an understanding of the epistemology and values of a design practice that works with textiles and the body, and engages with the sustainability agenda, is necessary. However, there are few existing methodological descriptions of textile design practice in the design research literature, and no descriptions of a *sustainable* textile design practice. Similarly, there is a lack of research on the role of values or intention in a design practice and this research aims to extend the description of a textile design practice that includes a value system based on a sustainability agenda.

This paper argues that a bricolage metaphor is a useful framework for understanding a crafts-based textile design practice that includes a values system that supports sustainability, and for making explicit the differences and parallels between a design and science research approach. The first part of the PhD included a literature review of design methodology, sustainability theory and psychology theory on values and worldviews, followed by an auto-ethnographic review of the author's own past textile practice (2007-2011). This paper represents the next stage of the project and includes a literature review of bricolage as a concept across a variety of academic literature, and a synthesis of these findings with the outcomes from the auto-ethnographic review. Five characteristics of the bricolage metaphor have been identified in relation to the author's practice: Using limited resources; Designer as Professional/Amateur; Craft Skill as Knowledge/Intelligence; Self Transformation; and Alternatives to Consumerism.

http://www.academia.edu/7707960/Sustainable_Textile_Design_as_bricolage

Keywords

Sustainable textile design, fashion system, sustainability, bricolage, practice-based research, design theory, values, neuro-psychology

5812 words to 3k?

Introduction

In 2009, I chose the name bricolage for a collective of five textile designer/makers that I had co- founded. I had spent the previous two years as part of a collaborative, practice-based research project on textile upcycling at Chelsea College of Art & Design (Worn Again/TED 2005-2010), and was also developing my own practice as a designer/maker. I was aware that

the term came from the French word for 'tinkering' and was drawn to the term for its sense of making-do, creativity and playfulness. It seemed an apt term for a collection of five female textile designers who all had skills in the different textile disciplines of weave, print and stitch, and who all shared a passion for making, sustainability, re-use and the potential for social-engagement with a craft practice. As a collective we exhibited together, created pop-up shops, shared a studio and taught workshops on 'textile up-skilling'. We were passionate about highlighting the value of textile designers in both the industry and in a wider society context, and we described our practice as 'crafting products and crafting experiences' – articulating our role as facilitators and stewards of creative practice and individual and social well-being. At the same time, I began to intuit that my practice, and the work with bricolage, was a process of re- configuring both *materials* and *meaning*. While I understood how my practice was re-configuring materials through the use of recycled and pre-loved textiles, the re-configuring of meaning was more opaque to me.

I started a PhD in 2011, and inspired by the activity going on in social design and design for social impact (Thorpe & Gammon 2011) (Emilson, Seravalli and Hillgren 2011), I intended to investigate how textile and fashion designers could become socially-engaged and what attributes and values were needed for the sustainability agenda. There is literature on new design roles in a sustainable fashion context (Fletcher & Grose 2012) and in a social design context (Tan 2012), however the research was empirical rather than practice-based, and did not focus on the epistemology and values of a crafts-based sustainable textile design practice. In order to understand this, I firstly needed to go one step back, or *within*. Hence the psychological and behavioural aspects of both sustainability and textile design practice became the focus of the study, using auto-ethnography as one of the key methods. I needed to understand the particularities of a textile design practice in a fashion context, as distinct to other design disciplines and to the sciences; and to understand how engaging with the sustainability agenda required both inner, psychological change and outer, behavioural change (Maiteny & Reed 1998). I had also discovered a neuro-psychology perspective on how the left and right brain distinction affects human cultures, worldviews, and behaviour (McGilchrist 2009) that has striking parallels to the bricolage metaphor, and has potential as a framework for this research (see Appendix).

The research question thus became: what is the 'designerly way of knowing' (Cross 2006) of a crafts-based sustainable textile designer, who creates textile artefacts but who was also socially-engaged, using their craft/design 'knowing' to create experiences and social relationships? The methodological descriptions of a textile design practice in the design research literature were limited. Igeo (Igeo 2013) appears to be a lone voice in the discourse, and talks of the 'taciturn' qualities of the textile design discipline – practitioners and researchers as unable, or unwilling, to communicate their value and knowledge through the written word. There is a well-established discourse by textile theorists who study textiles as cultural objects (Harper 2011) (Hemmings 2012) but a lack discourse on the design thinking of textile designers. Igeo has employed a combination of auto-ethnography and qualitative interviews to research the methodologies and processes used by textile designers, and uses a metaphor of textiles and the textile design process as 'matrixial', based on the work of Bracha Lichtenberg Ettinger, an artist and psychoanalyst (2006). At the time of writing, Igeo's PhD has just been completed and made available, so a thorough analysis of the findings in the context of this research, are forthcoming. The project was focused on textile designers who worked on sampling for industry, and did not emphasise craft processes, a sustainability agenda or any design activity beyond the material artefact. However, there are several aspects from an initial reading of the research that are useful here. These include: that the focus in the wider design literature on design as a rational, problem-solving process was not applicable to a textile design practice; that the design thinking discourse is lacking a feminist/female position; and that the textile designer is involved in both an affective (right brain) and

industrial (left brain) design process (my brackets), whereas the inner psychological and affective processes are mostly absent from the design methodology descriptions.

The limitations of the design literature on articulating the complexity of any design practice, is also explored by researchers in the wider design discourse. Rao (2012) states that designers do not follow a rational, logical sequence of events when designing, and they often rely on heuristics or their tacit knowledge. "... 'knowing-how' takes precedence over 'knowing-what' and methods are used based on experience rather than explicitly stated rules..." (2012:65). Rao developed a new definition of design methodology called 'The Way of Design', based on the Japanese notion of 'Do', that includes Pattern, Purpose, and Process. Kimbell (Kimbell 2009) argues for a definition based on practice theory called 'design-as-practice'. This description sees design as not just a cognitive process that goes on in the mind of the designer, but as a messy, contingent, iterative practice that combines thoughts, embodied actions, tools, symbolic and organisational structures, and other social actors. The focus of design as an embodied, tacit practice also overlaps with the definitions of craft practice being investigated in the 'material thinking' discourse (Carter 2004). What is lacking from Kimbell's definition is how values or intention (in this case an engagement with the sustainability agenda) effects design practice.

Hence, the existing explanations of how designers think and do design were limited in both the wider design discourse and virtually non-existent in the textile design discourse. There was also no descriptions of how values or intention affect design practice. Then I began to research the term bricolage in more detail, reading Levi Strauss and performing a literature review across different academic fields. This process revealed a deeper relevance of the bricolage term, from my initial use of the term for the textile collective. It also became clear that the metaphor might go some way towards describing a crafts-based sustainable textile design practice, and to identify that the process of craft/design is epistemologically and ontologically distinct when compared to a science approach. This distinction is particularly important as the author's research is part of a larger research consortium that consists of material, social, and political scientists (MISTRA FF).

In summary, using the bricolage metaphor to analyse the author's own practice is useful in the several ways:

- to identify the values and crafts-based aspects of the author's own textile practice
- to highlight and make explicit the differences and parallels between crafts-based design research methods of inquiry and science based methods

Methodology

(Yee & Bremner 2011) analysed practice-based doctorates in design, and identified that one of the key characteristics of the methods used was a 'bricolage' approach, where researchers combined methods from social science, hard science and humanities to develop an appropriate model of inquiry. They posit that such an approach is necessary in design due to the indeterminate nature of the discipline.

.....design is undisciplined, transgresses the arts and the sciences, and has the ability to be an agent of change in response to social conditions.....therefore a design researcher has to be methodologically flexible (bricolage), to 'make do' with established research tools..... but also have the ability to create new tools that enable them to explore questions that are complex and indeterminate...(2)

The experimental nature of the research methods used in this practice-based project can be seen as a form of bricolage, including an adaption of auto-ethnography for the historical

review of a crafts-based practice, and the written synthesis and 'patching together' of the auto-ethnographic review with the academic literature, as seen in this paper. The development of the methodology of the project has been responsive and iterative, and had emerged as the research developed. The first part of the author's PhD project has been an auto-ethnographic review of past design practice from 2007-2011. This period of practice was chosen for analysis as it was while the author was a Research Assistant at TED/Chelsea, and was working as a designer/maker having recently graduated from a printed textile design Bachelors degree in the UK. The practice in this period can be defined as an iterative process of theory, action and reflection, where the theoretical concepts being researched at TED/UAL were being explored through practice outside the educational context through the researcher's own designer/maker practice.

