SOCIAL ALTERATION:

SUSTAINABLE DESIGN SOLUTIONS THROUGH SOCIALLY RESPONSIBLE FASHION DESIGN EDUCATION

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Introduction

Fashion design has the potential to create social change within the industry through innovative design strategies. In order to facilitate such change, fashion design students need proper access to education surrounding the social and environmental consequences of their designs, as well as access to information on alternative design strategies. Socially responsible fashion design uses ‘cradle to cradle’ lifecycle analysis to consider both the social issues and environmental concerns facing the industry. Categorizing fashion designers based on their design intentions has effectively highlighted how the postmodern designer has shifted away from function, only to focus on the aesthetic. Socially responsible design, however, requires designers to marry such concepts, in order to create designs that meet the aesthetic expectations of the industry without negatively impacting society or the environment. During the 1960s, inspired by the Green Movement, the fashion design industry experienced a shift in both client perception and design intention. This shift was only further developed in the 1990s, through alternative consumerism. However, many social issues and environmental concerns facing the industry have become lost in an Ecofashion Lexicon, where an absence of international standards on such issues has fostered the development of ‘greenwashing’, and created confusion amongst consumers. In this context, consumer choice has been undermined. Fashion design however, can create social change through signals of intention.
While conventional design strategies have centred on a ‘cradle to grave’ mentality, socially responsible fashion design education seeks consider both the social and environmental consequences of design choices. Rather than act as a signal for waste and/or status, socially responsible design must signal life. In the context of fashion, in order to understand the weight of their responsibility as designers, design students require access to information surrounding the consequences of their designs. Fashion design educators have a responsibility not only to educate their students on such issues, both social and environmental, but also to facilitate and foster transformative design education that seeks to establish socially responsible design practices within the industry.

A global survey, aimed at investigating the perceptions and behaviour of fashion design educators on issues pertaining to the social issues and environmental concerns facing the industry, has shown that although certain design educators have begun to discuss such issues with their design students, there are many misconceptions as to what exactly constitutes social responsibility. The Socially Responsible Fashion Design Education Survey examined whether or not fashion/textile design educators were exposing their design students to the social issues and environmental concerns within the fashion industry. The survey has shown that an increasing number of fashion design educators are beginning to discuss social and environmental issues in their design classrooms, and will continue to do so in the future. However, without properly established international standards, educators may develop misconceptions surrounding the social and environmental issues at hand. In order to facilitate real change, the gap between theory and practice within the industry must be addressed. Thus, fashion design
educators have a responsibility not only to their students, but to the industry at large, to foster interdisciplinary solutions through global, industry-wide, partnerships for change.

**A History of Transformative Fashion Design**

Fashion design has played a transformative role in shaping perceptions in gender roles, as well as societal norms and values. Through innovative design strategies, the fashion designer has the potential to transform the industry.

*Innovation: The female fashion designer*

In her article, “Fashion Design and Social Change: Women Designers and Stylistic Innovation,” Diana Crane draws a correlation between women fashion designers and the representation of women’s societal roles in women’s clothing (61). If, as Crane asserts, women’s roles, or perceptions of such roles, have consistently been expressed in women’s fashion, then the designer has always had an opportunity to play a role in transforming such representations (61). However, in an industry dominated by male designers, women have struggled to emerge as innovators (61). According to Crane, it was not until the 19th Century that female dressmakers emerged as designers; although women have always been involved in the process of dressmaking, this was traditionally done “outside the ‘fashion worlds’ in which fashionable clothes were created.” (61) Crane believes that the emergence of women as designers created a new opportunity for women’s clothing; women designers became able to translate their own experiences (as women) into the clothing they were designing (for women) (61). Accordingly, she believes that “[f]ashion design, as a type of cultural hegemony in which certain aspects of gender roles are favored rather than others, can be understood in part as the outcome of organizational structures and the constraints on behavior they necessitate” (Crane, 61). It
is in this context that social change is made possible, as Crane believes that women
designers are given “opportunities to challenge existing interpretations of female roles as
they are embodied in fashionable clothing” (61). Crane has divided fashion designers into
three different categories, basing her designer groupings on their relationship between
craft and art.

**Art and Craft: Fashion Designer Categories**

Initially categorized by Howard Becker, Crane has separated fashion designers
into three groups: craftsmen, artist-craftsmen, and artist (61). According to Crane, Becker
categorized the first two groups, craftsmen and artist-craftsmen, as those who “produce
their work to order” (61). The difference between the two, however, is that where
craftsmen stress utility, artist-craftsmen stress aesthetics (61). In the third category, artist,
designers are considered as ‘avant-garde,’ in that they “attempt to produce works that are
unique-totally different from other objects.” (61) Becker’s categories are brought to life,
when Crane applies them to fashion designers currently working in France, England, and
the United States. She believes that “the French fashion designer is influenced by the
long and prestigious tradition of *haute couture*, made-to-order clothes for upper-class
customers” (61). In the context of French fashion, the artist-craftsmen would be
considered as the designer of luxury fashion garments (61). According to Crane, English
fashion designers categorized as artist-craftsmen are those fashion designers who
maintain a more conservative approach to design, for a more conservative type of client
(61). It is believed that the “younger designers who have less access to such clients take
their cues from oppositional street and arts cultures and are more likely to be avant-
garde.” (61) In the context of American fashion, Crane cites American ready-to-wear
sportswear as providing “an outlet for a major alternative to the French tradition of haute couture” (62). As a result, she claims that the leading “role of the American designer working for the clothing industry is that of craftsman, orienting his or her activities toward the creation of clothes suitable for different lifestyles in an increasingly fragmented mass market.” (62) Being considered an artist working within the industry in a transformative role, allows for innovation to be accepted by the industry. However, no matter which country, or category, Crane believes “fashion designers face enormous difficulties in creating viable organizations due to intense competition in the marketplace.” (62) Crane suggests a change in client perception forced designers to think differently about design (62).

The 1960s: Transforming Client Perception

Prior to the 1960s, both craftsmen and artist-craftsmen were, in a sense, running style dictatorships (61). Moving away from Becker’s designer categories, the 1960s saw a major shift in design protocol. Rather than dictate style, fashion firms began to “perceive and anticipate the tastes of the public, viewed in terms of lifestyles and age groups.” (62) This shift in design creation implies that trends have been set based on the designer’s perception of his/her client, and not on the designer’s own independent innovation. This shift in design allowed for more client freedom (62). For example, designers now “expect women to create their own styles of dress from a variety of options available to them. Their clients are no longer expected to purchase and consume a particular ‘look.’” (62) Furthermore, in this process, the client has been granted permission to add his/her own stylistic personality to the fashion (62), by choosing to wear a combination of different designers work (through the pairing of shoes or accessories, for example), through
personality, or even client/designer collaboration. If, according to Crane, the term ‘fashion’ is understood as that which refers “to phenomena that are new but which have been rapidly and widely accepted, implying that their acceptance does not require a major shift in worldview on the part of the public” (63), the term avant-garde may in some ways be considered contradictory to fashion, as it “implies a phenomenon that […] challenges the public’s preconceptions and consequently is not immediately accepted by the public.” (63) In a contemporary context, Crane has drawn parallels between the postmodernist and the avant-garde, in that both styles of design represent “ways of disrupting the orderly evolution of fashion” (63). She believes that designers who practice postmodern and avant-garde design techniques are “newcomers, often a group that represents the beginning of a new fashion tradition, or who are outsiders in relation to a particular fashion market.” (63)

Crane investigates the relationship between design innovation and perceptions of gender roles through designer categories. She has shown that the avant-garde fashion designer, or postmodern designer, has the potential to transform traditional design norms and values through style innovation (61). Socially responsible fashion design represents a system of innovation that seeks to transform conventional design practices in order to create social and environmental change within the industry. The designer of socially responsible fashion design products not only requires the opportunity to develop transformative systems of design, but also access to sound knowledge surrounding the social issues and environmental concerns within the fashion industry itself.
‘Ecofashion’ versus ‘Sustainable Fashion’

The birth of ecofashion represents a new change in agent perception. In her article “From ‘Green Blur’ to Ecofashion: Fashioning an Eco-lexicon,” Sue Thomas traces the origins of the commercial ecofashion movement back to the early 1990s; however, she claims the inspiration came from the ‘Green Movement’ of the 1960s (Thomas, 530). Inspired by environmentalism, ecofashion involved designs that acknowledged the industry’s “environmental impact through the selection of fibers and textiles, such as hemp or organic cotton and wool” (530). By the turn of the century, ecofashion designers discovered that nonconventional fibres offered solutions to many of their environmental and social concerns. According to Thomas, ecofashion evolved to become more than just a trend when “environmentally conscious designers [...] sought to design clothing with a distinct fashion aesthetic and low environmental impact” (Thomas, 530). This change in design intention resulted in client perception began to evolve away from conventional fashion design and practice. Ecofashion, as a movement, “has been identified as a fourth wave of consumption practice called alternative consumerism.” (530) Missing from the movement, however, is a clear and defined path for fashion designers and educators, as well as consumers, to follow. Without a system to define the terminology within the Ecofashion Movement, it is impossible for change to occur (503).

Alternative Consumerism and the Ecofashion Lexicon

Alternative consumerism has developed what Thomas refers to as the ‘Ecofashion Lexicon.’ Certain words, such as ‘environmental,’ ‘green,’ and ‘eco,’ have become synonymous with the term ecofashion (530). Thomas believes the term ‘eco’ is particularly useful to the industry due to “its non-judgmental and perhaps nonfactual
approximation” (Thomas, 531). The lack of discourse cohesion within the industry is translated onto the consumer. According to Thomas, although “[t]he practical realization of the eco aspect of fashion has usually involved the sourcing of environmentally benevolent fabrics […], the degree of ‘benevolence’ varied radically in the past as much as it does contemporarily” (532). The term ‘ecofashion’ is meant to signify “fashion that is specifically benign in its impact on the environment” (531). Roughly defined, this term only contributes to an absence of coherence, within the industry as it “lacks reference and precision” (532). As a result, ‘sustainable fashion’ can be used to reference clothing that has worked to incorporate all environmental and social aspects of the industry through life-cycle analysis.

In general terms, sustainable fashion and design considers both the social and environmental impacts of a garment through every aspect of its life. In her book, Sustainable Fashion and Textiles: Design Journeys, Kate Fletcher investigates the relationship between design and sustainability within the fashion industry through five key product lifecycle phases: material, production, transportation, use and disposal (Fletcher, 19). According to Fletcher, fashion design has the power to not only change the ways in which the fashion and textile sector currently manufacture garments from an environmental standpoint, but also to affect social change. Fletcher understands eco-design in terms of “necessity and opportunity. Necessity arising out of the increasingly urgent need to embrace more sustainable patterns of production and consumption; and opportunity, of the massive creative potential of working with people, environment and products” (Fletcher, Play). However, definitions of such patterns and opportunity, as well as defining standards, have not been established, as industry “[s]cholars have yet to
address this endemic confusion that will, in turn, provide an important link between 
theory and practice” (Thomas, 528). As Thomas has outlined in her essay, sustainability, 
in the context of fashion, “is not environmentalism by another name because it is broader 
in scope and profoundly inclusive. In fashion discourse, sustainability has been used 
more by theorists and academics than the fashion industry and popular press.” (535)
 Sustainable fashion uses lifecycle analysis to investigate both social and environmental 
issues throughout the entire Ecofashion Lexicon: ethical; environmental; green; fair trade; 
organic; recycled; provenance and sustainability (531-535).

