

## **Exploring Design Students' Translations from Brief to Prototypes**

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### **Abstract**

**Purpose:** To explore and evaluate the role of the educational design brief in relation to fashion and textile students' intellectual, conceptual and practical competence building within the subject of design and sustainability. The paper seeks to inform other educators, academics and practitioners affiliated to fashion and textile design education, as well as contribute to the general knowledge development around sustainability competencies and education.

**Design methodology/approach:** The study builds on a specific case: The Design for Change BA fashion and textiles course at Design School Kolding 2014-17. The study applies a cluster analysis inspired research approach to explore the empirical material, which consists of partly written documents (i.e. course framework, design brief, student project descriptions) partly physical outcomes (finished textiles and garments). The findings are evaluated in the light of recent literature on fashion futures.

**Findings:** The study shows that the open, holistic and relatively stable brief has accumulated and built knowledge within both student and staff communities over the four years. In consequence, this has led to increasingly complex design concepts and solutions emerging in the students' work.

**Research limitations/implications:** Outcomes should be addressed as indicative and explorative, due to the small-scale nature and specific context.

**Originality/value:** The paper contributes with new knowledge towards the relatively underresearched notion of the brief in design education, here specifically in relation to fashion and textile students' development of sustainability competencies and learning outcomes.

**Keywords:** Design brief, fashion and textile education, practice, sustainability, futures scenarios, systems

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## **Introduction**

In this paper, we address the theme 'Fashion Designer and Sustainability' from an educational perspective. Thus, the empirical data is collected from novice designers (Schön, 1983; Cross, 2004; Lawson, 2004; Bordal, 2018). In a global context, teaching sustainability to fashion students is a rather new subject on the curriculum. The growing amount of academic literature, new business models and societal discourses of sustainability are part of the reality surrounding fashion education. Therefore, it is important to continuously evaluate course framework and outcomes in order to learn from experiences and adjust design briefs for future directions.

The course module entitled Design for Change is used as a case study for investigating how students translate an open design brief into future scenarios and actual garments using a holistic approach to sustainability.

Firstly, we describe the case – the factual framework for the brief within the course module and selected student projects. Secondly, we conduct an explorative clustering of student outcomes in relation to existing models of life cycle design. Thirdly, we analyse and discuss the findings in the light of recent literature on fashion futures. Based on these insights, we evaluate the role of the design brief as initiator for intellectual, conceptual and practical competence building in relation to students' learning outcome.

Thus, the paper seeks to inform other educators, academics and practitioners on the role of the design brief in relation to competence building, learning outcomes and students' understanding of sustainability issues generally (see e.g. Barth et al., 2017; Wiek et al., 2011; Garcia et al., 2017), as well as add to the international body of knowledge, specifically looking at fashion and textiles education and sustainability (see e.g. Parker & Dickson, 2009; Fletcher & Grose, 2012; Grose, 2013; Gwilt, 2014; Tham, 2016; Rissanen, 2017; Nimkulrat et al., 2018). Lastly, by zooming in on the role of the design brief in relation to teaching sustainability to fashion and textile students, the study adds new layers to former inquiries conducted in the context of Design School Kolding's fashion and textile education (e.g. Leerberg et al, 2010; Riisberg, 2010; Hasling, 2015; Riisberg and Grose, 2017; Ræbild and Hasling, 2017; Ræbild, 2018).

## **Background**

At Design School Kolding (DSKD) we teach courses as continuous projects running between 1 and 10 weeks, supplemented by various theoretical, methodological and business oriented classes once a week. The design projects are based on concept ideation, which is transformed into prototypes in the workshops. Thus, the learning of skills is anchored in the exploration of ideas and design concepts through materials and practise. A key element in the curriculum, and particularly relevant in the context of this paper, is the interdisciplinary course on design methods which support ethnographic fieldwork and other design methods (Friis and Gelting, 2014).

Since 1998 the textile and fashion department at DSKD has developed various modules for design and sustainability. This strategy has resulted in lectures and teaching modules starting in the 2nd semester. Students are introduced both to a natural science approach, e.g. design for circularity, LCA analysis of materials in relation to properties and new technologies along with various humanistic perspectives such as emotional design, slow fashion, user and wardrobe studies. As such, the courses are positioned within the ongoing academic and commercial discussions about fashion, textiles, sustainability and new business models, while taking an open approach towards the future.