Research that investigates epistemology, is a type of enquiry that explores the relationship between the knower (the enquirer) and the known (or knowable) (Guba & Lincoln 1994). Thus, in order to gain insight into the epistemology and value system of a crafts-based textile design practice, where the researcher is a crafts-based textile designer, the researcher will need methods that allow for insight into the subjective process of practice, in order to then communicate the insight gained to others. The researcher may ask, "How can I gain insights about my own craft/design experience (and my epistemology) that produces a valid research outcome?" Gray and Mallins (2004) call this position the 'practitioner- researcher' and state that the role requires the researcher to become a 'self-observer through reflection on action' (pg 21). Auto-ethnography is an inquiry method that is useful when acting as a 'self-observer'. (Ellis & Bochner 2000) define auto-ethnography as "auto-biographies that self-consciously explore the interplay of the introspective, personally-engaged self with cultural descriptions mediated through language, history, and ethnographic descriptions" (2000:742). While various methodological strategies of auto ethnography have been developed in different research disciplines, (Chang 2008) states that what all the strategies share is the commonality of being a qualitative, narrative inquiry that is both ethnographical and autobiographical (2008:4).

The techniques used in this auto-ethnographic process involved a framework for focusing the data collection, memory recall with documentation (sketchbooks, images and textile samples) and the use of visual tools (mind mapping, sketching). The data collected was then written up, using the key terms from the framework for each practice project, followed by reflective writing on the whole process. The data was then analysed using the five bricolage characteristics developed from the literature review.

Bricolage as a concept

The term 'bricolage' was developed by Levi Strauss in *The Savage Mind* (1966). The common use of the term 'bricolage' in French referred to someone who works with their hands to reassemble existing materials. There is no precise equivalent in English but as the translator's of the Levi Strauss work explain in a footnote, "He is a man who undertakes odd jobs and is a Jack of all trades or a kind of professional do-it-yourself man but ...he is of a different standing from, for instance, the English 'odd job man' or handyman" (1966:54).

Levi Strauss used the term to describe the infinite, improvisational recombination of a fixed number of elements, as a modality of human thought that he called 'the 'science of the concrete', or 'mythical thought'. This modality of thought is found amongst primitive cultures and societies, of which Levi Strauss had studied extensively. This was a metaphor that allowed Levi Strauss to fully investigate how these societies created linguistic and cultural meaning, and to demonstrate the differences between 'mythical thought' and scientific thought. Therefore just like the 'Jack of all trades' man who works with a limited set of

materials and tools, mythical thought is a kind of 'intellectual bricolage'. It is this dual nature of the metaphor as being both a *material* and *intellectual* process that creates the richness of meaning. Essentially Levi Strauss was arguing for the validity of the pre-scientific approach as a form of knowledge-seeking (Wangelin 2007) or knowledge creation.

The 'bricoleur' is adept at performing a large number of diverse tasks; but, unlike the engineer, he does not subordinate each of them to the availability of raw materials and tools conceived and procured for the purpose of the project. His universe of instruments is closed and the rules of his game are always to make do with 'whatever is at hand', that is to say with a set of tools and materials which is always finite and heterogeneous...

Hence, whereas the engineer creates the means to complete the project, the bricoleur redefines existing means. For the bricoleur, there is an existing set of elements, or inventory, and these elements are already semi-defined by their past usage and past history. The bricoleur collects and retains tools and materials as they may be useful for future projects, whereas the scientist procures tools and materials according to each new project (Louridas 1999). The main characteristic of the bricoleur's inventory of tools and materials is that these existing elements are semi-defined: they are at the same time abstract and concrete. They are specialised up to a point, but not enough for each of them to have a defined use or purpose. In this way, they each represent a set of actual and possible relations, and are therefore contingent, or subject to change.

Most importantly, it is the bricoleur who is in control of deciding the roles played by the elements, by entering into a dialogue with the inventory (Louridas 1999). Levi Strauss uses an example of a bricoleur and a piece of wood to illustrate the point:

His first step is retrospective. He has to turn back to an already existent set made up of tools and materials...to engage in a sort of dialogue with it.... A particular cube of oak could be a wedge to make up for the inadequate length of a plank of pine or it could be a pedestal.... In one case it will serve as extension, in the other as material. But the possibilities always remain limited by the particular history of each piece, and by what is predetermined by the use for which it was originally intended.

It is the designer's engagement with the materials or elements that contributes to the creation of new meaning, through an engagement of the designer's intellectual, emotional and physical experience and knowledge. Thus, the designer is literally a 'meaning maker' through engaging in a materials- based practice.

The notion that all forms of human thought and activity are based on underlying structures or systems, that are made up of interrelated elements, forms the basis of structuralism, the theoretical framework that Levi Strauss contributed to. Levi Strauss uses a structuralist approach to conclude that the differences between the scientist and bricoleur modalities of thought relates to their structure. That is, both follow the same logic but they apply this logic differently. The bricoleur builds up structured sets, not directly with other structured sets, but by using the remains and debris of events. The scientist on the other hand, has an existing structure that is used to classify events.

As Louridas explains in his analysis of bricolage as a metaphor for design:

Bricolage is at the mercy of contingencies, either external...or internal, in the form of the creator's idiosyncrasy. This is in contrast to the scientific process...which uses structures (hypothesis) to arrive at its results. Bricolage works the opposite way, it creates structures in the form of artefacts, by means of contingent events. (7)

Bricolage as a metaphor in academic discourse

Following Levi Strauss's seminal work, the metaphor was used, and re-appropriated, by many different academic disciplines including design (Louridas 1999) (Rossi 2013), cultural and social studies (Hartley 2002), fashion theory (Barnard 2002), entrepreneurship (Baker & Nelson 2005) (Sarasvathy 2008), organisational management (Hernes & Weik 2007), social entrepreneurship (Haugh 2010) and research methodology (Denzin & Lincoln 2000) (Yee and Bremmer).

Within the art and design discourse, there is a range of movements and activity that have been inspired by, or reflect, some of the characteristics of bricolage including Ad Hocism (Jencks & Silver 1972), Arte Povera, and Post Modernism. Defining characteristics of the artistic activity include experimentation, contrasting of unusual/unexpected elements, and working with traditional/pre- industrial design norms. The concept really came of age during the 1970's and 80's and was applied to various aspects of Western culture including found objects, collage, and installations that reassembled the detritus of everyday consumerism. It was the rise of consumer culture in the West, and the subsequent reaction to this culture, that was the context for this bricolage activity. As Hartley states, "Western consumer society was taken to be a society of bricoleurs" (2002: 16).

There have been several authors in the design literature who have attempted to analyse bricolage as a metaphor for design activity. Louridas explores 'design as bricolage' from a design methodology perspective, and has provided the most insight in the context of this research (1999). Wangelin continues this metaphoric exploration by looking at the similarities between bricolage and hermeneutics, in a design research context (2007). Kimbell describes designers and their relationship to objects, as "people who fiddle and tinker, who practice bricolage, they want to get inside and understand how objects are constituted and how they work" (2009:3). Rossi takes a less conceptual approach and uses bricolage and other related concepts to analyse the work of product and furniture designers from the Italian avant-garde of the 1960's/70's and contemporary product designers (2013).

There is a substantial body of literature from organisational management and entrepreneurship that applies the bricolage metaphor to entrepreneurship activity. Most useful in this context is the application of the metaphor to explore how social entrepreneurs re-configure financial, infrastructure or social resources to grow businesses that have social outcomes, referred to as 'social bricolage' (Haugh 2010). The data from the auto-ethnographic review of design practice that is being analysed in this research, includes design practice that is socially-engaged, and thus an understanding of how a designer can act as a 'social bricoleur' is useful.