Environmental Concerns

In the context of sustainable fashion, ‘environmental concerns’ represent any and 
all environmental challenges facing the fashion and textile industry today. When 
assessing the environmental impact of a garment, Fletcher asserts it is necessary to 
consider all sectors. Accordingly, she claims “[t]he process of recording and assessing 
impacts involves looking at resources consumed (energy, water, chemicals and land) and 
waste and emissions produced (to air, water and land)” (Fletcher, 7). Although fibre 
selection represents only one phase within the entire lifecycle of a garment, it can impact 
both society and the environment in every stage of its lifecycle as “a key commodity for 
farmer, designer, manufacturing industry, consumer and recycler” (3). In the context of 
environmental concerns within the fashion and textile industry, Fletcher has outlined four 
areas of impact through material selection alone: water and chemical usage (cotton); 
contamination of air and water through emission (cellulose and synthetic fibres); negative 
effects on water systems (production of natural fibres); and energy use and the use of 
non-renewable resource (synthetic fibres) (7). Environmental concerns within sustainable
fashion are not limited to the material phase in the lifecycle of a garment, as every stage faces environmental challenges. Sustainable fashion design uses lifecycle analysis to consider the potential environmental concerns of a garment through all five product lifecycle phases.

Social Issues

Sustainable fashion considers international workplace standards within the production phase of the lifecycle of a garment. In general terms, ‘social issues’ within the global textile and apparel industry refer to issues and concerns surrounding the international workplace standards set fourth by the Fair Labor Association (FLA): child labour, discrimination, harassment or abuse, health and safety, hours of work, forced labour, freedom of association, overtime compensation and wages and benefits (FLA). Ethical considerations surrounding social issues with the industry are not limited to the production phase of a garment. According to Thomas, “[t]he word ethical is challenging by inference, as it may be perceived as judgmental, in part due to the perceived overlap with the word morals: there is the supposition of imposed correctness” (Thomas, 533). She believes that “ethical fashion refers to the positive impact of a designer, a consumer choice, or method of production as experienced by workers, consumers, animals, society and the environment” (533). From a design perspective, sustainable fashion works to strictly incorporate such issues into its design strategies. Lifecycle analysis requires that sustainable fashion design strategies consider such issues throughout each of phase of the cycle.

Stemming from The Green Movement of the 1960s, ecofashion remains focused primarily on environmental issues. Representing both social issues and environmental
concerns within fashion design, the Ecofashion Lexicon has highlighted a lack of industry cohesion. Although alternative consumerism has created a market for socially responsible fashion design, the industry has divided the issues into separate categories. Through lifecycle analysis, sustainable fashion has married social issues and environmental concerns in order to create socially responsible design strategies. Although Fletcher has argued that sustainable fashion design has the potential to transform social and environmental issues within the textile and apparel industry, she has also suggested that “new perspectives and interpretations are still needed because sustainability is often used in a casual manner when, in fact, it could serve as a valuable umbrella term to identify proactive practices.” (533) William McDonough and Michael Braungart understand sustainable design as that which respects and loves “all the children, of all species, for all time” (McDonough and Braungart, 14). Cradle to cradle design theory and analysis represents “a holistic response to the entire fashion process” (Thomas, 533). Cradle to cradle design strategies push sustainable fashion practices to consider lifecycle analysis within a closed-loop design system.

‘Cradle to Cradle’ versus ‘Cradle to Grave’

In their book, Cradle to Cradle: Remaking the Way We Make Things, McDonough and Braungart call for a new industrial revolution where the world is seen through notions of abundance, and not limitations (15). Rather than consider the ecological footprints of humans through systems of reduction, cradle to cradle design theory argues that humans should design “products and systems that celebrate an abundance of human creativity, culture and productivity” (16).
Cradle to cradle design theory questions “the Industrial Revolution’s first design goal of maximum efficiency.” (34) Cradle to cradle design asks: what is the intention of design?

*Design as a Signal of Intention*

Cradle to cradle design theory investigates design as “a signal of intention.” (9) McDonough and Braungart view systems of cradle to cradle design intention “as the next industrial revolution” (6). They claim that the first industrial revolution saw design goals centered on linear systems that did not look outside of themselves in a larger context; “[a]t its deepest foundation, the industrial infrastructure we have today is linear: it is focused on making a product and getting it to a customer quickly, cheaply and profitably without considering much else.” (26) Products that are designed and manufactured in this system will only result in wasted value, as “[t]hey are the ultimate products of an industrial system that is designed on a linear, one-way cradle-to-grave model” (27). The cradle to grave model represents a system of design strategies that transform valuable material assets into waste (27).

*Design for the Worst-case Scenario: Cradle to Grave*

In cradle to grave design systems, “[r]esources are extracted, shaped into products, sold, and eventually disposed of in a ‘grave’ of some kind, usually a landfill or incinerator.” (27) Models of cradle to grave design systems can be found outside of the industrial system. For example, Universal Design systems, such as the International Design movement in architecture, are based on cradle to grave mentality (28). According to McDonough and Braungart, systems of universal design assume “a worst-case scenario; they design a product for the worst possible circumstance, so that it will always operate with the same efficacy.” (30) Design systems based on worst-case scenarios
operate on “the assumption that nature is the enemy” (30). In the context of product
design, the consequences of worst-case scenario design are well illustrated through
cleaning detergents (29). Circumstantial conditions, such as ecosystems or water
qualities, are ignored when a detergent is mass-produced to serve as a global solution to
dirt (29-30). Cleaning detergents have been designed to “lather up, remove dirt, and kill
germs efficiently the same way anywhere in the world—in hard, soft, urban, or spring
water, in water that flows into fish-filled streams and water channelled to sewage
treatment plants” (29-30). Worst-case design scenarios in cradle to grave theory consider
social and environmental diversity as something to conquer; “[u]nder the existing
paradigm of manufacturing and development, diversity—an integral element of the
natural world—is typically treated as a hostile force and a threat to design goals.” (32)
The only benefit for this design system is that it “guarantees the largest possible market
for a product” (30). Although “the economic payoff immediately rises, the overall quality
of every aspect of this system is actually in decline.” (35)

According to McDonough and Braungart, “[t]he design intentions behind the
current industrial infrastructure is to make an attractive product that is affordable, meets
regulations, performs well enough, and lasts long enough to meet market expectations”
(37). In contemporary industrial design strategies, cradle to grave design intentions are
often devised to fix the symptoms of a problem, and not the problem itself. One example
of this can be seen in a story Braungart’s recalls that was told to him by McDonough,
where he described a visit to a shoe factory:

He told me how he visited the largest chromium extraction factory in Europe—
chromium is a heavy metal used in large-scale leather tanning processes—and
noticed that only older men were working there, all of them in gas masks. The supervisor had explained that it took on average about twenty years for workers to develop cancer from chromium exposure, so the company had made the decision to allow only workers older than fifty to work with this dangerous substance.

(McDonough and Braungart, 13)

In this example, rather than search for alternate processes to eliminate the use of chromium from leather tanning production, the company chose to alter the age of its factory workers, in an attempt to control the potential social consequences of the cancer causing chemical. McDonough and Braungart believe that “products that are not designed particularly for human and ecological health are unintelligent” (37). The authors refer to these products as ‘crude products’ (37). The fashion industry is in the business of creating crude products: products that ignore social issues and environmental concerns, but manage to fulfill “the manufacturer’s desires and some of the customers’ expectations as well” (37). Cradle to grave design strategies promote a type of behaviour the authors refer to as “intergenerational remote tyranny—our tyranny over future generations through the effects of our actions today.” (43) Cradle to cradle design strategies tell a different story.

*Design for All Children of All Species for All Time: Cradle to Cradle*

Arguing that conventional approaches to dealing with environmental issues are insufficient, the authors “see a world of abundance, not limits.” (15) Arguing that conventional perceptions of environmental thinking are in fact not environmental at all, the authors claim that “[t]he association of growth with negative consequences has become a major theme of environmentalists in the modern age” (49). Environmental
discourse reflects systems of reduction: reduce, reuse, and recycle (15). Cradle to cradle design philosophy requires “distinguishing between biological nutrients—materials that can biodegrade safely and provide food for living organisms—and technological nutrients; those materials which cannot be returned to natural processes but can be reclaimed, completely recycled, and used again in a closed loop.” (Stegall, 62)

By focusing on abundance, design scenarios, products are developed with social responsibility not only as the primary design goal, but as a signal of intention based on equality for all species, for all time. In this design philosophy, fashion can signal social change.

**Fashion Design as a Signal for Social Change**

The relationship between fashion design and social change can be further understood through fashion signals. The concept of signalling, stemming from the field of biology through the study of animal behaviour, has shown that some animals in nature will consciously use signals that may be seen as ‘metabolically costly’ in order to express resource abundance (Donath, Signals, Truth & Design). According to Donath, one way for an animal to express an abundance of a resource is to squander it; “the best way to advertise it is to waste it.” (Donath, Signals, Truth & Design) What Donath refers to as ‘costly (handicap) signals,’ are signals that have wasted some form of cost; an example of a costly signal is one that expresses wasted time, resources or opportunity, for example (Donath, Signals, Truth & Design).

**Signals for Waste**

According to Donath, ‘handicap signalling’ is an honest costly signal in nature that represents an assessment of waste (Donath, Signals, Truth & Design). She argues
that “wasting particular resources is a way of honestly displaying them” (Donath, Signals, Truth & Design). Donath uses the example of a fur coat to highlight unintentional (evidence) and intentional (signals) cues. Although the agent wearing the coat has intentionally signalled wealth and/or style, he/she may have unintentionally signalled cruelty toward animals (Donath, Signals, Truth & Design). In the context of style, fashion can be used as “a signal of information prowess.” (Donath, Signals, Truth & Design) Taking this product example further, the agent has expressed access to an abundant resource in signalling wealth. While the intentional signal of wealth represents a requirement of ownership, the unintentional signal of animal cruelty does not. Notions of animal cruelty that may be unintentionally associated with the fur coat are learned through convention (Donath, Signals, Truth & Design). Learned signals can transform perceptions of style and design.

*Signals for Status*

According to Wolfgang Pesendorfer, in strictly economic terms, fashion has only two features: to signal and to change. These two features depend on each other, as Pesendorfer believes that “fashion demand is cyclical *because* of the signaling role of fashion” (Pesendorfer, 455). Pesendorfer believes the changing nature of fashion, where items “remain fashionable for a limited period of time and then go out of fashion only to be replaced by other fashionable goods” (455), allows for fashion to act in a signalling capacity (455). Pesendorfer claims that an ‘agent’ uses fashion “to signal their type—e.g., their wealth—and to screen the type of other agents” (455). As a result, “[a] fashion good is an effective signal as long as its price is high and only high types have an incentive to buy it.” (455) For Pesendorfer, there are only high and low types of agents (457). He
believes that once signal producers have lowered the price of a fashionable item to allow for lower types of agents to purchase it, the item has lost its signal (455). Once an item becomes available as a low type, a new fashion has taken its place as a signal for a high type. It is clear that Pesendorfer’s theory only considers fashion though a fast-paced, high-volume system of design and production in the context of agent separation, although he agrees with Crane regarding the importance of the designer in this system when he admits that “[h]igh-end fashion producers are known for their designers” (463). Pesendorfer argues that “the demand for fashion has something to do with social interactions” (457). According to Pesendorfer, if we are to understand fashion in the context of its social role, “it makes sense to assume that the fashion good has no intrinsic value to the consumer” (Pesendorfer, 457). In this context however, “even if the fashion good has no intrinsic value it may be useful as a signaling device in social interactions” (457). Essentially, Pesendorfer argues that fashion helps to categorize individuals according to type; fashion is used to signal “the income, the education status or the intelligence of a person” (457). Without fashion, there would be no visual aid to indicate the status of an individual.