The background for the study presented in this paper is the continuing joint fashion and textiles BA course in sustainability at DSKD, currently entitled *Design for Change – Past, Future and Present*. The course is a full-time study divided between teamwork and an individual project, running between 8 and 10 weeks, corresponding to 15-20 ETCS points. We have chosen the period 2014-17 for our investigation because the length, structure and design brief for this period has been quite consistent.

#### *Course framework*

The course is partly inspired by DSKD's participation in the Local Wisdom Project 2012-14 led by Kate Fletcher (Fletcher, 2016) and the seminal book by Fletcher and Grose (2012) wherein they sum up research and practice besides developing new ideas in the field. The book has assisted us in making the complex aspects of sustainability understandable and accessible to students because of its practice based approach aimed at education. Sections from the book are mandatory reading and part of the course introduction. These are supplemented by varying shorter texts, articles and manifests, along with introductions to an array of methods such as wardrobe studies (e.g. Niinimäki and Koskinen, 2011; Skjold, 2011; Fletcher and Klepp, 2017), scenario building (e.g. Auger, 2013; Malpass, 2016; Celi and Formia, 2017) and life cycle approaches (e.g. Ellen McArthur Foundation, 2017; Mestre and Cooper 2017). We also discuss a range of present and future environmental challenges, show examples of visionary designers and companies as well as point out new developments in materials and upcoming technologies. Lastly, method cards on sustainable strategies play an important part in group work and concept development (Bohl, 2015; Hasling and Ræbild, 2017; Ræbild and Hasling, 2018).

#### *Course description and design brief*

A course description at DSKD is the overall formal document describing objective, learning outcome, examination regulations and types of instructions.

The Design for Change course objective is:

*“...to give students knowledge about and experience with one of the most significant challenges in the industry: to design for a sustainable future. The students will be introduced to new research and practice in the field.*

*The students will experiment with and develop new strategies, business models, collections and concepts that explore potentials and scenarios for a sustainable future” (Design School Kolding, 2017).*

The course is divided into three parts: Past, Future and Present. Here we focus mainly on the longest part, Future, due to its complexity, including the teams’ collective written reflections presented in the project descriptions, concepts, final presentations and physical outcomes, which we have chosen as the objects for our analysis.

According to the course description, the learning outcome for the Future part is as follows:

- Acquire knowledge about ‘fast – and slow fashion’ systems and understanding of working with future scenarios
- Develop intellectual, creative and practical skills in order to transform insights from research into a sustainable fashion or textile collection. Furthermore, be able to make a complete garment style, including textiles designed and produced in the workshops
- Build competences to describe and communicate sustainable elements and visions and to reflect on potential change strategies.

The assignment brief is authored by the teacher(s) based on the course description. As such the brief is a personal and professional interpretation and elaboration on the subject. Furthermore, it is a concrete plan for how the teaching is conducted to meet the learning outcomes, including student deliveries. The brief template contains information on: teachers; place/rooms; time period; learning outcomes; course content; types of instruction; deliveries; practical information; required readings and additional readings.

Below, we extract three key elements:

a) ‘Content’ covers the course parts, Past, Future, Present. b) ‘Types of instruction’ describes pedagogical practices. c) ‘Deliveries’ specifies the expected outcome of the three different parts.

In this brief, the content section opens with questions related to the institution’s research strategy in relation to sustainability:

*“How might we as designers contribute to a more sustainable future where fashion is still possible? Could it be a future that sees quite different business models, ideals, values and consumer behaviours? And what role will users, tradition, craft, new materials and technology play in such a transformation? Throughout the course, these questions will be addressed by introducing to and discussing i.e. the concepts of fast and slow*

*fashion as a way to reflect current movements in the fashion and textile industry.” (Design School Kolding, 2017)*

Following this, the individual parts of the course are further addressed by posing some open questions to the students: 1. What can we learn from the past? 2. What are your ideas and visions towards sustainable fashion and textile design in the future? 3. How can designers participate in the progress towards sustainability – here and now? The teaching format is thereby built around a synergy effect, where research and experimental output from Past is carried forward as inspiration for the Future theme. Likewise, insights and output from Future flow into the Present part.