There has also been criticism of the use of bricolage as a metaphor in some academic discourses. In discourse theory, Derrida disagrees that the bricoleur is unique in re-using and appropriating existing elements for a new purpose. "If one calls bricolage the necessity of borrowing one's concepts from the text of a heritage which is more or less coherent or ruined, it must be said that every discourse is bricolage" (1978: 285) As Barnard points out, Derrida uses a cloth metaphor to explain that no human in any culture can be the origin of their own discourse, and that "nobody can construct it out of whole cloth". While it is true that all human activity and thought is influenced and affected by the wider cultural and social context, the bricolage metaphor is none the less useful for analysing a crafts-based sustainable textile practice, as distinct from other design or science practices.

Characteristics of bricolage for understanding a sustainable textile design practice

In order to analyse how the bricolage metaphor is useful for understanding a sustainable

textile design practice, this section will outline the key characteristics of the metaphor and use these characteristics to explore the author's own practice. A starting point for identifying the key characteristics of bricolage as a metaphor was Baker and Nelson's (2005) literature review and summary, Haugh's (2010) summary of characteristics and Wangelin's (2007) four points.

- Using limited resources, within a finite set of possibilities
- Designer as Professional & Amateur
- Craft Skill as Knowledge/Intelligence
- Self/Subjectivity
- Alternatives to Consumerism
- only 1-3 of the characteristics have been analysed, with 4 and 5 still to be completed.

1. Using limited resources, within a finite set of possibilities

One of the most important characteristics of the bricolage approach is the use of resources or materials that are limited but immediately available. In making terms, this has origins in 'unself-conscious' design (Alexander 1964 in Louridas 1999), the type of design that is prevalent amongst primitive and pre-industrial societies, where the designer is also the maker of the object. Here the designer/maker is limited to a particular geographical location and to the materials – wood, clay, animal hair etc - that are available from that environment. The limits are set by tradition and location (Louridas 1999). Most design today exists in a vastly different context to pre-Industrial design, with a seemingly over-abundance of resources that are available from all geographic locations. However, a design approach that uses limited resources is evident in sustainable textile and fashion design practices that react against a false sense of over-abundance and consciously chooses to utilise existing or used textile materials.

Textile/fashion designers who use either pre- or post-consumer textiles choose to work within a set of limitations based on what materials are available. If a designer is sourcing and re-working second-hand garments, they are responding to the existing features of the garment including the shape, material, and condition/quality. Similarly, when a designer is sourcing pre-consumer textile waste from production, they are limited to what is available and to the size, material type and ease of access to the production facilities. By seeing textile waste as a resource of value, the bricoleur or sustainable textile designer acts in a contrary way to the dominant view of the industrial production system that sees the waste as value-less.

The ability to use limited resources according to the needs of the project, or 'making do', could be called resourcefulness. The dictionary defines resourcefulness as the 'ability to act effectively or imaginatively, especially in difficult situations'. The term implies active engagement with problems or opportunities, rather than stalling over, or analysing, whether a workable outcome will be effective (Baker & Nelson 2005). Hence, being resourceful is not just about being inventive with materials. Resourcefulness also suggests a way of being and thinking, that comes with knowledge, skill and experience (Campbell 2011). By being resourceful, one acts on resources in an efficient way, but one is also acting in a way that comes from a *posterior* knowledge – the knowledge gained not from ideas or concepts, but from an embodied experience out in the world. A designer who creates garments from pre-consumer textile waste, has gone into factories, talked to manufacturers, found out where to access these often 'off limits' waste streams, has a sensual and tacit understanding of

textiles or second hand garments and knows what to look for. This experience and skill has built up over time and has created an epistemology within the designer that is different to the epistemology of a textile waste facility manager or a sustainability manager.

Design for Change (2012) A practice-based, collaborative research project that aimed to create a prototype 'business model' (for exhibition purposes) for a design-led social enterprise concept for a large US clothing manufacturer/retailer. The project proposed a design intervention for 'systems change' for a denim supply chain; for the internal organisational structures within a denim brand; and for the social context/neighbourhood of the factory. This was done in two ways:

- 1) through the design and production of a fashion/textile product, that involved 'material/craft' knowledge
- 2) through strategic design that is a more abstracted form of the design process, that the author is calling *Strategic Design for Corporate Social Responsibility (CSR)*

An concept that was central to the project was resourcefulness. The designer identifies both material and social resources that are being under-utilised and works with their design epistemology and 'ways of knowing' to add value, or re-configure, these assets. At the product level, the designer uses their 'material/craft' knowledge to identify three different waste streams in the denim supply chain (at the cotton mill; in production from the layplan; and post-consumer take back) and creates a range of fashion accessories using these materials. At the strategic level, the designer collaborates with social business and branding experts to create a business model concept, in which the denim brand partners with a local community organisation and employs ex-gang members from the local area to produce the collection.

Image: models wear two of the denim bags (left), and the initial textile design process (right)

2. Designer as professional and amateur

In the art and design literature that references bricolage, it is often unclear whether the metaphor is being applied to the behaviour and activity of designers/artists or to people in the everyday. This ambiguity can be traced back to Levi Strauss's use of the term bricoleur, as a person who was neither a professional or an amateur. As the translators of his work state in a footnote, the term refers to a person who is a "professional Do it Yourself" (1966:67). Thus, he is not merely tinkering in his own back yard for his own pleasure or needs, neither is he a profession such as a carpenter, builder or tradesman. Louridas also comes to this conclusion in his analysis that both un self conscious design (designer as maker/unprofessional) and self conscious design (professional designer in industry), are a form of bricolage (1999:14).

It is this ambiguity of status and intent that makes the bricoleur metaphor so apt for a sustainable textile/fashion design practice. The designer is in this liminal space between amateur and professional, understanding intuitively how people live and use textiles and garments in the everyday. It is often described as a form of empathy in the design literature (Chapman, 2005) or designing for emotion. For a textile designer, it is an understanding of how textiles and garments meet human needs, both the aesthetic qualities of colour and pattern, and the tactile qualities of texture and touch. Beyond that, the *sustainable* textile designer, brings an even greater understanding of human needs, that relates to the desire of a consumer/user to show care and respect for the resources and people involved in the making of the clothes they wear.

Textile Re-skilling Workshops (2009-10)

One of the main motivations of the textile collective bricolage, was to teach textile techniques that enabled people to feel empowered as users and consumers of fashion garments, including patchwork/quilting and darning/mending. This was inspired by the activity and discourse in sustainable fashion that argues the fast fashion system had created passive consumers who were disconnected from their own creativity and ability to create meaning through the wear and care of garments (Fletcher, 2008) (von Busch). The designers in the fast fashion system remain disconnected from the consumer, and the empathy of the designer for the user is limited to being expressed through the garment or textile (embodied in the pattern, colour or touch of the garment). However, when the textile/fashion designer comes out of the design studio and places herself in the position of teacher or facilitator of skills development, the ability to act as empathiser is more direct. As facilitators of a collaborative craft learning experience, we were drawing on our own subjective knowledge as users of textiles and garments, and as designers – both professional and amateur.

3. Craft Skill as Knowledge/Intelligence

While the bricolage metaphor chosen by Levi Strauss emphasises hand and craft skills, Levi Strauss actually differentiates a craftsperson from a bricoleur. “The bricoleur...who uses devious means compared with those of a craftsman” (1966:62). There is some discussion in the art and design literature, that suggests that the level of skill in the bricoleur is more like an amateur - humble and utilitarian, and may even be anti-craftsmanship (Adamson 1997:93), The focus in this paper however, will not be on what the level of skill is, but on what the knowledge or epistemology of this craft skill is.