Signals for Change

Pesendorfer takes his theory further with his assertion that the fashion signal is primarily used by agents to seek out other agents of the same type, for social purposes; in this context, fashion is used to facilitate “efficient matches” (457-458). Here, fashion is understood to be used only as a signal for agent separation. Understanding signals in terms of status, Judith Donath argues that “[f]ashion signals indicate one’s position in a mobile, information-based hierarchy” (Donath, 1). In the context of fashion signals,
Donath argues that “the form of the signal itself changes over time though the thing that's being indicated remains the same” (Donath, Signals, Truth & Design). As a result, she claims that “[f]ashions are signals of social status and affiliation” (Donath, Signals, Truth & Design). In terms of social mobility, fashion represents “the possibility of trying to change social class through […] imitations of particular kinds of behaviour” (Donath, Signals, Truth & Design). The fashion designer can facilitate social change through the use of innovative design signals.

Crane describes the fashion designer Coco Chanel as an industry innovator for her efforts in transforming women’s role in society through the use of fashion design signals (Crane, 65). Chanel feminized garments that were traditionally masculine through simple and unconventional designs strategies (65). In the context of transformative signalling, Chanel also popularized sun tanning (Donath, Signals, Truth & Design). Initially associated with the working class, conventional signals transformed “the cultural perception of the meaning of tanned skin” (Donath, Signals, Truth & Design). According to Donath, Chanel developed tanning into a high status signal by making it “explicit” (Donath, Signals, Truth & Design). Chanel created a new cost signal to indicate abundance of time, money (depending on the season), and opportunity amongst the leisure class: tanned skin (Donath, Signals, Truth & Design).

Understanding various functions of signals in fashion has shown the use of design as a vehicle for creating social change. According to Donath, fashion systems have always searched for new signal formations in order to “maintain a new but ‘honest’ signal” (Donath, Signals, Truth & Design). However, if certain signals in fashion are learned through convention, the designer of socially responsible fashion has an
opportunity to signal social change through innovative design. In the context of consumer education, fashion consumers are not always given the opportunity to choose socially responsible fashion products.

**Consumer Choice**

The notion of *consumer choice* implies that individuals have access to choose, amongst a varied selection, products that best reflect who they are as free agents. It further suggests that consumers have access to important information needed to facilitate their choice; understanding the differences amongst products would likely help consumers to manage their product options. Unfortunately, when it comes to socially responsible fashion, consumers are not always given a choice.

In his article “The Branding of Ethical Fashion and the Consumer: A Luxury Niche or Mass Market Reality?” proper systems of labelling within the fashion industry are ambiguous (Beard, 448). According to Beard, terminology used within the fashion industry to communicate a responsible understanding of social concerns and environmental issues to consumers can create confusion; “[s]uch terms as ‘ethical,’ ‘fair trade,’ ‘organic,’ ‘natural,’ ‘sweat-shop free,’ ‘recycled,’ and even ‘second-hand’ or ‘vintage’ are used in persuading customers to believe that the fashion products they purchase are environmentally friendly and ethically sound” (Beard, 450). The complicated nature of the industry has created a lack of transparency across the entire life-cycle of a garment (448). When compared to other sectors, Beard believes that fashion as an industry has “been seemingly lackadaisical in its embrace of tackling dilemmas relating to the environmental and human costs of its impact on society.” (448) Beard credits this behaviour, in part, to a lack of consumer interest and/or concern in such
issues (448). In the context of an “increasingly globalized, and transient world” (448), Beard believes that the challenge for ecofashion, or sustainable fashion, will be “to position and brand themselves not only as ethically worthy, but increasingly as ‘Fashionable,’ not just to a niche audience, but to everyone.” (449) Beard views consumers as conflicted between a desire for cheap, fast and disposable fashion and a new found obligation to be seen as responsible when it comes to their ethical footprint (450).

*Cause for Confusion*

Despite an increase in consumer awareness regarding the social and environmental factors surrounding textile/fashion design, consumer behaviour has become highly polarized (459). According to Beard, this “is understandable given the diverse use of the terms ‘ethical’ and ‘eco’ that fashion firms make use of in their branding and marketing initiatives” (450). When complicated terminology inflicts confusion amongst consumers, and a closer investigation into the discourse reveals that such terminology can have more to do with marketing, in terms of brand promotion, than the issue or concern (450). Beard argues that understanding the relationship between terminology used by companies and organizations surrounding ethical fashion and brand marketing is crucial, as he believes that, “[i]n many aspects, it is the use of phraseology in the debates surrounding “ecofashion that is at the root of confusion, not only for fashion consumers, but also for the firms that wish to sell fashion items to them.” (450) Beard suggests that current efforts by organizations and associations have been insufficient in managing and promoting an appropriate system of qualification and regulation in terms of both industry and consumer education.
Although there are several trade associations with schemes set up to monitor and encourage ethical practices amongst commercial firms, such as the Ethical Trading Initiative in the UK, Solidaridad and the Clean Clothes Campaign in the Netherlands, Fair Wear in Australia or the Fair Labor Association in the USA, there is no single organization or governmental body to regulate any specific ‘code of conduct’ for the fashion industry.

(Beard, 450)

Although Beard asserts that “[t]he period 2006-2008 will perhaps be viewed by documenters of the future as the watershed phase when ecofashion changed from being a philanthropic niche to becoming a commercial reality” (452), he argues that this lack of properly regulated standards has caused confusion among both industry firms and consumers as to the actual social and environmental impact of a garment throughout its entire lifecycle (450).

Whether by developing and establishing an ‘ethical’ framework at the onset of their business plan, or by transforming pre-established systems to comply with a more ‘sustainable’ plan, brands promoting ecofashion claim to offer an aesthetic solution to any political injustice taking place within, and as a result of, the industry itself (451-452). This, however, can be a difficult task. Beard believes that, “[i]n order to compete in an already very overcrowded market, the creation of ecofashion has emerged as another way for fashion brands to stand out.” (451) In order to succeed in the promotion of aesthetic political justice, brands must “balance the needs of growing and sustaining a healthy business, alongside accurately promoting their ecofashion products, encouraging consumers to alter their shopping habits.” (452) However, all brands attempting to
develop, promote, and sustain ‘ethical’ practices without compromising the company bottom-line “must also be careful not to overemphasize any politicized ethical message at the expense of alienating their customers” (452). Advertising, labelling, public relations, slogans and other systems of eco-marketing have caused further confusion for the ‘ethical’ consumer looking to make a difference through his/her purchasing power.

Greenwashing: A Signal of Deception

Some brands have used eco-marketing to develop independent discourse in order to educate their consumers on social and environmental best practices, and to increase consumer awareness surrounding a particular brand. Unfortunately, due to a lack of industry regulation, “labels such as ‘fair trade’ and ‘organic’ are no guarantee of the actual quality of the garment they are buying, in terms of either fabric or manufacture.” (459) As a result, Beard believes that “many firms are cautious about their use of such terminology, and so instead have taken to inventing their own” (459). However, using eco-marking schemes to independently establish and communicate corporate standards within a particular brand not only further perpetuates the problems associated with the lack of industry standards and regulations in the first place, but also creates “another layer of potentially confusing terminology for consumers to decipher” (459). Beard believes that ecofashion brands must work to clarify their social responsibility in order to exist not as a trend, but as “an economic reality” (463) within the fashion industry.

Without proper established industry standards for consumer education the agents are at risk of becoming confused and overwhelmed with the inconsistent nature of ecofashion terminology. Thomas believes “[t]he lack of standardization might actually work in the manufacturer's favor, as it allows for a particular version of the issues, or
what is commonly known as *greenwash.*” (Thomas, 526) The term greenwash is
“[p]araphrased from whitewash, or the cover-up of unpleasant environmental facts or
action.” (533) According to Thomas, the issue of corporate greenwashing, through
strategic marketing, “brings to the forefront the tension within the discourse; the wish for
a positive and occasional cynicism, when presented with industry indifference.” (533)
The 2009 TerraChoice report on greenwashing, titled “The Seven Sins of
GreenwashingTM: Environmental Claims in Consumer Markets,” found that “over 98% of
the 2,219 products surveyed in North America committed at least one of the Sins of
Greenwashing.” (TerraChoice, 2) The TerraChoice research has claimed that despite a
79% increase in products claiming to be ‘green,’ greenwashing exists endemically within
North American products (4). Unfortunately, TerraChoice excluded fashion and apparel
products from its research. This oversight, or lack of inclusion, only reinforces the
arguments made by both Beard and Thomas of the need for global industry standards
surrounding the social and environmental implications of a garment. According to Kate
Fletcher, “[f]or too long environmentalists have treated fashion as an irrelevance, an
unnecessary extravagance and the chief cause of escalating consumption levels.”
(Fletcher, Profile) Excluding textile and apparel products from considerations on
greenwashing ignores the increase in unchecked sustainable claims made within the
industry and “neglects the power and influence of fashion (for good as well as bad)”
(Fletcher, Profile). Notions of greenwashing in the context of signalling can be
understood through signals of deception.

Deception in signals has occurred when the signaller has benefitted and the
receiver has paid some cost, although not all forms of deception create a cost for the
receiver (Donath, Signals, Truth & Design). Deception can also become costly for honest signallers. In the context of greenwashing, for example, a brand or product that may honestly signal concern for social and environmental issues would go unnoticed as the receiver (in this case the consumer) may stop listening to the signal, as “the reliability of their signal as a whole decreases” (Donath, Signals, Truth & Design). According to Donath, one way to manage signal deception is to increase the “cost of dishonesty (punishment)” (Donath, Signals, Truth & Design). If the punishment for the dishonest signal outweighs its benefit, the signaller may not be able to justify the deception through benefits gained. If the cost for the honest signal is too high, Donath believes it will either look toward more reliable signals to disassociate itself from deception, or fall toward deception itself (Donath, Signals, Truth & Design). If sustainable fashion, as a fashion system, is perceived to be dominated by both intentional and unintentional signals of greenwash, products, brands, designers, fashion marketers, fashion journalists, theorists and practitioners working within sustainable fashion will continue to develop new vocabulary to signal social and environmental considerations. In this system, the ecofashion lexicon is never-ending.

No Choice

According to Jonathan Chapman and Nick Grant, the environmental challenges facing the planet will not be solved through ‘green’ products or consumer behaviour (Chapman and Grant, Ed., xvi). Rather, in their book Designers, Visionaries and Other Stories: A Collection of Sustainable Design Stories, they claim that the solutions lie in the hands of the designers themselves, arguing that “[m]ost of the environmental impact of the products, services and infrastructures that surround us is determined at the design
stage” (xvi-xvii). For this reason, they believe that “[p]osters and ad campaigns that tell people to behave sustainably are a pointless diversion” (xvii). After all, “[e]ighty per cent of the environmental impact of the products and buildings that surround us is determined at the design stage” (xvi). Chapman and Grant argue that sustainable design cannot be taken on as an industry side-project: “[t]ransformation on the scale we are now embarked on won’t happen if we approach it top-down or outside in.” (xvii) In cradle to grave design strategies, consumers have no control over the majority of product consumption (McDonough and Braungart, 27-28).