The course includes multiple types of instruction: Group lectures, skills workshops, individual and team work with supervision, as well as independent study.

Deliveries in the Future part: Each group develops a future concept and designs a mini collection consisting of three outfits, of which one outfit (minimum three styles) must be realised. The other two outfits are to be visualised on paper and through textile samples. The required documentation is a pdf that shows concept/idea/vision, process and result, including project description.

To conclude, the course has a specific pedagogical goal, which is double in nature: To let the development of theoretical understanding of sustainability and practice skills go hand in hand. Furthermore, students are facing other challenges that are new in the curriculum, e.g. designing for a collection format, making a complete outfit and making textiles in bigger pieces for garments.

It should be noted, that the two course documents, referred to here, are from 2017. We have deliberately chosen to disregard small text variations in documents from previous years in this paper.

### **Student projects as cases in condensed form**

We have selected 4 examples representing different design strategies from the Future module 2014, 2015, 2016 and 2017. All projects have biases and challenges within the approaches and concepts that students do not address (see e.g. Maldini and Balkenende, 2017). We are aware of this, but do not discuss these issues here, since our focus is on the students’ learning outcome, visions and understanding of the complexity of sustainability issues – not fully-fledged solutions.

*The first case* (figure 1) from 2014 is by Ida Rolskov, Anne Louise Schmidt and Uyen Thuy Pham. Based on the initial research, they found that ” ...there is a huge need for changing behavioural patterns in the high-

street market both for the fashion industry, designers as well as consumers.” The team was very keen not to compromise on aesthetic expressions and asked two questions: 1. “How might we make high street fashion more flexible and longer lasting without compromising on price? 2. How might we create high street fashion that brings the customer an experience and might further emotional attachment?” As a response to these challenges, the team developed a ‘near future’ concept that offers to supplement a style with a modular part for changing look. As part of a more sustainable business strategy, each style was constructed in a mono material, thus designing for recycling in a circular system collecting used garments. To stimulate return of used garments, they imagined a deposit reward for the customer to spend on a new purchase.

*The second case* (figure 1) from 2015 is by Ann Sofi Gundtoft, Frederik Ingvorsen, Andrea Momme and Nanna Stech Jensen. Their aim was to create comfortable and functional garments with a distinct aesthetic and contemporary look based on waste materials. As a starting point, the team visited a large laundry service to map what kind of discarded textiles were available, the flow and the amounts. They also discussed ways to raise user awareness of sustainable behaviour and possible actions. Based on their research they asked: “How might we create a concept that focuses on using waste materials and includes the user in the process?” Furthermore, in their 2020 near future vision they stated: “The world needs a new and more sustainable industry. This is already happening many places, but actions are still needed. The lifetime of materials and garments today is only about 20% of their actual lifetime. Discarded because of minor flaws, new trends or lack of personal attachment.” On this ground, they developed a closed loop business model for a niche market based on two collections per year – including some gender specific styles and some unisex, high quality, hand craft and production on demand. The collection and colour choices for each style would be available online and on display in pop up shops operated by the team. They wanted to create a brand with the aim “... to build a relationship to the costumer so that their returning of the garment closes the sustainable loop.”



Figure 1, To the left and in the middle first case 2014 and to the right the second case 2015

*The third case* (figure 2) from 2016 is by Benjamin Rask, Marie K. Jensen, Helene S. Holm and Sofie B. Holst. The team developed a visionary concept based on new technology and named it *Household 3D printing*: “The year is 2046 and 3D printers are as common as smartphones are today. The 3D printer is used for printing all sort of things: interior, toys, clothes – all except food. The printer can print with all kinds of fibres, including wool and silk. The filaments can be bought online, and in our show rooms you can get samples as well as feel the qualities. Deliveries are done by drones. Our company sells files and filaments for 3D print. By doing this we make sure to control quality, colours and cuts. From here on it is up to the costumer to print the file at home. 10 years further along (2056), recycling techniques have been developed for recycling the printed items at home. Currently the items can be returned to our company, where we will recycle the items into new filament.”