Central to the concept that a craftsperson has a particular knowledge is the idea of an embodied materials-based process being a form of ‘thinking’. The idea that a designer or creative practitioner thinks differently to other disciplines or professions, originates in the design research literature from the 1960’s, that focused on what designers do and how they think. An attempt to understand the thinking styles of designers in action has continued since then, with a focus on their designerly ways of knowing (Cross 2006) and design thinking. In the craft literature, Adamson (2007) has unpicked the secondary status of craft in relation to fine art and explored ‘thinking through craft’. Carter advocates for ‘material thinking’ as a valuable source of knowledge in creative research (2005). Both works suggest that there is value in the knowledge gained through the sensory and material experiences of a craft practitioner, and this knowledge is a form of intelligence. As Carter explains:

Craft ...is a gift for putting things back together in a different way. Invention and re-remembering...are two aspects of a single intellectual process. The capacity to perform these sleights of hand – craft is traditionally associated with the magic arts - depends though on an advanced material knowledge. One who thinks materially has to be a specialist in alloying. (2005:73)

The process of ‘alloying’ is both intellectual and physical, and it is this interdependence of the hand and the mind that is unique to a craft process. The ‘invention and re-remembering’ is also similar to the skill of the bricoleur who works with existing elements, or used materials, that are semi-defined. The ‘re-remembering’ is the designer being aware of the materials past history, but the ‘invention’ is the designer giving the material a new context and new use.

The sustainable textile designer - whether they use print, knit, weave or stitch techniques – has a repertoire of hand skills that have been developed and refined through a design education and professional practice. These hand skills are put to use, at the service of not only the creative process, but at the service of the sustainability agenda. The value of this

knowledge in a sustainability context is crucial yet under-defined and is what this research is aiming to understand.

Patchwork and sampling as a craft process – reflective writing from auto-ethnographic review of Digital Fragments (2011)

For this project, I was becoming more interested in quilts both for their visual/material qualities, and socio/cultural context. I was collaborating with Katherine May, a quilter, and I had started to make baby quilts for friends. Then I found Lucy Norris's texts about quilting in the (unpublished) *Worn Again* writings (*Worn Again/TED 2005-2010*), where she talks about patchwork made from old clothes/textiles as a form of re-contextualisation. "Quilting and patchwork are techniques that involve the destruction of objects which hold within them emotional attachments to specific people, places and moments in time, and stitching them into newly rearranged wholes, preserving certain memories while radically re-contextualizing them". I realised that for the Digital Fragments project, I was attempting to 'make whole' fragments of fabrics, feelings and memories.

The act of patchwork is a slow process and starts with my collection of textiles or 'textile stash'. Igeo talks of textile designers and their 'paraphernalia' - the objects and artifacts that they collect, store and use to inspire their design process (2013). In my patchwork process, pieces and scraps of textiles have been collected and stored over a period of time and once the process begins, the textiles are picked up and touched, shuffled round, and laid out into an emerging pattern. Then they are hand-stitched together, to form a coherent whole. The process involves an intuitive sense of the contrasting of colour and pattern, combined with the meaning that is embedded in each textile, either through memory of past usage or of where the textile was found (second hand shops, markets, given by a friend etc). The final stage of patchwork and quilting, involves the final kantha running stitch, that quilts all the layers together, binding separate membranes into one heavier weight fabric. Finally the edges are stitched with binding to finish the process.

Quilting also represents what Showalter calls "the art of scarcity, ingenuity, conservation and order" (1986:227) and there is a substantial body of discourse in feminist and art theory around the quilt as a metaphor for female experiences of fragmentation (of time, materials in the home) and multiplicity (Lippard 1983). After reading some of this theory on the act of quilting, I realised that I was creating a taxonomy of emotions and stitches. By creating patchwork and quilting samples, I was referencing this hidden female skill and ambiguity around this type of craft work done in the home. I was also creating patchwork from digitally printed fabric I had created, by scanning on old fragments of fabric from my 'stash'. By enlarging the tiny textile fragments and digitally printing them onto new cloth, I was revealing the hidden meanings in the cloth as I saw them – of my mother and godmother, who had raised me through the 1970's, teaching me to sew clothes and appreciate hand skills, who I intuitively knew had ambivalent feelings about their roles in the home and in society.

Conclusion

The metaphor of bricolage as proposed by Levi Strauss, describes an intellectual and physical process that re-configures elements to create new meaning. This paper has argued that the bricolage approach to knowledge creation can be compared to a sustainable textile design practice, and is made up of a collection of characteristics that involve the formulation of both material and symbolic meaning. With the methodological descriptions of a sustainable textile design practice in a fashion context non-existent in the design theory literature, this paper has sketched out the beginning of a framework that includes both the design thinking process and values inherent in a sustainable textile design practice. The research will involve

continuing to analyse the five characteristics included above, and to also test a neuro-psychology framework for the differences and parallels between a crafts- based design methodology and a science based methodology, based on McGilchrist (2009). This analysis will then inform an action research phase that tests pedagogic methods for developing sustainability mindsets in textile/fashion design students, with a deeper understanding and articulation of ‘sustainable designerly ways of knowing’ in a textile and fashion design context.

Appendix

The five bricolage characteristics developed by the author are mapped against the characteristics of the left and right brain framework as developed by McGilchrist (2009). This is an initial mapping and will be developed further in more detail.

Bricolage Characteristics	Right Brain Characteristics	Left Brain Characteristics
Using limited resources, available immediately	Contextual, uniqueness	Reduces everything to generalities, de-contextualises, abstracts
Designer as Professional/ Amateur	Empathy/inter-subjectivity as the basis of consciousness	No ability to empathise
Craft Skill as Knowledge/ Intelligence	Embodied, in the limbic system, importance of the body in constituting reality	Disembodied, sees the body as a machine
Iteration, reflexivity	Creativity as an unveiling (‘no-saying’) process	A wilfully constructive process, constructs from parts
Openness	Open, patient attention to the world	Closed, detailed, wilful grasping attention
Self/Subjectivity	Emotional expression and processing (except for anger)	Only emotion processed is anger
Alternatives to consumerism		Favours utility, sees the earth only as a resource to be utilised

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Appendix IX: Book Chapter (2015)

Earley, R. & Vuletich, C. (2015) Holistic Fashion Design, in Vaidya, K. (ed.) *Fashion Design for the Curious: Why Study Fashion Design*. Canberra: Curious Academic Publishing.

ABSTRACT:

Elin Lindquist is a fictional Swedish character created by the authors, to illustrate how current research and theory is working towards developing a fashion industry of the future that is more sustainable - from a material, technical, social and policy perspective. This chapter has been written as if Elin has been awarded the Nobel Peace Prize, for her contribution to design, resource use, material innovation, and evolving new value systems - through her pioneering work in fashion. The speech is being given at a school in Stockholm, to students between the ages of 16- 18, and reflects upon the various phases of her career. Elin is being recognised for the way in which she strategically built her knowledge and skillset - and her fashion label 'INNER/OUTER' - over a fifteen-year period. Her work as a fashion designer has had a profound effect on the industry through her approach to the circular economy; her experimentation with materials, process, technology and systems design; her empathy and progressive social vision for production workers; and her political activism. Although she is a fictitious character, everything the authors say she has achieved is technically possible, and is based on current academic or industry research. Much of the insight has come about through the authors' involvement with the Mistra Future Fashion research consortium in Sweden (www.mistrafuturefashion.com), which brings designers together with scientists to find sustainable and economic solutions for the fashion industry of the future.

https://www.academia.edu/12438628/HOLISTIC_FASHION_DESIGN_My_Inner_Outer_Journey_-_Elin_Lindquist_s_Acceptance_Speech_for_the_Nobel_Peace_Prize_in_2030

Key words: Future fashion design, sustainability, mindset, skills, social enterprise, material innovation, activism

Preface

Elin Lindquist is a fictional Swedish character created by the authors, to illustrate how current research and theory is working towards developing a fashion industry of the future that is more sustainable - from a material, technical, social and policy perspective. This chapter has been written as if Elin has been awarded the Nobel Peace Prize, for her contribution to design, resource use, material innovation, and evolving new value systems - through her pioneering work in fashion. The speech is being given at a school in Stockholm, to students between the ages of 16-18, and reflects upon the various phases of her career. Elin is being recognised for the way in which she strategically built her knowledge and skillset - and her fashion label 'INNER/OUTER' - over a fifteen year period. Her work as a fashion designer has had a profound effect on the industry through her approach to the circular economy; her experimentation with materials, process, technology and systems design; her empathy and progressive social vision for production workers; and her political activism. Although she is a fictitious character, everything the authors say she has achieved is technically possible, and is based on current academic or industry research. Much of the insight has come about through the authors' involvement with the Mistra Future Fashion research consortium in Sweden (www.mistrafuturefashion.com), which brings designers together with scientists to find sustainable and economic solutions for the fashion industry of the future.