For McDonough and Braungart, conventional notions of consumerism are considered ironic, as ‘consumers’ in fact consume very little of the entire products they purchase. The authors claim that “more than 90 percent of materials extracted to make durable goods in the United States become waste almost immediately.” (27) As a result, consumer choice may only reflect 10% of the environmental and social impact of an entire product. Notions of consumer choice, in the context of the environment, are further undermined with the knowledge that a “product itself contains on average only 5 percent of the raw materials involved in the process of making and delivering it” (28). According to McDonough and Braungart, in cradle to grave design scenarios, neither consumer nor corporation are to blame for the social and environmental crises facing humanity today; rather, “[t]hey are the consequence of outdated and unintelligent design” (43). In the context of the fashion industry, the authors refer to what they call ‘products plus’ to illustrate misconceptions surrounding notions of consumer choice (38). Using the example of a polyester shirt, the authors explain how the shirt may have come with harmful additives, hidden ingredients, which the consumer is completely unaware of (38).
They suggest that the shirt should come with a label stating: “Product contains toxic dyes and catalysts. Don’t work up a sweat or they will leach onto your skin.” (38)

Education and consumer choice have a transformative role to play in creating a socially responsible fashion industry. However, signals of deception, such as green washing, as well as unintelligent designs that have created products with hidden ingredients, products plus, seem to have hijacked the potential for any real consumer choice to exist at all. In the context of socially responsible fashion design, it is the responsibility of the fashion designer to create innovative products that would eliminate any consumer confusion. However, without access to proper education regarding the social issues and environmental concerns surrounding the industry, the fashion design student is doomed to design garments that cater to cradle to grave mentality. Fashion design educators have a responsibility to teach their students socially responsible design strategies.

**Socially Responsible Fashion Design: The Role of the Fashion Design Educator**

The fashion industry has developed an increased awareness about the social and environmental impact of its products over the last 30 years (Beard, 450). However, in the context of fashion design education, Sue Thomas argues that “[f]ashion as a design discipline has been late to investigate the theoretical greening of the design production loop, lagging behind industrial design and architecture, unlike consumer activist campaigns where fashion has been targeted more than other disciplines.” (Thomas, 526) According to Thomas, this gap in knowledge is reflected in “the tension in fashion between theoretical and practical and the immediate social, economic, and environmental impact of decisions” (526). She believes that misunderstandings surrounding the
terminology have caused ecofashion to be seen as “a type of collage, but not a sustained definition or contextualization” (526). As a result, Thomas claims that “[w]ithin the related fields of sustainable design and fashion theory, any discussion of issues that concern ecofashion appears to have been cast aside to the margins.” (526) In her article, Thomas is concerned “that words related to fashion, ecology, the environment, sustainability and ethics, are not fully understood or are used incorrectly” (526). As Thomas investigates the lack standards within ecofashion terminology, she is careful not to suggest a standardization of terms. For example, in the context of fashion journalism, “[f]ashion description can evoke a collection at the concept inception, in descriptive terms to reveal the characteristics of garments and in the materials that promote the overall concept.” (526) Although Thomas admits that the approach to ecofashion terminology taken by fashion journalists may be entertaining, she worries that “it sidelines accuracy in the pursuit of amusement and attention.” (526).

A further gap in knowledge exists between business and design in terms of understanding and communication to achieve a balance between sustainable design goals and the bottom-line. In his article “Is Business the Future of Design or is Design the Future of Business?” Nathan Shedroff calls for organizations to implement systems of strategic design. What has been termed ‘Design Strategy’ refers to “the use of design processes, perspectives, and tools to create truly meaningful, sustainable, and successful innovation across a variety of design disciplines, including industrial, interaction, visual, experience, and fashion design.” (Shedroff) The business incentive is an opportunity to “create lasting value beyond that of their peers”. Shedroff claims that “[w]hether design strategy is the new thing needing to be injected into business culture or whether business
values, understanding, and language is the thing needing to be injected into design culture almost isn’t an issue.” (Shedroff)

The fashion and textile manufacturing industry is understood as “a high impact sector” (Fletcher, 41), in that “conversion of raw textile fibre to finished fabric and final product draws on labour, energy, water and other resources” (41). Often compared to the chemical industry, in terms of environmental damages, the fashion industry “consumes vast quantities of resources (most notably water, energy and toxic chemicals); has a dubious history of worker protection; is dominated by consumption-inducing, fast changing trends and low prices that prompt consumers to buy more than they need.” (Chapman, 120) The fashion design educator has a responsibility to educate fashion design students on these issues. To ignore the social issues and environmental concerns within the industry would be to focus purely on the aesthetic. Through systems of design innovation such as lifecycle analysis and cradle to cradle design strategies, the fashion designer can impact social and environmental challenges facing the industry today. There is a strong relationship between the fashion designer and the supply chain. Without proper education on the social issues at hand, emerging designers will perpetuate cradle to grave systems and ignore the basic human rights of garment workers. Irresponsible design strategies can have catastrophic social and environmental consequences.

**Fashion Design Education and Social Responsibility Survey**

1. **Introduction**

The issue of social responsibility (SR) is currently being discussed within fashion/textile apparel studies. However, there is no existing measure for fashion/textile
design educators to benchmark their work in social responsibility against others in their field.

The main objective of the Fashion Design Education and Social Responsibility Survey was to help leading fashion design educators reference their work against other leading experts in their field, within the context of social responsibility. The survey also hoped to gain insight into whether or not issues surrounding social responsibility are currently being discussed within the top international design schools impacting the industry today.

The global survey was sent to over 150 design educators from 12 different countries. Participants were contacted individually; the survey had an 18% response rate. All information collected has been kept strictly confidential. The survey was anonymous and thus no names have appeared in this final report.

2. Survey Methodology and Breakdown

In 2007, BusinessWeek published their second annual list, “The Best Design Schools in the World.” Of the 60 design schools listed in the BusinessWeek report, 26 schools offered fashion/textile design courses or programs (at the time the list was compiled). Only those fashion/textile instructors teaching at the 26 schools were ultimately chosen to participate in The Fashion Design Education and Social Responsibility Survey.

The electronic survey was available to participants from the 20th of November, 2008, until the 5th of December, 2008, and should have taken approximately 20 minutes to complete. Table 1 outlines the five sections of the survey.
Table 1: Fashion Design Education and Social Responsibility Survey: 5 Sections

In the first section of the survey, participants were asked questions relating to social responsibility. They were asked whether or not they believe the responsibility to become educated on the social conditions and environmental issues surrounding the fashion industry fall on the instructor or the student. In the first section of the survey, participants were also asked whether or not they view social responsibility as a central component to fashion/textile design education, as well as questions regarding their perceptions of student interest in social responsibility. In the second section of the survey, participants were asked questions about their perceptions of the social conditions within the fashion design industry, and the role design can play in improving social issues. Participants were also asked how concerns surrounding social conditions are communicated to their students. The third section of the survey focused on questions surrounding environmental concerns. Participants were asked questions regarding their perception of the environmental concerns within the fashion industry, as well as questions relating to how concerns might be communicated to their design students. This section also asked participants to discuss whether environmental conditions might be improved upon through design. In the fourth section of the survey, participants were asked questions regarding fibre preferences, as well as questions surrounding perceptions on fashion cycles, and the importance of speed and local sourcing practices. Again, participants were asked how these factors are communicated to their students. In the fifth
and final section of the survey, participants were asked to discuss any current projects or research they might be conducting, involving the social or environmental concerns of the fashion design industry, outside of their department. The fifth section also asked participants to elaborate on any current and future activities taking place within their faculty/department.

The 5 sections of the survey were designed to provide an overall understanding of the current nature of social responsibility in fashion design education. The results of the survey should provide an accurate measure for participating design educators to benchmark their work in social responsibility against others in their field.

3. Findings

3.1 Your department

In the first section of the survey, participants were asked what percentage of their students they believed are interested in understanding both the social issues and environmental concerns within the supply chain of the fashion industry. Fig. 1 shows that while 48% of participants perceive approximately 40%-59% of their students to be concerned with environmental factors, perceptions toward student concern over social conditions were much less. The survey showed that students are perceived to be more concerned with environmental factors within the industry than they are with social issues.
Participants were asked whether or not they believed there is a relationship between product design and product manufacturing. Of the 96% of participants who answered yes, the majority (35%) believe that approximately 60%-79% of their design students are interested in understanding this relationship (Fig. 2).
Participants were asked whether or not they believe that fashion/textile design has the potential to influence the environmental issues and social conditions surrounding manufacturing within the fashion industry. While 93% of participants showed they believe in the potential to influence environmental factors, over 96% believed in the potential of design to influence social conditions.

Of the participants that responded to the survey, all stated they believe that fashion/textile educators have a role to play in the social responsibility of the fashion industry, however less than 90% of those participants feel it is their responsibility to push design students towards innovative design with respect to social responsibility. While 86% of participants felt that design instructors had a responsibility to educate design students on these issues, all of participants who responded believe that design students have a responsibility to educate themselves. Participants were also asked whether or not they view social responsibility as a central component to fashion design education, and to rate the importance on a scale from 1 to 5 (1 as slightly important and 5 as crucial). Fig 3 shows that of the 86% of participants that answered yes, the majority (42.3%) rated the importance as crucial.

Fig. 3 Rating the Importance of Social Responsibility to Fashion Design Education
3.2 Connecting to the supply chain: social implications

The second section of the survey asked participants questions regarding their perceptions of the social challenges facing the fashion industry, and how any concerns regarding fibre choice are communicated to their design students. According to the results, 92.6% of participants help their fashion/textile design students consider the social implications of their fibre choices. Fig. 4 outlines the ways in which participants help their students connect with such issues.

<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal teaching (e.g. seminars or class lectures)</td>
<td>85.2%</td>
</tr>
<tr>
<td>Course work (e.g. assignments)</td>
<td>70.4%</td>
</tr>
<tr>
<td>Independent study (e.g. suggested readings)</td>
<td>66.7%</td>
</tr>
<tr>
<td>Other: community projects, field trips, guest speakers/presenters, videos</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

Table 2: Helping Students Connect to the Social Implications of their Fibre Choice

Section 2 of the survey also asked participants which social issues they view to be currently impacting the fashion industry. Over 86% of participants stated they believe that social issues impacting the industry could be improved upon through fashion/textile design. Fig. 4 outlines the percentage of social issues perceived to be impacting the industry and those that are perceived as being possible to improve upon through design. Table 3 outlines the abbreviation used in Fig. 4.
<table>
<thead>
<tr>
<th>Social Issue</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forced labour</td>
<td>FL</td>
</tr>
<tr>
<td>Child labour</td>
<td>CL</td>
</tr>
<tr>
<td>Harassment and abuse</td>
<td>HA</td>
</tr>
<tr>
<td>Discrimination</td>
<td>D</td>
</tr>
<tr>
<td>Health and safety</td>
<td>HS</td>
</tr>
<tr>
<td>Freedom of association</td>
<td>FA</td>
</tr>
<tr>
<td>Wages and benefits</td>
<td>WB</td>
</tr>
<tr>
<td>Hours of work</td>
<td>HW</td>
</tr>
<tr>
<td>Overtime compensation</td>
<td>OC</td>
</tr>
<tr>
<td>Other: environment, all of the above</td>
<td>Other</td>
</tr>
</tbody>
</table>

Table 3: Ten Social Issues and Abbreviations used in Fig. 4

![Social Issues chart]

Fig. 4 Perceptions on Social Issues Impacting the Fashion Industry
Note: Participants were invited to select more than one option

The survey results show that the majority of participants (73%) believe that design has the greatest potential to improve upon the social issues surrounding health and safety.
3.3 Connecting to the supply chain: environmental implications

In the third section of the survey, participants were asked questions regarding their perceptions of environmental conditions within the supply chain of the fashion industry, as well as questions pertaining to concerns over the environmental impacts associated with fibre choice. Participants were also asked how such concerns, if any, are communicated to design students. The survey showed that over 85% of participants help their design students consider the environmental implications of their fibre choice. Table 4 outlines the ways in which participants help their students to connect to environmental concerns.