*The fourth case* (figure 2) from 2017 is by Victoria S. Hansen, Pernille Madsen and Benedicte Hansen. Inspired by aesthetic theory they created a poetic manifest and called their concept *The Sublime*, suggesting styling as a service in 2100. Here, they imagined that different social norms had developed: “In a future where ideals for body, gender and age are much less prominent, people are free to dress intuitively. We have an ever-increasing need to take care of the Planet and each other. We need to become better at keeping our clothes and rethink our relationship to garments and styling.” Based on this challenge they ask: “How might we design a collection that the user will keep in the wardrobe for a long time through styles that encourage intuitive styling? And how might we nudge the user into getting more use out of their wardrobe through our collection, an online platform, and in-person social events?” The team tested their ideas about intuitive styling through a series of personal experiments as well as with fellow students. These were documented in photos and videos followed by an analysis used to develop a common aesthetics and form language for the concept. Based on this the team designed a closed loop concept taking into account how, at the end of its lifetime, a garment can be dissembled using microwave technology if constructed with a special sewing thread. In their presentation, they state that: “We have created a collection that promotes rethinking, play and intuition.” In addition, a styling service is a central part of the concept which they propose 1) as an online platform: “... where a free community between different ages and genders can share and help each other with rediscovering and styling their already existing garments” and 2) as pop up social events where users/subscribers can participate as a group of friends or as a group from the online platform. “We (the designers) will be present and participate with styling advice, and it will be possible to mix our collection with the participants’ own wardrobe”. -

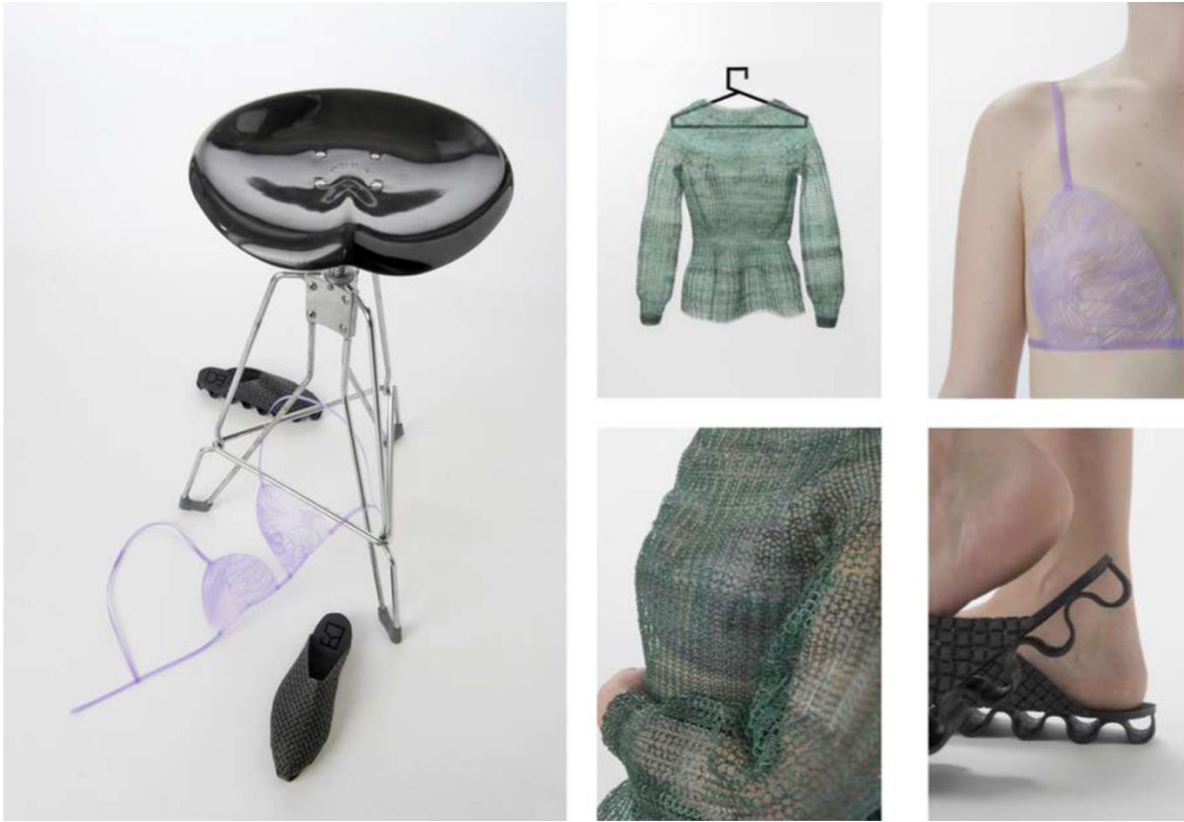


Figure 2: Top the third case 2016 and at the bottom the fourth case 2017

### Methodology

In the following we describe the origin, content and format of the data used in the investigation, as well as account for the methodological approach of clustering and analysing the empirical material. Moreover, we introduce the literature through which we will engage in the discussion of the analysis outcome.