Introduction: An Education

“Thank you for coming here today to listen to my story. I want to talk to you about what fashion can do for the world. How as a fashion designer and a consumer of fashion, we can all contribute to a better planet.

“I am a fashion designer who loves this amazing world, and the people on it. I knew from an early age that I wanted to be an artist or a designer – I was always drawing, making things and dressing up – and throughout my school years I often tried to use creativity to express ideas. I was fortunate as I went to a school that encouraged students to learn about being eco citizens. This included energy saving behaviors (I was a ‘light monitor’ – always telling the teachers to switch off unnecessary lights to save power!); participating in recycling projects with plastics, paper, and clothing; healthy eating, and being kind to one another. We were introduced to mindfulness, and were encouraged to use daily meditation as a way to stop us getting stressed around exam time. So, for me, I think the ‘INNER/OUTER’ journey began way back then, in a school just like yours.

“Later, I decided to study textile design in England, as I was 19 and wanted to leave home and see the world. I was lucky to get into Chelsea College of Arts, and study in London for my undergraduate degree. It was there that I first became aware of the industry that I was going to be working in. Through curriculum projects by lecturers at the University of the Arts London, including researchers at Textiles Environment Design (TED), I began to understand the vital role that design plays in the system of producing and consuming goods and how *unsustainable* this system is. Designers imagine our artificial world, the world made up of buildings, electrical goods, furniture, clothes, textiles and all the other objects we use, and get attached to, in our everyday lives. However, the system has been designed so that the goods need to be constantly updated, requiring ever more resources and inputs from the earth, and is based on an economic model that encourages linear resource flows and perpetual growth. Designers are situated right in the middle of this production-consumption cycle and are ideally placed to create change (Dewberry, 2011). I was introduced to the idea that every design decision I made had an environmental impact (Earley & Politowicz, 2010). The materials, print colour /pattern, and garment shape I choose as a textile designer, all had environmental and social impacts.

“I also read several important books whilst studying for my textile design degree, that had a profound effect on the way that I viewed the world. In particular I remember reading *Cradle to Cradle* – that everything in nature is part of a circular system, the organic or the manmade, or ‘bio’ or ‘technical’ cycles (Braungart and McDonough, 2002). The authors advocated that as designers we should think of ourselves as the ‘borrowers’ of materials from nature, and be conscious about how all materials will go back into one or other of these cycles. I also remember that the day I read the *Dirty Laundry* Greenpeace report I cried (Greenpeace, 2011). I found it very difficult to comprehend that fashion and textiles, as such a beautiful and exciting form of self-expression, in both the making and the wearing, could be so damaging on such a global scale. For a moment, I wanted to leave the course and change my career direction. I thought about working for a charity, volunteering overseas, or switching to study ecology. But then something profound happened – we had a project with the TED researchers that asked us to use the unsustainability of the industry as the basis of our design ideas and innovation. Rather than improving the environmental performance of existing designs or garments, what Ehrenfeld calls *reducing unsustainability*, how could I as a designer *create sustainability* from the beginning, by re-imagining the whole system? (Ehrenfeld, 2008)

“I left Chelsea after three intense years of London life, with a fashion textile collection called

Carbon 2020, a final project that explored how to create garments with low energy impacts, from the fibre right through to the laundering of the clothes, and to the disposal. I had learnt how to design with the lifecycle in mind, and one of the fundamental principles of my 'INNER/OUTER' label philosophy had been firmly set in place. From London I went back to Stockholm, to a Masters course at Konstfack University College of Arts and Crafts. I decided to take two more years to continue my educational journey, and during this time I was able to develop my craft and making skills, and explore my fashion textiles ideas within the context of art, interaction and industrial design. During the holidays I was an intern at H&M, and helped out in the sustainable materials department in the White Room - the trends department where the designers go for inspiration and ideas. This experience was instrumental for me in understanding the challenges and opportunities that large fashion businesses face when engaging with the sustainability agenda. H&M's 'Conscious Commitments' work around that time was world leading and award winning (Deloitte China Sustainability Awards, 2014), but critics would say that the very infrastructure of a company like this would prevent it from ever changing quickly enough (Fletcher & Grose, 2012). In 2015, I left Konstfack with an MA, and the next corner stones of 'INNER/OUTER' in place; my label will be beautifully crafted, take into account concepts from other disciplines, and should also evolve its own, unique business model. I needed a business plan, but what I did next may surprise some of you.

Part 1: My INNER Work

"In 2016 I joined the Mistra Future Fashion research consortium, as a young Swedish fashion entrepreneur. I was part of a scheme that gave designers the chance to work with experienced design researchers on developing the psychological and entrepreneurial skills, for growing our businesses in a twenty first century way.

"If you want to be a fashion designer, you will most likely have certain characteristics already - you love clothes and fabrics, and you may be learning how to make and craft with textiles and the body. You are a visual thinker, who creates stories and characters in your head who wear your clothes designs. These characteristics will be further developed in the design training you do, where you will learn about the design process, pattern cutting techniques, and how to run a creative business. However, these creative and entrepreneurial skills are only one aspect of what is needed to be a fashion designer in the 21st century. You will also need to be aware of your inner attitudes and beliefs.

"The reason for the *unsustainability* of the current fashion system, and of most industrial economic systems, is fundamentally about mindsets or worldviews (Ehrenfeld, 1998). The literature from psychology identifies that a mindset is a set of assumptions and attitudes that a person, or group of people, share (Dweck, 2006). The dominant mindset is that the earth's resources are available to be indiscriminately used up and discarded by humankind, with no thought for plant and animal species, and no sense of how our future human generations will live on this earth. Your assumptions and behaviours determined your actions and if your mindset is not attuned to these impacts in the fashion industry, it is very difficult to act in a sustainable way.

"So, in order to fully engage with the impacts of the industry, you need to do some work on, and with, yourself. Becoming a holistic fashion designer will require you to understand your own mindset and to do both inner and outer work (Maiteny and Reed, 1998). Doing some inner work will help you to identify your core values – to explore and make explicit the values and ethical framework you embody and want to act from. The outer work will help you to act on ways that are aligned with your values and beliefs, and that can contribute to making positive changes to the industry. Some of the inner psychological aspects that you will need to develop include:

1.1 Empathy

“Empathy is the ability to understand another person’s circumstances, point of view, thoughts and feelings. Fashion design can be seen as a form of empathy, as you are creating garments and clothes that ‘speak’ to your customers, and you have to think about the shape, fit, feel and look of the garments to suit them. However, in order to see beyond the latest trends or garment design, to the human and environmental impacts of the wider fashion system, we need to use empathy in a slightly different way. Being empathic beyond the garment, suggests you want to act altruistically, to contribute your skills, time and knowledge to something greater than yourself.

“There is scientific evidence to suggest that being empathic is one of our fundamental human traits (Krznaric, 2014). Modern thought understood that human beings function as individuals, unaffected by other people, but it is now increasingly believed that you cannot understand human behaviour without acknowledging that we are always in relationship to other humans. It is what Heidegger called intersubjectivity - that we experience the world through empathy with others (Heidegger, 1927). The pleasure centres of the brain also fire up when we experience mutuality with another human being (McGilchrist, 2009) and it helps us build strong social bonds and to have enduring relationships.

1.2 Reflexivity

“In order to have a sense of agency and to take an ethical position in the world, we need the ability to be reflexive. Reflexivity is awareness in action and describes our capacity to reflect on the conditions of our actions, in order to change our behaviour (Rowson, 2011). If we understand ourselves better, we are better able to change. The complexity of the world we live in now, means we are constantly bombarded with new information and different perspectives. If we don’t understand our own perspectives and values, we will get lost amongst other’s values and opinions. And it is not enough anymore, to just keep learning new information. We need to also understand *how* we learn, in order to be able to change most effectively. We need self-awareness and an understanding of our behaviors, in order to create any real change.