<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal teaching (e.g. seminars or class lectures)</td>
<td>78.6%</td>
</tr>
<tr>
<td>Course work (e.g. assignments)</td>
<td>71.4%</td>
</tr>
<tr>
<td>Independent study (e.g. suggested readings)</td>
<td>50.0%</td>
</tr>
<tr>
<td>Other: community projects, field trips</td>
<td>28.6%</td>
</tr>
</tbody>
</table>

Table 4: Helping Students Connect to the Environmental Implications of their Fibre Choice

Section 3 of the survey also asked participants which environmental concerns they view to be currently impacting the fashion industry. 93% of participants believe that environmental issues impacting the industry can be improved upon through fashion/textile design. Fig. 5 outlines the percentage of environmental concerns perceived to be impacting the industry and those that are perceived as being possible to improve upon through design. Table 5 outlines the abbreviation used in Fig. 5.
Environmental Concern | Abbreviation
--- | ---
Water consumption | WC
Energy consumption | EC
Emissions to air (e.g. carbon emissions) | EA
Emissions to water (e.g. chemical discharge) | EW
Land use | LU
Fibre/fabric biodegradability | FB
Fabric Toxicity (e.g. sizing agents) | FT
Chemical use in fibre production (e.g. pesticides, fertilizers) | CFP
Fabric waste | FW
Other: consumer practice (e.g. garment care), all of the above | Other

Table 5: Ten environmental concerns and abbreviations used in Fig. 5

![Environmental Concerns Graph](image)

Fig. 5 Perceptions on Environmental Concerns Impacting the Fashion Industry
Note: Participants were invited to select more than one option

The survey results show that the majority of participants (82%) believe that design has the greatest potential to improve upon the environmental conditions caused by chemical use in fibre production.
3.4 Implementation and practice

The fourth section of the survey asked participants to answer questions relating to their preference in fibres to be used by students, and how the importance of fibre selection is communicated to their design students. This section also asked participants questions regarding local sourcing practices, fashion cycles, and the importance of speed.

Table 6 outlines the twenty-two fibre options and abbreviations used in Fig. 6

<table>
<thead>
<tr>
<th>Natural/Synthetic Fiber</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>C</td>
</tr>
<tr>
<td>Wool</td>
<td>W</td>
</tr>
<tr>
<td>Silk</td>
<td>S</td>
</tr>
<tr>
<td>Linen</td>
<td>L</td>
</tr>
<tr>
<td>Polyester</td>
<td>P</td>
</tr>
<tr>
<td>Acrylic</td>
<td>A</td>
</tr>
<tr>
<td>Viscose</td>
<td>V</td>
</tr>
<tr>
<td>Organic cotton</td>
<td>OC</td>
</tr>
<tr>
<td>Low water use cotton</td>
<td>LWC</td>
</tr>
<tr>
<td>Fair Trade cotton</td>
<td>FTC</td>
</tr>
<tr>
<td>Organic wool</td>
<td>OW</td>
</tr>
<tr>
<td>Hemp</td>
<td>H</td>
</tr>
<tr>
<td>Wild (tussah or peace) silk</td>
<td>WS</td>
</tr>
<tr>
<td>Poly (lactic acid) (PLA)</td>
<td>PLA</td>
</tr>
<tr>
<td>Nylon</td>
<td>N</td>
</tr>
<tr>
<td>Lyocell</td>
<td>Ly</td>
</tr>
<tr>
<td>Bamboo</td>
<td>B</td>
</tr>
<tr>
<td>Soya</td>
<td>Soy</td>
</tr>
<tr>
<td>Naturally coloured fibre</td>
<td>NCF</td>
</tr>
<tr>
<td>Low-chemical cotton</td>
<td>LCC</td>
</tr>
<tr>
<td>Recycled fibre</td>
<td>RF</td>
</tr>
<tr>
<td>Other: discarded materials, hemp/silk and organic cotton and bamboo blends</td>
<td>Other</td>
</tr>
</tbody>
</table>

Table 6: Natural and Synthetic Fibres and Abbreviations used for Fig. 6
Fig. 6 shows that the majority of participants (84%) prefer to their students use organic cotton in their designs. Table 7 outlines the ways in which participants communicate their fibre preferences to their design students.

<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal teaching (e.g. seminars or class lectures)</td>
<td>96%</td>
</tr>
<tr>
<td>Course work (e.g. assignments)</td>
<td>64%</td>
</tr>
<tr>
<td>Independent study (e.g. suggested readings)</td>
<td>52%</td>
</tr>
<tr>
<td>Other: online, guest lecturers, projects, field trips</td>
<td>20%</td>
</tr>
</tbody>
</table>

Table 7: Communicating Fibre Preference

When considering fashion cycles, over 66% of participants showed interest in systems of design that promote ‘slow design’ or ‘slow fashion’. One participant expressed concern that an industry shift toward slow systems of fashion/design may not be possible, and that such claims may only be useful in marketing campaigns. Other participants showed interest in exploring the possibility of such movements, while maintaining concern for their practicality. Some participants commented on the
importance of placing systems of fashion/design into historical context; exploring
traditional techniques. One participant suggested the application of eco-design strategies
to systems of fast-fashion in order to accommodate the needs of particular ‘end users’.

Participants were asked to rate the importance of speed on a scale from 1 to 10 (1
as not at all important and 10 as crucial). The survey showed that the majority of
participants (27%) ranked the importance of speed as extremely important (Fig. 7). When
considering the changing nature of fashion cycles, one participant stressed the need to
understand the speed of various processes within the cycle; there may be opportunity to
combine fast-systems with slow-systems in order to achieve a sustainable end product.

![Fig. 7 Rating the Importance of Speed in Fashion Cycles](image)

The survey showed that 75% of participants promote local sourcing practices to
their students. While some participants encourage sourcing fabrics from mills, and have
created local partnerships, other participants, although interested in building relationships
with local businesses, are unable to do so due to unavailability; a fibre may be grown
locally, but spun elsewhere. One participant commented on the unavailability to source
large quantities of fabric locally. Table 8 outlines the teaching methods used to promote local sourcing.

<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal teaching (e.g. seminars or class lectures)</td>
<td>85%</td>
</tr>
<tr>
<td>Course work (e.g. assignments)</td>
<td>85%</td>
</tr>
<tr>
<td>Independent study (e.g. suggested readings)</td>
<td>30%</td>
</tr>
<tr>
<td>Other: guest lecturers, field trips, handouts</td>
<td>35%</td>
</tr>
</tbody>
</table>

Table 8: Teaching methods used to promoting local sourcing

3.5 Current and future activities

In the final section of the survey, participants were asked questions relating to their current and future activities surrounding the social conditions and environmental concerns within the supply chain of the fashion/textile industry. The survey showed that while although only 36% of participating design educators are currently involved in programs or research, outside of their department, concerned with the social conditions within the supply chain, over 65% plan on becoming involved with such programs or research in the future. While 46% of participants claimed to be currently involved with programs or research outside of their department that is concerned with the environmental concerns surrounding the supply chain, 64% plan on becoming involved in the future. The types of research/projects currently taking place vary from partnerships with non-governmental organizations (NGO’s) and businesses, to research/projects involving specific chemicals, dyes, fibres, and/or regions (e.g. India). With respect to future activities, many participants expressed a desire to become involved with such projects if the opportunity presented itself. Some participants expressed their dedication to promoting research/projects surrounding the social issues and environmental concerns.
of the supply chain within their department, and as a result, have not participated in projects outside of their educational institution.

Participants were also asked questions relating to the current and future activities of their department, or faculty. Although less than 30% of participants believe that their department/faculty has assigned a specific design instructor, or faculty member, to undertake the responsibility of teaching issues surrounding ethical sourcing, over 80% of survey participants see their department/faculty becoming more involved with the social and environmental issues surrounding ethical sourcing within the supply chain in the future.

4. Conclusion

It is clear that there is a growing interest amongst textile/fashion design instructors to educate their design students on the social issues and environmental concerns within the supply chain of the textile/fashion industry. The main objective of the Fashion Design Education and Social Responsibility Survey was to gain insight into the nature of social responsibility, with respect to ethical sourcing in the fashion industry, within the context of fashion design education. The results of the survey are significant. Although perception and behaviour may vary amongst participants, there is no question surrounding the importance of social responsibility in design education: the results have shown that all of the design educators who participated in the survey believe they have a role to play in the social responsibility of the fashion industry. This report hopes to provide a better understanding of what that role might entail.
**Survey Analysis: A Closer Look**

A closer investigation into the Fashion Design Education and Social Responsibility Survey results reveals an industry disjointed in both perceptions and behaviour. The survey has shown that some fashion design educators have begun to acknowledge that a relationship between design and manufacturing does exist. Likewise, many fashion design students are perceived to have developed an interest in understanding this relationship. It remains unclear as to whether design educators have begun to stress the importance of the relationship as a design problem. Across the board, the survey results showed that when teaching their students the issues surrounding socially responsible fashion design, participating fashion design educators use verbal teaching methods (e.g. seminars and class lectures). Details surrounding methodology used to verbally communicate the issues, as well as resources used, remain unknown. In the context of student perceptions, participants perceived their students were more concerned with the environmental factors facing the industry rather than social issues. This may imply students are more interested in facing design challenges through ecofashion, and/or sustainable fashion practices, and not necessarily through socially responsible fashion design strategies.

Although over 90% of survey participants stated their belief in the potential of design to influence both environmental factors and social conditions, participant perceptions of such potential remain unclear; further research is needed to determine how exactly the design educator has envisioned the potential for change. While all of the survey respondents have claimed that they believe that fashion/textile educators have a role to play in the social responsibility of the fashion industry, details surrounding what
that role might entail are unclear. For example, not all participants felt they had a responsibility to educate their students on the social issues and environmental concerns within the industry. Rather, they preferred that design students educate themselves in this area. In this case, the perceived role of the fashion design educator might be to support the fashion design student as he/she independently seeks information on the issues.

Though over 96% of participants stated they believe design has the potential to influence social conditions within the fashion industry, when asked whether or not they thought that social issues impacting the industry could be improved upon through fashion/textile design the results showed a 10% drop (86%). As a result, participant perception on the capabilities of socially responsible fashion design to create social change in this area is inconsistent and remains slightly vague.

Although over 90% of participants help their students to consider the social implications of their fibre choices, participant perceptions on the social issues facing the industry showed contradictory results. For example, less than 65% of participants stated they do not perceive the use of child labour to be a social issue impacting the industry; over 35% overlooked this issue as a problem. Child labour remains a major social issue within the fashion industry. In India, for example, a country where retail giant Gap Inc. maintains large manufacturing contracts, “child labour contributes an estimated 20 per cent of India's gross national product with 55 million children aged from five to 14 employed across the business and domestic sectors.” (The Guardian) As recently as 2007, Gap Inc. was found using child labour in India. (The Guardian) That a company like Gap could find itself in this situation reflects the hidden dangers of child labour in the textile and apparel sector. Despite the company’s “rigorous social audit systems [...] to weed
out child labour in its production processes, the system is being abused by unscrupulous subcontractors” (The Guardian). To ignore the potential use of child labour in the supply chain is a major oversight amongst survey participants. This example further highlights misconceptions within the industry and emphasizes a lack of awareness amongst fashion design educators on the social issues within the industry. Whether or not the design educator has access to proper information surrounding the social implications associated with fibre selection is unclear. In the context of environmental issues, further inconsistencies in participant perception were present in the results. For example, although 82% of participants viewed ‘chemical use in fibre production’ as an environmental concern impacting the industry, less than 60% perceived ‘land use’ to be an issue. Environmental concerns surrounding chemical use in fibre production however are in many ways connected to land use issues (For example, see Appendix 1; Possible Environmental Impacts: Conventional Cotton).