But first, it is of importance to make ourselves transparent, as researchers and educators, in the context of this paper. We, the authors, have both taught in the course, but with different perspectives and lengths of experience. Riisberg, coming to the course with a textile background, has been the key driver in developing the fashion and textile sustainability curriculum at DSKD since 1998, and therefore also the Design for Change course. She has been part of the Design for Change teacher team every year, from an initial role as course leader, to delivering lectures, workshops and supervisions in later years. Ræbild, with a fashion background, joined the course in 2016. Partly to strengthen the in-house fashion design representation through the course parts, partly to take over the task of course leader in a course with a fair amount of both internal and external students and educators. As educators and researchers, we all have our particular interests and potential unconscious (and conscious) biases that get reflected in the dialogues with students. Consequently, any development that we might observe in the analysis of the data, might, or might not, be due to the fluctuation of teachers in the course, including ourselves. Yet, by addressing the data, the way we do – as accounted for below – we have strived to create distance to the body of data with which we are rather familiar.

The data falls into two categories. The first category consists of the formal text-based documents (academic years 2014 – 2017) that have framed the course. It includes course descriptions (authored by the institution), week plans and design briefs (authored by the course teachers) and project descriptions (authored by the student groups). The second category consists of the students' body of work over the four years. 29 projects in total are included in the study: 2014 (7), 2015 (9), 2016 (6), 2017 (7). The data for each project consists of a final presentation (pdf of 10-20 slides with text, models, and images) made by the student teams during the course.

In order to conduct an explorative analysis of the projects, we have taken the information given in the student generated data (projects description and final presentation) and condensed it. Thus, for each project, we have extracted the students' design and sustainability concept, including focus area, key aim and main design strategies along with images of the final fashion and garment designs, and presented them in A4 data sheets (for examples see figure 3).



Figure 3: Data sheet examples.

For the investigation, we have applied a cluster analysis approach (see e.g. Burns, 2008; Everitt, 2010), as this is a way “of classifying a ‘mountain’ of information into manageable piles.” (Burns 2008, p. 552). Furthermore, cluster analysis allows for cluster grouping definitions to emerge from the analysis, as opposed to fitting data into pre-conceived categories (ibid.). Due to the relative limited size of the data body, we have worked with physical (printed documents, visual and text) rather than coded and computational modes of clustering.

The data sheets described above have been used to conduct two consecutive modes of cluster analysis in order to explore the projects from different yet interdependent perspectives. The outcomes have then been translated into tables to provide an overview.

From an ‘internal’ perspective, we have explored how the students themselves describe a sustainable design challenge, and how they transform theoretical and conceptual approaches into realised (although prototyped) designs. Therefore, we clustered projects according to the key sustainability concepts and approaches condensed in the data sheets through a colour coding process.

From an ‘external’ perspective we have explored how the projects can be understood and positioned in the wider context of design and sustainability development (see e.g. Ceschin & Gaziulusoy 2016) where focus and scope have increasingly widened from the level of the product, to systems, services and broader cultural impact. We have here chosen to cluster the projects towards the ‘Five Perspectives of Sustainability Design’ model (Hasling, 2016) as it encompasses the general development and is developed with a specific focus on analysing the fashion and textile sector’s design strategies for sustainable development (figure 4).