1.3 Skills

“Having spent time and energy on understanding more about the self – myself - and the very heart and soul of being a ‘Future Fashion’ designer, I then decided that I needed to turn some of these internal insights into new skills. My business plan for ‘INNER/OUTER’ was emerging and the idea that I was to be an entrepreneur, as well as a fashion designer, led me to sign up for further training which would give me some important new skills. In 2017 the second year of Mistra Future Fashion membership offered us a chance to learn consultancy, facilitation, and webinar skills, *Brilliant Thinking* (Idenk, 2010), and working collaboratively and in an interdisciplinary manner.

Part 2: My OUTER Work

“Finally, two years after leaving my MA, I created the first collection for my brand. I now had my company ‘DNA’, and understood my USP, my ‘unique selling point’. The trouble was that I was beginning to see the idea of ‘selling’ fashion as problematic. During my period of personal reflection I had also been reading up on the development of several cradle-to-cradle fashion recycling initiatives driven by industry; those that used the bio cycle (Osborne, 2011), and those that used the technical cycle (Patagonia, 2014). I was also inspired by the idea of the circular fashion economy (Goldsworthy, 2014a) and the notion of designing fashion with

a built in intention for reuse and recycling (Earley & Goldsworthy, 2008). To design garments that were to only have one life and owner seemed wasteful. I wanted to design for many lives, to include the recycling that would take place at the end of each garment's use.

2.1 Designing to Reduce the Need to Consume, and Developing Systems & Services (2017 - 2019)

“So, my business plan developed to support people to consume fewer ‘virgin’ products, while offering a service that allowed for the constant evolution of personal style, using recycled materials. I was inspired by collaborative consumption (Botsman, 2010), the idea that we could share, swap and hire goods instead of having to own them individually. I also knew that customization, and the skill of being able to adapt and update a garment for a second life, would be invaluable. I approached the Lånegarderoben fashion library in Stockholm and created my own line in collaboration with them in 2018. I say ‘collection’ but actually I thought of it more as a ‘set’ of garments. I decided I did not want to follow the existing model of continuous fashion seasons that put pressure on the business to create new collections every few months. My approach was to find beautiful old garments – primarily from Emmaus, or Myrorna in Stockholm – customize them and make something highly unique. I gave them the ‘INNER/OUTER’ look, which was adding colours, details, and decorative elements, using a fusion of traditional and contemporary stitch and print techniques.

“The first set had detailed swing tags that explained the garment's history. The users of the library would borrow the garments for a month or so. I would get a dividend for each rental, and this quickly outstripped what I would have made had I just sold the piece once to a retailer. The library rented me a space to work in, and I cleaned, repaired and altered the garments there. I was able to keep each set in use for a very long time, and still had time to produce new sets every few months. I remember this being a very creative period – a time when I worked hard with my hands, but also spoke to a lot of people. I learned about what people wanted and liked; about how garments wear and get stained, damaged and dirty; I developed a whole aesthetic around collaborative consumption and the shared wardrobe. For example, I would use stronger, thicker threads than I might have done on a virgin collection. I used darker colours and patterns to hide stains wherever appropriate. I chose good quality fabrics that would wear well over time. Denim, leather, and heavy cottons were all very popular choices.

“I drew much of my visual inspiration from my ‘inner’ journey that was ongoing – I meditated, practiced yoga, and read about spirituality and philosophy. I found imagery from nature, from old religious artefacts, from traditional crafts and contemporary art, and incorporated this into my embellishment work. Many of the customers commented on this, and asked if they could learn to do the stitch and print themselves, so that they might customize their own clothes. In collaboration with Mistra Future Fashion I ran workshops, developed apps and downloadable instructions, and made videos and booklets. I ran events where people helped each other with their wardrobes – swapping, swishing, styling – and blended fashion with wellbeing in the themes. True to my ‘INNER/OUTER’ philosophy, I always tried to locate the customer's real ‘need’ for the garment. I teamed up with social science and consumer behaviour researchers from Copenhagen Business School, and developed other services for the Library customers who were seeking more than a new dress for a wedding – I suppose we used fashion and textiles as a form of life coaching in a way.

“The first few years of the label were spent generating a slow and steady income from existing waste streams and under employed human resources. It was lean – but it was inspiring. I could sense how much could be done with this model, and was proud to have been part of this movement. By 2019, the one fashion library in Stockholm had grown to thirty

across Sweden. We had developed a social enterprise model, where the profits from the business went back into growing the enterprise, and people of all ages and nationality were involved. Fashion had become much more democratic and communal – it was beautiful.

2.2 Designing to Reduce Chemical Impacts, Energy & Water Use (2019 - 2022)

“In 2020 the Mistra Future Fashion research consortium became the Institute for Sustainable Fashion (ISF), and I gained life membership. It gave me access to research into materials and processes that would really help me continue to ‘green-ovate’ my business – like the research at Chalmers University dissolving cotton to make new cellulosic fibres. While the business I had been running up to this point was using existing textile waste streams, I knew that in time there was going to be a limited supply and this had implications for my business model. I also became aware of the huge environmental impacts associated with creating new, virgin materials, such as cotton, polyesters or nylon. It takes huge amounts of energy and water to convert a raw material into a fibre and then into a fabric, so how could I contribute to creating virgin materials that had less impacts?

“I also knew that in Sweden there was a significant amount of paper mills that were being converted into processing plants for making new sustainable cellulosic fibres from wood pulp. Sweden had an abundance of wood forest and so this was the potential for a ‘local’ Swedish material that was clean and sustainable, and could replace cotton. Cotton has toxic impacts from pesticide use and is very water and land intensive (Slater, 2003).

“At this point, I was becoming concerned that one of the missing pieces of the sustainability puzzle was the relationship between the materials used for garments, and the different uses and ‘rhythms’ of these garments in consumer’s wardrobes. Some garments we wear and own for a very long time, like a coat. A coat is made from a heavier, more durable material like wool and is often a classic style, so doesn’t come in and out of fashion so quickly. But some garments, like a pretty ‘fashion’ skirt, we may only wear once or twice before tiring of it. Could we create materials for short life use, where a garment is only worn once and then recycled? I began to work in collaboration with TED and Innventia, on developing a material that would be made using a combination of cellulosic and paper. Could we create a material with the same drape, feel and look of cotton that designers would want to use and consumer would want to wear - but made using paper?

2.3 Designing to Minimise Waste, for Cyclability, and Using New Technology (2022 - 2025)

“With these material aspects in place, and the upcycled ‘sets’ functioning well for the library users, it was time to invest in a radically new vision for the shapes and manufacturing of the garments. I had been trying out several ideas for how to minimize waste in the production stage in the first ten years of the business. One approach was zero waste patterns for winter coats that reduced the amount of fabric waste from the garment lay plan; but I hadn’t made it key to the aesthetic, and I hadn’t tried to construct the garments in particularly novel ways. Up to this point the pattern blocks, the sewing machine and the digital printer were still the mainstay of the production process. That was all about to change. In 2022, through my ISF membership, I was able to collaborate with Dr. Kate Goldsworthy and together we took the garment ideas to the next level. Still to this day I am amazed and duly grateful that Kate agreed to move to Stockholm for a six-month period to work on this project!

“The entire collection in 2022 was created using downloaded zero waste patterns – and a big thank you to David Telfer, Timo Rissanen and Holly McQuillan for those – which the team and I adapted to fit into the ‘INNER/OUTER’ aesthetic. We refined all the garment

detailing to ensure that items were 100% monomaterial, and where this was impossible for performance reasons, we made the mixed material garments part of the 'Worn Again' Closed Loop system (Worn Again, 2014). All buttons, zips, labels and decorative details were either easily removable and reusable at end of garment life, or they happily went into the recycling process.