Further misconceptions surrounding the social and environmental impact of a fibre, as seen through participant fibre preference, were present in the survey results. A detailed breakdown of the possible environmental and social implications of individual fibres has highlighted the complicated issues (Appendix 1). For example, 60% of participants stated they prefer their students use bamboo in their designs. This is not surprising, as bamboo is often perceived as a superior fibre choice in terms of social responsibility. According to CSR Asia however, bamboo is not a responsible fibre choice due to potential chemical use in processing (CSR Asia). Much of the environmental and social issues surrounding bamboo are a direct result of an increase in popularity; “farmers are clear felling forests and pulling up edible crops to plant just bamboo” (CSR Asia).
Further confusion surrounding social and environmental impacts of fibres can be seen through participant perceptions towards cotton. There are many environmental and social issues surrounding cotton production in fashion design. For example, 84% of participants stated they would prefer that their students use organic cotton in their designs. Although the use of certified organic cotton supports environmental issues, it does not guarantee a commitment to social issues (see Appendix 1; Possible Social Impacts: Organic Cotton). The social and environmental impacts associated with fibre selection are complicated. It is unclear how survey participants have categorized their fibre preferences; further research is needed in this area, as participant perceptions surrounding these issues may not accurately reflect the issues.

Socially responsible fashion design represents design strategies that focus on both social and environmental factors within the fashion industry. A closer look into the survey results has shown that more research is needed. The scope of the Fashion Design Education and Social Responsibility Survey was limited, and was unable to determine details surrounding the perceptions amongst fashion design educators with respect to socially responsible fashion design. Given the lack of access to proper information as to the social issues and environmental concerns facing the industry, and with no existing measure for fashion/textile design educators to benchmark their work in social responsibility against others in their field, certain misconceptions are not surprising. It is clear that all of the participants who answered the survey understand and recognize that a relationship between fashion design and the social and environmental conditions within the industry exists. What is unclear, however, is what that relationship might entail, including any positive influence fashion design educators might have in raising student
awareness on these issues. Further research is needed to qualify the survey results in all areas of inquiry.

Designing Solutions

According to Allan Chochinov, the consequences of poorly designed products are so grave that designers who do not practice socially responsible design have no business designing in the first place (Compostmodern09, Allan Chochinov). Speaking at Compostmodern09, an annual social design conference dedicated to the promotion and education of ecologically and socially responsible design practices, Chochinov’s presentation, “Denting and Impossible Design Problem in 10 Sustainable Steps,” investigated the power and potential of notions of convergence and serendipity to influence direction in sustainable design. In his presentation, Chochinov used a case study example from his graduate students of the Master of Fine Arts (MFA) “Designer is Author” program at the School of Visual Arts in (SVA) New York City that stressed his convictions as a design educator: “good design practice is sustainable design practice” (Compostmodern09, Allan Chochinov). Chochinov suggests that designers should not approach design from only a place of function or aesthetic. This was the case for the MFA class at SVA, when the “loosening up on those functional requirements […] created all sorts of new possibilities for amazing work.” (Compostmodern09, Allan Chochinov). As the title of his presentation suggests, Chochinov believes that there are ten crucial steps that a designer must commit to in order to pursue impossible design problems and champion sustainable design solutions.

First, Chochinov asserts that designers must acknowledge privilege. Although designers may feel pressure to design with the constraints of production as the only
design goal (cradle to grave), Chochinov believes that it is crucial for designers to acknowledge that design is a privilege rather than only a process in production (Compostmodern09, Allan Chochinov). The second step toward responsible design involves getting comfortable with the notion of consequence (Compostmodern09, Allan Chochinov). According to Chochinov, “[d]esigners think they’re in the artifact business, but they’re not; they’re in the consequence business” (Compostmodern09, Allan Chochinov). The third step involves questioning authority (Compostmodern09, Allan Chochinov). In order to challenge conventional design strategies, designers must think critically. A fourth step toward challenging convention to pursue responsible design is to “surround yourself with […] inspirational individuals who will enhance your perception of sustainable design” (Compostmodern09, Allan Chochinov). The fifth step is to break the rules, and approach all design problems “with sustainability as the main design goal” (Compostmodern09, Allan Chochinov). The sixth step toward responsible design is to “be intentionally dumb” (Compostmodern09 Allan Chochinov). The seventh step calls for product redistribution; Chochinov feels that “one of the keys to sustainable practice moving forward is to redistribute the stuff that we already have” (Compostmodern09, Allan Chochinov). The final three steps in Chochinov’s presentation involve broadening your market, indulging in discursive design, and talking to anyone that will listen about responsible design (Compostmodern09, Allan Chochinov).

According to Chochinov, there can be great value when designers are allowed the freedom to work tangentially to a design problem; that there is value to be discovered around the problem and not only at the problem (Compostmodern09, Eames Demetrios and Allan Chochinov: Q&A). As a design educator, Chochinov believes that when
students are granted permission to discover responsible design outside of ideas based purely on function, the results are “not only ok, but potentially great” (Compostmodern09, Eames Demetrios and Allan Chochinov: Q&A). As a result, he argues that designers need to stop asking for permission to pursue responsible design; rather, he states that designers have a responsibility to take permission and give it to themselves (Compostmodern09, Eames Demetrios and Allan Chochinov: Q&A). Socially responsible design in this context demands that designers take an unwavering approach toward sustainability. Designers have a responsibility to develop and produce products that are both profitable and responsible. In order to do so however, they need access to proper education and training in this area.

In the context of sustainable fashion design, strategies toward innovative design have mostly surrounded fibre choice. Both ecofashion and sustainable fashion designers have turned to fibre selection as a means of curbing the social and environmental impact of a garment. As a result, “organic, Fair Trade and rapidly renewable fibres have led design innovation” (Fletcher, 3). According to Fletcher, “that materials seem to dominate our ideas about environmental and social responsibility is not really surprising after all, our industry’s product is material ‘stuff’ - fibre, fabric, textile product and garment.” (4) Fletcher has called for a shift in designer perspective, challenging the designer “to think beyond materials and to link a fibre with its lifecycle, a material with a user, and an industry with the ecological and cultural systems that support it.” (4)

One key area where design innovation has the potential to influence manufacturing is in that of speed. According to Fletcher, ‘fast fashion’ “is a combination of high speed production - tracking sales with electronic tills, and just-in-time
manufacturing that now makes it possible to turn a sample or design sketch into a finished product in as little as three weeks - and high speed, high volume consumption” (Fletcher, 161). There is no question that “[f]ast fashion has become a defining characteristic of today’s textile and clothing industry.” (161) As Fletcher points out however, natural fibre growth cannot keep up (161). She claims that if notions of ‘sustainability’ are to stand a chance in any cycle of fashion, fast or slow, “the challenge [...] is to connect the fashion and textile industry with multiple layers of other human activity” (164) Fletcher hopes to build on the relationship between garment and buyer through the development of client participation (182). In order for the consumer to truly experience a garment, or fashion product, it is assumed that some level of connection outside of signalling status must exist. Fletcher offers ‘design scenarios’ to highlight the ways in which innovative design can influence a positive change in the manufacturing sector of the industry. One example of this can be seen in the ‘Plain Coat’ versus ‘Great Coat’ design scenario, where the role design can play in creating a more socially and environmentally conscious design choice for the consumer is emphasised. Considering that the plain coat is understood to be a ‘slow’ garment, this design scenario is particularly interesting, in that it proves social responsibility is not only relevant to ‘fast fashion’ but that it also has a place in slow fashion design. The ‘great coat,’ according to Fletcher:

The coat is produced in enduring virgin material with high quality finishing, accessories and tailoring. Rather than resisting all signs of wear and tear, the fabric ages gracefully and fits like the proverbial glove. The coat has a definite yet flexible design and comes with spare buttons, threads and swatches of fabric for
mending, and an ongoing relationship with the designer/store to restyle or refit the coat. The fashion company offers new accessories according to trends, updating the coat through the seasons. Other slow coats are designed as modular systems where parts are acquired and discharged according to the customer’s desire.

The coat comes with meticulous instructions for maintenance attached, well-designed labels and packaging, a history of its origin including who designed it, where and what the inspiration was and where it was made so as to help crystallize a life-long relationship between user and garment. Advice on how to rid the coat of ‘pub smells’ and how to keep it in shape, along with a storage bag, hanger and cedar block to deter moths, are designed into the coat.

(‘Design scenario: Great coat,’ Fletcher, 182)

This example highlights ways in which a designer can include the consumer in the design process. The design scenario represents value-added fashion designs.

According to Nathan Shedroff, “[c]onnecting to people's values and meanings is going to be critical in order to change behaviors and choices and reach more sustainable goals.” (Core 77) Sustainable fashion is often associated with notions of functional practicality, meaning “buying as few garments as possible and, when clothes are bought, sourcing them second hand, Fair Trade or organic.” (Chapman, 121) According to Fletcher however, while this may help “reduce the speed and quantity of consumption, it is ultimately a negative vision of the future; it uses yesterday’s thinking to cope with the conditions of tomorrow.” (Chapman, 121) In the context of fashion, for socially responsible design goals to be realized, the fashion designer must understand consumer values and engage the consumer in the design process. Interdisciplinary design
solutions call for designers to look outside of their particular field within the design industry to create systems of shared knowledge. The fashion design educator has a responsibility to facilitate these learning processes.

**Looking Ahead: Socially Responsible Fashion Design Education**

Socially responsible fashion design initiatives push business and industry toward sustainable solutions through initiatives such as labelling certification guidelines and standards, and supply chain and environmental management systems and training programs and initiatives. In the context of socially responsible fashion design education, however, four organizations are currently leading the way for responsible fashion design.

Based in London, both Fashioning an Ethical Industry (FEI) and the Ethical Fashion Forum (EFF) have engaged fashion design educators to become more knowledgeable about the social issues and environmental concerns plaguing the industry today. In the United States, the Designers Accord, and Educators for Socially Responsible Apparel Business (ESRAB) are dedicated to promoting responsible design through education. Recent partnerships, however, have proven that fashion design educators have more access to teaching resources and educational tools than ever before.

*Fashioning an Ethical Industry*

Fashioning an Ethical Industry (FEI), a Labour Behind the Label project, “works with students and tutors on fashion related courses to give a global overview of the garment industry, raise awareness of current company practices and of initiatives to improve conditions and inspires students” (FEI). They consider fashion students to be “the next generation of industry players” (FEI). Through student workshops, training events and teaching resources, the FEI works “with tutors to integrate ethical issues
related to garment manufacture into their teaching. The ultimate objective of the project is to embed social responsibility issues in the teaching of all fashion related further and higher education courses.” (FEI) Focused primarily on worker’s rights, FEI promotes socially responsible fashion design education in this context. FEI also promotes educational institutions that offer programs and courses teaching these issues.

**The Ethical Fashion Forum**

The Ethical Fashion Forum (EFF) is a non-profit organization dedicated toward providing “a platform for shared practices, pooling resources, communication and links across the industry.” (EFF) This platform is “[o]pen to designers, retailers, buyers, fair trade producers, manufacturers, NGO’s, fashion students and tutors, consumers” (EFF), etc., inclusively. The EFF is focused on socially responsible fashion through “poverty reduction, education and the environment, in relation to the fashion industry.” (EFF) The Ethical Fashion Forum promotes socially responsible fashion design education through competitions, partnerships, research and training initiatives (EFF). The EFF has focused on both social and environmental issues.

**The Designers Accord**

The Designer’s Accord represents “a global coalition of designers, educators, researchers, engineers, and corporate leaders, working together to create positive environmental and social impact” (Compostmodern09, Allan Chochinov). The Accord engages design educators to teach socially responsible design practices; “educational adopters represent a diverse network of design educators, schools, and departments, committed to integrating sustainable principles into their academic curricula.” (Designers Accord, Educational Adopters Summit) The Accord’s Educational Adopters Summit was
developed “to foster an ongoing dialog between adopters, as well as codify a set of best practices and resources for this segment of the creative community” (Designers Accord, Educational Adopters Summit). In the context of socially responsible fashion design education, the Designers Accord has developed five guidelines for educational institutions. The five guidelines are based on declaring a commitment to initiate and engage in conversations involving social and environmental concerns within product design by incorporating the issues into curricula, and champion the education of sustainable design practices through course material and research (Designers Accord, Guidelines). The Designers Accord further requires that “[a]ll adopters, supporters, and endorsers follow a basic code of conduct: Do no harm; Communicate and collaborate; Keep learning, keep teaching; Instigate meaningful change; Make theory action” (Designers Accord, Guidelines). The Designers Accord is not industry specific, the educational guidelines are meant to transcend conventional product design boundaries.