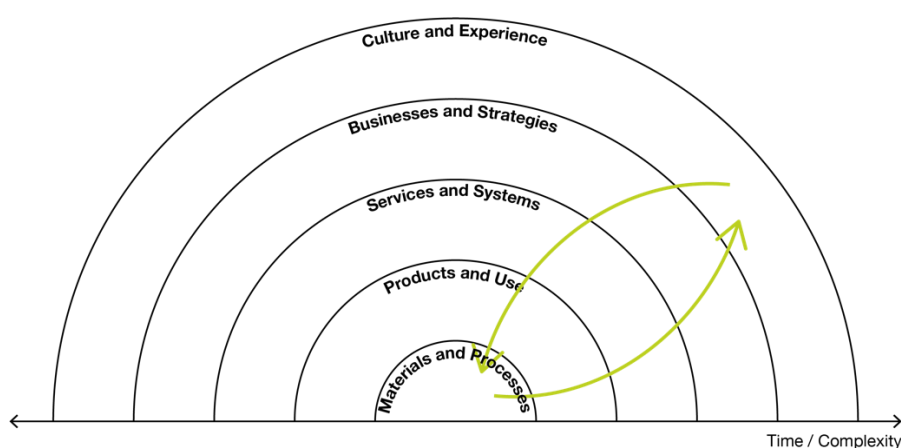


Figure 4: The Five Perspectives of Sustainable Design Model (Hasling, 2016).

For this analysis, each perspective of the model was number coded: 1. Materials and Processes, 2. Product and Use, 3. Services and Systems, 4. Businesses and Strategies, 5. Culture and Experience. These were then used to analyse and cluster each of the 29 projects. During the process, we allowed a project to address from 1 – 5 perspectives.

Thus, the analysis is based overall on the students’ own terminology inspired by and developed from the course literature (accounted for in the background section), supported by how we interpret the garments’ aesthetic expressions and what kind of associations they mediate (e.g. classical well-known references or future-oriented shapes and materials).

In order to discuss the outcome of the cluster analysis processes, and build nuance to key findings, we bring in two texts. We employ ‘Creative Resilience Thinking in Textiles and Fashion’ by Mathilde Tham (2016) to understand in which ways the course brief might, or might not, develop students’ critical and creative responses to the challenges facing the fashion industry, and furthermore, whether working from the brief can be argued to foster resilience thinking competences in the students (here we mainly address analysis 1). Secondly, we employ the notion of Micro-Utopias in fashion education as brought forward by Timo Rissanen (2017) to discuss and reflect upon the total project ‘landscape’, i.e. the types of imagined futures, speculative scenarios and agendas for cultural changes that surface from the students’ creative transformations of the brief (here we mainly address analysis 2).

## Findings

With the reservation that the study is small scale and therefore indicative and explorative in nature, the cluster analyses 1 and 2 have enabled us to make a number of observations.

### *Observations in the outcome of analysis 1*

The process of analysing conceptual approaches to sustainability in the student projects led to eight emerging cluster groups: Upcycling; Design for recycling; Slow; Modular & Multifunctional; Critical & Speculative; Technology-driven; User-driven and Bio-inspired. As the projects generally appeared to combine approaches, most projects have been noted in two categories. The result can be seen in the table below (figure 5).

<b>APPROACH/YEAR (number of projects)</b>	<b>2014 (7)</b>	<b>2015 (9)</b>	<b>2016 (6)</b>	<b>2017 (7)</b>	<b>Total (29)</b>
<b>UPCYCLING</b>	1	2	2	1	6
<b>DESIGN FOR RECYCLING</b>	3	1	2	1	7
<b>SLOW</b>	3	3	0	0	6

<b>MODULAR/MULTIFUNCTIONAL</b> (Incl. gender and seasons)	2	4	2	2	10
<b>CRITICAL/SPECULATIVE</b>	3	2	3	4	12
<b>TECHNOLOGY-DRIVEN</b>	0	1	2	2	5
<b>USER-DRIVEN</b>	0	2	1	3	6
<b>BIO-INSPIRED</b>	0	1	0	3	4

Figure 5. Clustering of conceptual approaches to sustainability in student projects.