2.4 Designing for more Ethical Production, and Becoming an Activist (2025 onwards)

“At this point I had developed the manufacturing process for the garments, and we had the new cellulose materials being created from Swedish wood pulp, or recycled cotton fibres. The environmental and technical aspects of the sustainability puzzle were being addressed, however I knew that this was actually the easier piece of the puzzle to solve. Much more challenging was the social and human impacts. Activists, consumers and NGO's had spent years since the 1990's raising awareness and responding to the unequal and unjust treatment of garment workers in the fashion industry, who were the least powerful and poorly paid 'actors' in the fast fashion system. The Rana Plaza tragedy had occurred twelve years before, where hundreds of factory workers had died in a factory building that collapsed in Bangladesh. This had brought about some changes to the codes of conduct of European fashion brands and there were some ground breaking cross-sector partnerships developed between brands, garment manufacturers, workers, governments and NGO's – like the *Women in Factories in China Program* (BSR, 2014).

2.4.1 The Race to the Bottom

“However, the one part of the garment manufacturing process that will always require intense manual labour and may never be mechanized, is the garment construction process. This is the stage where a 2D fabric is made up into a 3D garment shape. We need human hands to deftly craft and construct all the different components of the garment into a fully finished piece. The fashion industry employs 40 million people worldwide, with the majority of the people involved in garment construction living in developing countries where there is low GDP and a lack of stable economic and political structures (Dickson et. al., 2009). The reason the price of our clothes has gone down so much in recent years is because fashion brands move their manufacturing around the world to these countries that pay the lowest possible wages, such as Cambodia and Ethiopia, sometimes called 'the race to the bottom'. Although having employment is what people want and need in these countries, the workers who make the garments are often paid below the minimum wage, have no labour rights and no health and safety conditions. The existing fashion brands' design and business model did not account for, or support the needs, skills and aspirations of the people working to make the clothes, and I wondered how my business could contribute to changing this.

“While most of the garment manufacturing process had taken place in China and south east Asian countries such as Vietnam and Cambodia up until 2010, the wages in these countries were increasing and so brands were looking for the next country that would be able to support their 'race to the bottom'. Africa then became a popular country to develop garment manufacturing. There were several approaches I could take with my business plan: I could design garments for the market in Europe and the US, that were manufactured in Africa, where the workers in Africa would be part of a manufacturing business that supported fair wages, created safe and healthy working environments and that also supported the workers families and local communities through schemes that bring extra-curriculum education and training, like *Her Project* (BSR, 2014). Or, we could design and produce garments that were appropriate for the local African market, a business model approach that some called 'bottom of the pyramid' (Prahalad, 2006), creating products that kept the production and purchase of

the clothes very local, that suited the unique cultural and aesthetic tastes, like fashion brand Uniqlo had done with their Grameen Uniqlo collaboration back in 2010 (Grameen/Uniqlo, 2010).

2.4.2 A New Factory Model

“I decided to develop a transferable model based on the former approach, creating collections for the fashion markets in Europe and the US, that supported local production workers in Africa. The garments we produced were made from either 100% recycled polyester or from the 100% recycled cotton cellulose fibre. The polyester range was produced using zero-waste patterns and cut, constructed and finished using laser technology (Goldsworthy, 2014b). This meant that the sewing machine - that had been around since the beginning of the Industrial Revolution, and that represented the unfair and oppressive treatment of garment workers - became obsolete. We also developed a separate part of the factory where we could take returned garments and recycle them, hence creating a closed-loop factory.

“Thus, our garment factory became a model for a progressive form of garment manufacturing, with production staff that were trained to be highly-skilled in these innovative production techniques, fairly treated, while also creating fashion garments that could be completely recycled. I had finally created a business model that was addressing the environmental and social impacts of the fashion system - that was pro-actively changing the way fashion was designed, made, bought, worn and discarded. I felt that I had achieved what I set out to do all those years before as an aspiring fashion graduate.

2.4.3 Industry Mindset Platform

“Having already done some inner work on myself all those years ago, I knew that the next step in my career was going to be about ‘giving back’. I was also part of a generation called the *Millennials*, and it transpired that 40% of us wanted a job that made a difference to society and the environment (Net Impact, 2012). I knew that all the experience, knowledge and skills I had gained over my career were being used to positively support the environment and all the people involved in the production of my garment designs. However, I also knew that the unsustainability of the fashion system required systemic change, a change in mindsets and collaboration between all the stakeholders. Running a business was one way to create change, but how do we facilitate the change in mindset and values across the whole industry? This was not going to come from a business model or from a new technological innovation, but from a platform that raised awareness and facilitated shifts in behaviour and attitudes.

“There had been several campaigns that raised public awareness of the fashion industry, such as Fashion Revolution Day (2013), however I believed that merely raising consumer awareness was not enough. The idea I was inspired by came from an unlikely source, but considering I was part of the internet generation and had grown up with celebrity culture, it may come as no surprise! Angelina Jolie was a movie actress and United Nations Goodwill Ambassador, as a campaigner for women’s rights. Along with politicians and campaigners, Jolie created new approaches to gaining international recognition and co-operation around global issues such as ending sexual violence (*Global Summit to End Sexual Violence in Conflict*, 2014). This approach was a combination of both formal, government level meetings to create new policy and action plans, alongside informal, public events, that engaged audiences using arts, culture and politics. Using this model, I developed a similar platform that engaged both industry and consumers on the key issues affecting the fashion industry. This work is still ongoing and I hope it will continue to create lasting change for the better, on

a global scale.

Conclusion: The Future of Fashion

“So, I would like to end this speech with a simple message... Fashion can change the world. It can make people’s lives better. We can use it not only to help make people feel beautiful; it can also help them make friends; help them be creative and feel more fulfilled. We can use it to create models for industry and society that benefit all stakeholders – both people and planet. Fashion can find ways to reuse our material resources time and time again; to enable consumers to prolong the life of garments, and to develop positive relationships with their clothes; one that takes into account the people involved in the production. Fashion in the future will feed our souls and our families, and our minds and our passions. It will give back more than it takes from our precious planet. Thank you for listening, and good luck to you – the designers and consumers of the future.”

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Appendix X: Purposeful Dialogue with Tom Rowley (*Design for Change*)

1. Your initial thoughts when the project was proposed
2. Thoughts on the abstract nature of the project – a model for any supplier factory globally rather than specific supplier locally (LA)
3. Thoughts on collaborating with a textile designer in this way
4. Any insight on the emphasis of the research agenda on the role of the designer in this Model? How would you define designer? Where is their potential intervention?
5. Thoughts on final outcomes – film and bags? What worked, what didn't...
6. If the client asked us to develop the idea further, what do you see as the next step? A toolkit? Taking one of the factories and running a pilot study?

Appendix XI: Model of Design for Social Textiles

Design for Producers (creating employment/training)	People Tree (Global) Dosa (India) Awamaki (Peru) Lem Lem (Ethiopia)
Design with Producers (offering design training to producers in factories/production units)	Judith van Boom (China) Isabelle Du Champs (Berlin)
Design beyond Product (service/user-centred design to develop business or development models)	Butterfly Works (Global) Priti Rao (PhD research on service design in Indian weave community)

These case studies are examples of design practice that supports production workers in SME and artisanal craft community contexts. These are the contexts where designers can identify and collaborate more easily with the unique needs of local communities and individuals. The design activity has been divided into three levels: Design *for* Producers (creating employment in manufacturing); Design *with* Producers (creating employment and training in design); Design *beyond* Product (using service/user-centred design to develop business or sustainable development models). These examples provide further granularity of the approaches that designers can take - from designing product to be manufactured; to using service/strategic design to support livelihoods in craft communities. Several of the case studies are not fashion/textile contexts however they provide useful insight into the design approach.

The distinction in design at the product and strategy level that were being explored in the Project, are here demonstrated in an ascending evolution. At the first level the designer practices at the product level to support *existing* skills of production workers (specialised embroidery techniques or weaving); at the second level the designer practices at the product level to support production workers and also develops a training programme to develop the design skills of workers; at the third level the designer is a strategic designer who works across a system to support a textile/craft production community. These practices reveal how the designer can move beyond merely supporting workers in their positions as production workers; and begin to support individual and community needs outside the workplace.