*Educators for Socially Responsible Apparel Business*

Educators for Socially Responsible Apparel Business (ESRAB) is an organization of educators dedicated to “serve as a resource for apparel manufacturers, retailers, policy-makers, consumers, educators, and other parties aspiring to make business and consumer decisions more socially responsible with positive effects on society.” (ESRAB, The Mission) Through innovative research, the development of teaching methodology, and shared knowledge, the ESRAB promotes the education of socially responsible business practices in the apparel industry (ESRAB, About Us).
Fashioning an Ethical Industry: Putting Ethics into Practice, 2009 Conference

On March 11, 2009, FEI held their second to last annual conference, titled “Putting Ethics into Practice.” Conference participants included students and tutors interested in socially responsible fashion design. The conference allowed participants to learn first hand from industry leaders and innovators. Once the presentations were over, students and teachers participated in workshops centred on tackling some of the ethical dilemmas facing the industry. By using this method, the FEI conference was able to bring together theory and practice successfully, further stressing the importance of practical education.

Presenting her research on sustainable fashion design at the conference, Fletcher expressed her wish for the hype and buzz surrounding sustainability in the fashion industry, as it has been played out in the media, to calm down so that the industry might have some time to settle into the shift, and adjust itself appropriately. In many ways, this is necessary in socially responsible fashion design education. Educators need the opportunity to become knowledgeable on the issues, to connect the dots, and to develop appropriate design strategies. While the industry takes a time out to breath, design educators would need to play catch-up.

Partnerships for Responsible Fashion Design Education

Taken on their own, Fashioning an Ethical Industry, the Ethical Fashion Forum, the Designers Accord and Educators for Socially Responsible Apparel Business represent a powerful shift in design intention. Working together however, to create partnerships for change, the potential to transform conventional systems of fashion design education is tremendous. On July 7th, 2009, Fashioning an Ethical Industry and Educators for Socially
Responsible Apparel Business will officially launch a partnership through Liz Parker (FEI, UK) and Dr. Marsha A. Dickson (ESRAB, USA), for the release of their new book *Sustainable Fashion: A Handbook for Educators*. The “Teaching Ethical Fashion” “event will bring together educators from fashion-related courses and organisations […] to share ideas and resources, and support tutors in teaching about ethical fashion.” (FEI, FEI Events) Through partnerships such as this, systems of change are created; opportunities for the convergence of theory and practice exist through the combination of practical industry experience and educational methodologies surrounding socially responsible design.

**Conclusion**

Socially responsible fashion design seeks to address both the social issues and environmental concerns facing the fashion industry, combining both ecofashion and sustainable fashion design strategies and intentions. When considered in terms of cradle to cradle design theory, socially responsible fashion design can effectively transform the fashion industry. As seen through innovative design strategies, as well as a shift in client perception in the 1960s, fashion has the potential to signal social change. Although Crane has established categories that have separated designers based on design intentions: functional (craftsmen), aesthetic (artist-craftsmen), and ‘avant-garde,’ or postmodern (artist), it is clear that designers of all categories need to combine both function and aesthetic beauty in order to create socially responsible designs. Without responsible design strategies, notions of socially responsible consumption practices are undermined. Through conventional systems of design, consumers are left with no real choice; the Ecofashion Lexicon has left alternative consumers confused when searching for
information on the ways in which the products they wear and use everyday are made. According to Nathan Shedroff, the industry needs to work together; designers and design educators have been approaching these issues separately, resulting in an effect that “fractures our attention, as well as the conversation, rather than bringing it together” (Core 77). Fashion design educators have a responsibility to educate their students on the social issues and environmental concerns facing the industry, and to work toward socially responsible design strategies with new and unconventional design intentions. Without proper access to information surrounding the social and environmental consequences of their designs, fashion design students are left fending for themselves for any real information on these issues. Furthermore, if interdisciplinary design strategies are not adopted by design educators, in this context, socially responsible fashion design education will not be effective in facilitating positive change within the industry.

While the fashion designer maintains a responsibility to practice design responsibly, the fashion design educator has a responsibility to facilitate transformative learning. Transformative learning for socially responsible fashion design requires establishing an educational standard on the social issues and environmental concerns facing the industry. However, without international standards surrounding the social and environmental impacts of the industry, fashion design educators will be unable to develop educational standards on socially responsible design practices. Fashion design educators, and fashion design institutions, must partner with organizations such as Fashioning an Ethical Industry (FEI), the Ethical Fashion Forum (EFF), the Designers Accord, and Educators for Socially Responsible Apparel Business (ESRAB) in order to narrow the existing gap between theory and practice in the industry with respect to these issues.
Without such partnerships, fashion design educators may develop misconceptions regarding the consequences of ‘cradle to grave’ design strategies. The Fashion Design Education and Social Responsibility Survey has shown that despite any misconceptions surrounding the social and environmental factors impacting the industry, 80% of the design educators who participated in the survey claimed that they see their department/faculty increasing their involvement in understanding these issues within the future. Thus, there is a need within the industry to become properly educated on the issues at hand. Socially responsible fashion design education requires the immediate establishment of a global resource based inter-disciplinary community dedicated to adhering to international social and environmental design standards. Fashion design students must have access to education on the social and environmental consequences of their designs.
## Appendix 1

**Fibre Analysis: Possible Social and Environmental Impacts**

<table>
<thead>
<tr>
<th>Fibre</th>
<th>Possible Environmental Impact</th>
<th>Possible Social Impact</th>
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<tbody>
<tr>
<td>Cotton (C):</td>
<td>Conventional cotton cultivation uses “very large quantities of fertilizers and pesticides, which in turn have caused a range of well-documented environmental impacts including: reduced soil fertility; loss of biodiversity; water pollution; pesticide-related problems including resistance” (Fletcher, 9). Pesticide use in conventional cotton cultivation is also said to cause deforestation and defoliation (Kooistra and Termorshuizen, 15-16). Conventional cotton cultivation is extremely water intensive; it “is sometimes highly irrigated and […] has been associated with adverse changes in water balance” (Fletcher, 9). It is estimated that water consumption for cotton cultivation ranges “from 29000 litres in Sudan to 7000 litres in Israel per kg of cotton fibre (approx 2 pair of trousers).” (Fletcher, Eco Textiles)</td>
<td>The use of fertilizers and pesticides in conventional cotton cultivation causes “severe health problems relating to exposure to acutely toxic pesticides.” (Fletcher, 9) An estimated 40,000 annual deaths due to pesticide use (10% in agriculture sector) (Kooistra and Termorshuizen, 15) According to organic cotton activist and fashion designer Katherine Hamnett (citing the World Health Organization and Pesticide Action Network), “20,000 people die every year from accidental pesticide poisoning in conventional cotton agriculture […] and 200,000 cotton farmers commit suicide annually due to spiralling debts incurred from buying pesticides. A further 1,000,000 people a year suffer from long-term pesticide poisoning” (Hamnett, Campaigns: Organic Cotton).</td>
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<tr>
<td>Natural</td>
<td></td>
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<td>Wool (W):</td>
<td>Pesticides are used on sheep for wool production to control infection from parasites (Fletcher, 10). Pesticides are either poured on the sheep or the sheep is injected with the insecticide or dipped in a chemical bath (10). Badly managed pesticides can adversely effect “watercourses both on the farm and in subsequent downstream processing” (10) In cases where the organophosphates (Ops) has been replaced by cypermethrin, due to risk of health problems in humans, aquatic life becomes in danger of</td>
<td>Further consequences of poorly managed pesticides in wool production can impact health in humans: “[o]rganophosphates (Ops) for example […] are linked to severe nerve damage in humans” (Fletcher, 10). As a result, Ops may be replaced by cypermethrin (10). Although cypermethrin increases safety to for farmers, these dips have “been linked to a significant growth in incidences of water pollution, as they are 1000 times more toxic to aquatic life than organophosphates” (10). In terms of animal welfare, activist groups, such as PETA</td>
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<td>Natural</td>
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<tr>
<td>Silk (S): Natural</td>
<td>Commercially processed silk uses low levels of pesticides and fertilizers; however, low level pollutants are discharged into ground water during processing (Fletcher, 11).</td>
<td>To insure fibre quality, commercially processed silk requires that “fibres are extracted by steaming to kill the silk moth chrysalis” (Fletcher, 11). PETA has campaigned against conventional silk, as they believe it is an inhumane process (PETA, Asia-Pacific).</td>
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<tr>
<td>Linen (L): Natural</td>
<td>The production of linen can cause high levels of water pollution through ‘water retting.’ Retting is the necessary “practice of degumming flax fibres from the stalk (retting)” (Fletcher, 22). ‘Dew retting’ is an alternate technique with less association to pollution (22).</td>
<td>Linen production can be highly labour intensive, as “[t]he selection of optimum quality flax fibre has traditionally been done by hand in many countries” (Fletcher 11). As a result, labour standards remain an issue.</td>
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<tr>
<td>Polyester (P): Synthetic</td>
<td>According to Fletcher, there are four main environmental impacts of polyester production: use of petrochemicals (non-renewable resource); high level of energy consumption (contributing to global warming); potential toxic air and water emissions such as “heavy metal cobalt; manganese salts; sodium bromide and</td>
<td>According to Braungart and McDonough, polyester often contains the toxic metal antimony which is “known to cause cancer under certain circumstances.” (Braungart and McDonough, 37) In the recycling process, polyester may be incinerated. “Incineration makes the antimony bioavailable—that is, available for breathing” (38).</td>
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<tr>
<td>Material</td>
<td>Properties</td>
<td>Environmental Issues</td>
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<td>Acrylic (A): Synthetic</td>
<td>Acrylic fibre production is energy intensive and calls for a heavy consumption of water (Fletcher, 13). Environmental issues surrounding the fibre are unclear, although “it is thought that a significant number of production chemicals (including the base ingredient acrylonitrile) have a high potential for creating environmental problems if discharged untreated” (Fletcher, 13)</td>
<td>Acrylonitrile, the base ingredient in acrylic fibre, may compromise the health and safety of workers without proper safety measures, as “[e]xposure […] occurs mostly from breathing it in the air. Acrylonitrile primarily affects the nervous system and lungs.” (ATSDR) According to the Agency for Toxic Substances and Disease Registry (ATSDR), “[t]he Department of Health and Human Services (DHHS) has determined that acrylonitrile may reasonably be anticipated to cause cancer in people.” (ATSDR)</td>
</tr>
<tr>
<td>Viscose (V): Synthetic</td>
<td>Although the raw material (beech wood, and other soft woods, or bamboo, etc.) used to create the viscose fibre may be considered ‘carbon-neutral’ (in that they release the same amount of carbon dioxide as they absorb during growth), fibre production uses toxic chemicals, creates damaging emissions, and creates water and air pollution (Fletcher, 14).</td>
<td>The use of such toxic chemicals raises serious concerns regarding the health and safety of workers. Earlier processing “created worker safety hazards from chemical fumes escaping during the processing.” (Organic Clothing Blogs, Regenerated Cellulose Fabrics) Health and safety remain an issue, although, “[s]trengthened environmental protection standards and worker health regulations have lead to improved manufacturing processes” (Organic Clothing Blogs, Regenerated Cellulose Fabrics).</td>
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| Organic cotton (OC): Natural | When compared to conventional cotton, organic cotton “production results in a dramatic change in the profile - the toxicity of the materials cultivation phase of the lifecycle drops to zero and overall product toxicity is reduced by 93 per cent” (Fletcher 19). Water consumption remains an environmental issue within organic cotton production where | In 2007/08, global organic cotton production increased by 95%. (Ecotextile News). Although demand for organic cotton is on the rise (63%), 2007/08 also saw an 8% global oversupply of the fibre (Ecotextile News). The process of converting conventional cotton to be certified as organic can be slow and expensive; it may be considered “a risky venture for many farmers who
<table>
<thead>
<tr>
<th><strong>Low water use cotton (LWC): Natural</strong></th>
<th><strong>Fair Trade cotton (FTC): Natural</strong></th>
<th><strong>Organic wool (OW): Natural</strong></th>
<th><strong>Hemp (H): Hemp</strong></th>
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<tr>
<td>conventional methods of water irrigation are used (23).</td>
<td>Non-conventional irrigation methods such as rain-fed cotton and drip irrigation can save “up to 30 per cent water consumption compared to conventional irrigation” (Fletcher 23). However, the use of toxic chemicals remains an environmental issue.</td>
<td>Organic wool production is less environmentally damaging compared to conventional wool production, as it “comes from sheep reared on organically grown feed, that graze on land not treated with pesticides and that are not dipped in synthetic pyrethroids or OPs” (Fletcher, 25). Organic Wool is less popular than conventional wool, and thus produced on a much smaller scale.</td>
<td>Potential environmental impacts associated with the hemp cultivation and fibre production</td>
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<td>are already struggling to stay on the land.” (Fletcher, 21)</td>
<td>Low water cotton production requires intense labour (Fletcher, 23). As a result, cotton farmers and workers may still be at risk for labour abuses and exposure to chemicals.</td>
<td>The Fairtrade Foundation itself claims Fairtrade certification is only one way to support cotton farmers; for this reason, the Fairtrade Foundation also supports “the Trade Justice Movement (TJM) that campaigns to put poverty reduction and sustainable development at the heart of international trade negotiations.” (Fairtrade, 4). Continued use of pesticides and fertilizers in Fairtrade certified cotton may means that the health and safety of the farmer may still be at risk; however, the Fairtrade foundation requires that certified farmers “demonstrate increased diligence in choosing appropriate non-harmful chemicals or a biological or home-made alternative wherever possible.” (Fairtrade, 5).</td>
<td>In the context of any possible social impact the hemp fibre may be associated with, there are political</td>
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</table>
Although lyocell fibre production is energy intensive, potential social impacts of lyocell fibre production may be similar to those of Polyester, as the fibres are similarly “based on a petrochemical feedstock and are effected by the same issues” (Fletcher, 13).

**Wild (tussah or peace) silk (WS):** Natural

The potential environmental impacts of wild silk (or peace silk) cultivation are limited, as no hazardous chemicals are used in its production (Fletcher, 27).

According to Fletcher, the cultivation of peace silk facilitates “a major year-round income for millions of tribal people in India” (Fletcher, 27). Potential social impacts of the fibre may involve securing international standards for working conditions.

**Poly (lactic acid) (PLA):** Synthetic

Possible environmental impacts of PLA fibres “include the negative effects associated with large-scale, intensive agriculture and the problems associated with landfilled biopolymers with the generation of methane, a powerful greenhouse gas” (Fletcher, 28).

PLA fibre is made primarily through corn. Possible social impacts surrounding the fibre relate to the use of food crops converted into non-food products. Furthermore, in the U.S., when corn is used as a raw material for PLA production, companies are “unable to guarantee a GM-free status of the fibre, because of the US policy of not segregating its GM and non-GM corn crops” (Fletcher, 29).

**Nylon (N):** Synthetic

Nylon is a petrochemical dependant fibre (Fletcher, 13). As a result, potential environmental impacts associated with the fibre involve “the political, ecological and pollution effects associated with carbon chemistry” (13). According to Fletcher, “information or analysis of its environmental impacts is not in the public domain.” (13) Nylon production is also energy intensive.

Potential social issues surrounding the production of Nylon may be similar to that of Polyester as, according to Fletcher, the fibres are similarly “based on a petrochemical feedstock and are effected by the same issues” (Fletcher, 13).
| Lyocell (Ly): Synthetic | boasts an environmentally friendly process, fibre production “is energy intensive” (Fletcher, 32). Furthermore, recently the fibre has been treated with enzymes during production to aid in lasting quality (resulting in less pilling). According to Fletcher, “as with all similar processes, these consume a combination of energy and chemical inputs and produce waste and emissions” (32). | production involve issues surrounding chemical use, and workers safety. |
| Bamboo (B): Natural | Bamboo is converted into a fibre through either chemical (bamboo rayon) or material (bamboo linen) processing. Chemicals used in the manufacturing of bamboo rayon are hazardous to the environment if not properly treated (Organic Clothing Blogs: “Bamboo: Facts behind the Fiber”). Chemically manufactured bamboo rayon uses carbon disulfide and sodium hydroxide (Organic Clothing Blogs: “Bamboo: Facts behind the Fiber”). Bamboo rayon should not be “considered sustainable or environmentally supportable” (Organic Clothing Blogs: “Bamboo: Facts behind the Fiber”). Chemicals used to breakdown bamboo into a fibre are extremely hazardous for workers (Organic Clothing Blogs: “Bamboo: Facts behind the Fiber”). Mechanical processing is highly labour intensive, and may workplace standards may cause concern (Organic Clothing Blogs: “Bamboo: Facts behind the Fiber”). It is unclear whether proper systems of land use are in place. According to CSR Asia, for bamboo to be considered a socially responsible fibre, manufacturers must “certify the agricultural and workplace practices involved” (CSR Asia). |
| Soya (Soy): Natural | According to Fletcher, “[c]ommercial, large-scale soya bean farming is water, fertilizer and pesticide intensive, and is commonly reliant on GM technology and widespread herbicide use supported by biotechnology companies” (Fletcher, 34). Potential social issues surrounding soya fibre are those associated with chemical use, as well as the social, cultural and political concerns surrounding genetic modification (see ‘Low-chemical cotton,’ below). |
| Naturally coloured fibre (NCF): Natural | Using the example of Indigo, McDonough and Braungart explain how natural dye can be dangerous; “Indigo contains mutagens and […] depletes genetic diversity” (McDonough According to McDonough and Braungart, “‘natural’ products are not necessarily healthy for humans.” (McDonough and Braungart, 42) Careful attention must be paid in this regard. |
Cultivation of low-chemical cotton included such methods as systems of integrated pest management (IPM) and genetic modification (GM). In California, The Sustainable Cotton Project (SCP) has shown that IPM systems can create an overall chemical reduction greater than in organic systems, without the use of genetic modification. The SCP aims to reduce the farms chemical dependency by introducing “[c]omposted manures and cover crops replace synthetic fertilizers; innovative weeding strategies are used instead of herbicides; beneficial insects and trap crops control insect pests; and alternatives to toxic defoliants prepare plants for harvest” (SCP). Other low chemical systems may involve GM. Arguments against GM within agricultural systems include: “negative and irreversible environmental impacts; release of organisms which have never before existed in nature and which cannot be recalled; pollution of the gene-pool of cultivated crops, micro-organisms and animals; pollution of farm organisms; […] practices which are incompatible with the principles of sustainable agriculture” (Kooistra and Termorshuizen, 17). In that low-chemical cotton initiatives are primarily focused on environmental factors, it is important that social goals not be abandoned. IPM systems can be labour intensive, and where toxic chemicals are used, health and safety, as well as working conditions, remains a factor (Fletcher, 21).

Chemically recycled fibre is energy intensive (Fletcher, 35). According to McDonough and Braungart, if the product, or fibre, was not designed with the intent to be recycled, the processes may have a negative environmental impact (McDonough and Braungart, 39).

Possible social implications of recycled fibre involve its association with chemicals. According to Fletcher, “[t]he most commonly available recycled synthetic fibre is polyester” (Fletcher, 35). As a result, social implications seen with the polyester fibre may be carried forward in the recycling process.
Appendix 2

The Fair Labor Association (FLA), “Workplace Code of Conduct”: Definitions

1. Child labor: “No person shall be employed at an age younger than 15 (or 14 where the law of the country of manufacture allows*) or younger than the age for completing compulsory education in the country of manufacture where such age is higher than 15.” (FLA)

2. Nondiscrimination: “No person shall be subject to any discrimination in employment, including hiring, salary, benefits, advancement, discipline, termination or retirement, on the basis of gender, race, religion, age, disability, sexual orientation, nationality, political opinion, or social or ethnic origin.” (FLA)

3. Harassment or abuse: “Every employee shall be treated with respect and dignity. No employee shall be subject to any physical, sexual, psychological or verbal harassment or abuse.” (FLA)

4. Health and safety: “Employers shall provide a safe and healthy working environment to prevent accidents and injury to health arising out of, linked with, or occurring in the course of work or as a result of the operation of employer facilities.” (FLA)

5. Hours of work: “Except in extraordinary business circumstances, employees shall (i) not be required to work more than the lesser of (a) 48 hours per week and 12 hours overtime or (b) the limits on regular and overtime hours allowed by the law of the country of manufacture or, where the laws of such country do not limit the hours of work, the regular work week in such country plus 12 hours overtime and (ii) be entitled to at least one day off in every seven day period.” (FLA)

6. Forced labor: “There shall not be any use of forced labor, whether in the form of prison labor, indentured labor, bonded labor or otherwise.” (FLA)

7. Freedom of association and collective bargaining: “Employers shall recognize and respect the right of employees to freedom of association and collective bargaining.” (FLA)

8. Overtime compensation: In addition to their compensation for regular hours of work, employees shall be compensated for overtime hours at such premium rate as is legally required in the country of manufacture or, in those countries where such laws do not exist, at a rate at least equal to their regular hourly compensation rate.” (FLA)

9. Wages and Benefits: “Employers recognize that wages are essential to meeting employees’ basic needs. Employers shall pay employees, as a floor, at least the minimum wage required by local law or the prevailing industry wage, whichever is higher, and shall provide legally mandated benefits.” (FLA)

“*All references to local law throughout this Code shall include regulations implemented in accordance with applicable local law.” (FLA)
Appendix 3

TerraChoice: The Seven Sins of Greenwashing™

1. Hidden Trade-off: A product has committed this sin if it has claimed to be ‘green’ by acknowledging environmental benefits within one aspect of its lifecycle and ignored damages done in another. (TerraChoice, 3)

2. No Proof: A product has committed this sin if it has made environmental claims that cannot easily be proven by customers. In this case, the customer has no way of accessing evidence to support this claim. (TerraChoice, 3)

3. Vagueness: A product has committed this sin if it has ‘intentionally’ used vague vocabulary. For example, “[a]ll-natural” is an example. Arsenic, uranium, mercury, and formaldehyde are all naturally occurring, and poisonous. ‘All natural’ isn’t necessarily ‘green’.” (TerraChoice, 3)

4. Irrelevance: A product has committed this sin if it has claimed an irrelevant truth. For example, “‘CFC-free’ is a common example, since it is a frequent claim despite the fact that CFCs are banned by law.” (TerraChoice, 3)

5. Lesser of Two Evils: A product has committed this sin if it has claimed contradictory messages (i.e. the fuel efficient sport-utility vehicles and organic cigarettes) (Terra Choice, 3)

6. Fibbing: A product has committed this sin if it has falsely claimed to be ‘environmental.’ The report claims this sin to be the least frequent. (TerraChoice, 3)

7. Worshiping False Labels: A product has committed this sin if it has falsely, or inaccurately, suggested, through words or images, that it has been endorsed by a third-party (TerraChoice, 3-5).
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