Appendix XII: TED Reflective Questionnaire

1. Introduction - What was this?
2. What is your description of what happened?
3. Analysis - What was I thinking and feeling?
4. Evaluation - What went well, what didn't go so well?
5. What could improve the lecture/event/workshop?
6. Action Plan – What to do to improve the event for the next time?

Appendix XIII: Sutra Stitching Workshop

Available to Download as a Resource Sheet for the Textile Toolbox web platform.

<http://www.textiletoolbox.com/resources/>

Short Description: This workshop is to explore the relationship between textile craft/handiwork and mindfulness. Both hand-stitching and meditation are proven to reduce stress and increase levels of well-being and this workshop uses both the hands and the breath, to re-connect participants to a state of inner calm.

Audience and Space: Ideally in a space that is quiet and well-lit that can accommodate a group of people sitting in a circle on the floor, or on chairs. A group no larger than 12 is ideal.

Duration: 2 Hours

What happens? Participants are asked to bring any woven cotton textiles they own or cherish. Sitting in a circle on cushions/blankets (or on chairs for anyone who can't sit on floor for an extended time), the participants answer the Pre-Workshop Questions privately, and then discuss their past experiences of meditation or breath work as a group. Using the Meditation Guide Sheet, the participants then go through the *Meditation 1* together using a timer. On completion, participants discuss their experiences. Participants then begin hand-stitching, using images of 'boro boro' (traditional Japanese textile technique) as inspiration, where a simple running stitch is used to layer or 'collage' pieces of fabric together. The hand-stitching session could also be used as a group discussion on any chosen topic, as there will most likely be a general feeling of individual and group well-being and connection. The workshop ends with *Meditation 2* from the Meditation Guide Sheet, and then participants are asked to answer the Post Workshop Questions privately.

Equipment Needed: needles, thread, scissors, fabric, blankets/cushions to sit on, timer

Suggested Timings:	10 mins:	Pre-Workshop Questions
	10 mins:	Share past experiences of meditation
	11 mins:	Meditation 1
	15 mins:	Share experiences of meditation
	45 mins:	Hand stitch
	11 mins:	Meditation 2
	10 mins:	Post Workshop Questions

Pre-Workshop Questions:

What is your past experience of meditation/breath work?

What is your past experiences of repetitive textile craft techniques such as hand stitching, knitting, crochet? How does the activity make you feel?

How do you feel today?

Post Workshop Questions:

How do you feel after this session?

Were there any significant changes to your feelings of well-being from doing the workshop?

If a group discussion took place during the stitching, did you notice any difference in individual or group communication?

Feedback: Please feedback to the TED team, ted@chelsea.arts.ac.uk

Meditation Guide Sheet

Meditation 1 – *Meditation for a Calm Heart*

Sit cross-legged, in easy pose. You can place a cushion or folded blanket under the buttocks if the knees are sensitive.

Eyes: Close the eyes.

Mudra/Hand position: Place the left hand at the center of the chest. Palm is flat against the chest, fingers parallel to the ground, pointing to the right. With the right hand, touch the tip of the index finger to the tip of the thumb, and raise the right hand up to the right as if giving a pledge. Palm faces forward. Elbow is relaxed near the side.

Breath: Inhale slowly and deeply through both nostrils, then suspend the breath in and raise the chest slightly. Retain the breath in for as long as possible. Then exhale smoothly, gradually and completely, and when the breath is totally out, lock the breath out for as long as possible.

Time: For beginners start at 3 minutes, and work up to 11 minutes.

To end: Inhale and exhale strongly 3 times. Relax.

This meditation creates a feeling of complete calmness and it technically creates a still point for the *prana* at the Heart Centre. Emotionally, the meditation adds clear perception to your relationships with yourself and others. Physically, this meditation strengthens the lungs and heart.

Meditation 2 – *Left Nostril Breathing*

Sit cross-legged, in easy pose. You can place a cushion or folded blanket under the buttocks if the knees are sensitive.

Eyes: Close the eyelids, and press the eyes gently up and focus at the Brow Point (top of the nose where the eyebrows meet)

Mudra/Hand position: Rest the left hand on the left knee, with the left index finger touching the tip of the left thumb. Raise the right hand in front of the face, and press the side of the thumb over the right nostril to gently close it.

Breath: Begin long slow breathing through the left nostril

Time: 3-11 minutes

To end: Inhale and hold the breath comfortably in for 10-30 seconds

This breath practice works on the breath through the left nostril, that has a particularly calming and soothing effect. The left nostril directly affects the right brain and is associated with the feminine qualities of nurturing and emotion.

Appendix XIV: Project 3 & 1 China Project Description

TED's TEN in China, October 2013

Collaboration between MISTRA Future Fashion Project 1 & Project 3

Project 1: Changing Market and Business Models

PhD Fellow Kirsti Reitan Andersen
Copenhagen Business School (CBS)

Project 3: Interconnected Design Thinking and Processes for Sustainable Textiles and Fashion

PhD Fellow Clara Vuletich & Principal Investigator Rebecca Earley
The Textiles Environment Project (TED), Chelsea College of Art and Design

Context: The team will visit Shanghai, Hangzhou, Hong Kong, and Guangzhou in October 2013 to do fieldwork in the textile and fashion industry.

The team will use TED's TEN, a set of sustainable design strategies for textile and fashion designers, as a starting point for engagement and exploration with local fashion designers, manufacturers, factory workers, and design students.

The fieldwork will be used to develop a bespoke TED's TEN workshop, co-delivered by Earley and Vuletich, at the EcoChic Design Award and Redress Forum in Hong Kong, January 2014.

Research Questions:

- What is the cultural and industrial contexts of the Chinese textile/fashion industry and the sustainability discourse?
- How can an understanding of the Chinese context facilitate more collaborative and cross-cultural efforts towards systemic sustainable change?
- How can sustainable design strategies empower designers to create change in China?
- How does a different cultural context effect the way TED's TEN is utilised by the TED textile design researchers?

Methods: The field research will include ethnographic and creative methods for data collection and exploring the context.

- Creative research methods for individual documentation including journals, photographs, sketches and 'cultural probes' (to record qualitative data and cultural learning of the researchers)
- Semi-structured interviews with stakeholders from the textile and fashion industry and academia
- Textile Talk Kit – talking and stitching on fabric will be used as a method to facilitate a dialogue between various stakeholders
-

Appendix XV: Purposeful Dialogue - China Fieldwork (October 2013)

	Name	Expertise/Role	Focus of activity
Dialogue 1	Anna Palmqvist	Global Head of Sustainability, H&M, Shanghai	Production/Supply Chain issues
Dialogue 2	Paul Lai	Manager, Everest Textiles, Shanghai	Polyester mill, focuses on sustainability
Dialogue 3	Christina Dean	ReDress, NGO, Hong Kong	Promotes textile reuse and recycling
Dialogue 4	Tong Yeung	Director, T Passion/Mecilla, Hong Kong	Organic cotton producer
Dialogue 5	Jeremy Prepscius and Laura Ediger	Business for Social Responsibility (BSR), Hong Kong	Multi-stakeholder approach to ethical production issues
Dialogue 6	Jo Lau Yuk Lan	Hong Kong Design Institute	Design education in China
Dialogue 7	Nadira Lamrad	PhD Student, Hong Kong University	Cultural values and norms in supply chains

Appendix XVI: Creative Workshop with Garment Workers, Shanghai, China

Research Questions:

What can we as designers learn from spending time with people who work in garment factories/mills in China?

Can sharing a textile stitching/craft session with stakeholders from the industry be a catalyst for dialogue about ethical production/sustainability?

Workshop Aims and Agenda:

To introduce the participants to a textile design and print process

To facilitate a dialogue about worker's personal views on garment production issues in Chinese garment manufacturing

1. Introduction – Use Textile Talk Kit to introduce researchers and aims of workshop
2. Demonstrate transfer print process using transfer inks, brushes, polyester material, irons
3. Participants are asked to write their names in Chinese in transfer ink and to iron onto the fabric
4. During the creative task, the researchers will facilitate a dialogue, based on the following questions:

Describe your work

How long have you worked here?

Hopes and aspirations for the future

Do you enjoy your work?

What are your hobbies outside work?

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