The first observation relates to the general developments in the projects within the four-year time period. Several of the early projects seem to approach the brief from a preconception of aesthetics in sustainable products as something undesirable, i.e. some students react to a conception of sustainable fashion as boring and see it as an unwanted constraint on their creative output. At the same time, they are highly engaged in showing the potential, particularly through the conceptual approaches of slow design, recycling and scenario making. What we can detect in the images produced by the groups (i.e. the compulsory photoshoots) is that students have used fellow students a year below as models to show the styles. This means that each year the course has run, more exposure has been generated in terms of what sustainability in textiles and fashion can look like. We also see a strong synergy effect between 2<sup>nd</sup> and 3<sup>rd</sup> year sustainability courses resulting in much stronger background knowledge raising the level of the students' ambitions for the physical outcome of the projects in the 3<sup>rd</sup> year. Likewise, exhibitions in-house and outside the school, competitions, e.g. H&M and Re-dress, the Global Fashion Summit and the Youth Fashion summit as well as increased media and industry attention have expanded the students' overall conception of sustainability as a driver for creative output and concept development. This might be one reason behind the increase of applied approaches that we can see from 2015 and onwards, e.g. an expansion from womenswear only to including menswear and multiple gender garments. Furthermore, there seems to be an increase of tech and user-driven as well as bio-inspired projects, while at the same time a slight decrease of upcycling and recycling and slow approaches. This tendency of a widened scope in the approaches to sustainability issues seems to be in line with a general development in design education, the profession, among companies, in policy making and society (see e.g. Irwin et al.; 2015; the report "Well Dressed? The present and future sustainability of clothing and textiles in the United Kingdom", 2006, H&M competition – started in 2012; Ellen McArthur Foundation – launched in 2010; UN 17 Sustainable Development Goals, 2015).

The second observation relates to what could be framed as an ongoing negotiation between the aesthetic and sustainable properties in the material use and strategy within a design process. For example, in the first year (2014), some students tried to come up with a sustainable ‘alibi’ *after* finishing their designs, to compensate for having a more settled and traditional understanding of fashion and a fashion design process framing. The second year (2015), the students showed more curiosity towards changing the ways of designing, seeking real life experiences from cultural contexts and users and a deeper research in to future technology and material sources. Then, in 2016, students began to imagine social change and implementation of different business models, e.g. styling, as an important strategy for sustainable fashion both from a designer and a user perspective. We also saw a greater variety of scenarios for future developments based on alternative natural resources, e.g. seaweed and integrated digital technology.

There is a great span in the way approaches to sustainable strategies are combined in the total data. Moreover, the same approaches may lead to very diverse aesthetic expressions. Common to all projects is a high level of focus on user needs embedded in the design process, but some are explicitly inviting the wearer to interact during the use phase and the post use process for closing the material loop.

In terms of insights, it may seem as if understanding issues of sustainability is not something that is only built within the individual student, or even in the individual group, but rather that it is understandings built collectively within the community. In this case, the fashion and textile department at DSKD. Furthermore, that it is understandings best built over time. This could indicate, that stable briefs combined with teacher’s thorough evaluation of the outcome might be a way to let such development happen. Keeping an open, holistic brief seems to further discussions in the team work as well as strengthen experiments, intellectual reflections and deep research fuelled by the students’ own interests.

*Observations in the outcome of analysis 2*

The clustering analysis of sustainable perspectives in students’ projects according to Hasling’s model is shown here (figure 6).

<b>PERSPECTIVE / YEAR</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Total</b>
<b>1. MATERIALS AND PROCESSES</b>	6	6	5	4	21
<b>2. PRODUCTS AND USE</b>	7	8	4	5	24
<b>3. SERVICES AND SYSTEMS</b>	0	2	1	3	6

<b>4. STRATEGIES AND BUSINESS MODELS</b>	0	2	1	2	5
<b>5. CULTURE AND EXPERIENCE</b>	2	2	5	5	14

Figure 6: Clustering of sustainability perspectives in student projects.

Looking at the outcome (fig. 6), we can observe that the majority of projects include the first two perspectives regarding Materials and Processes and Products and Use. Hence, students display a baseline thinking wherein exploring the relationship between the product and the user as well as creating new ways of perceiving, using and processing materials seem essential.

The Services and Systems perspective comes in to the picture from 2015. Although it develops every year, there is only a total of five projects over the four-year period. Nearly the same pattern can be seen for the Strategies and Business Models perspective. Here it should be noted that we, the authors, have focused on the key elements in students' concepts when condensing the data sheets. The Services and Systems and Strategies and Business Models perspectives might therefore very well have been present, also in the other projects, only less emphasised. Not least because the groups develop lifecycle models as part of the overall delivery.

Nearly half the projects, 14 in total, embed perspectives level five, Culture and Experience, in the concepts. Either as a prerequisite condition, as an expected outcome or as experiences with and around garments as part of the design. During the four-year period, we can observe a development in the students' project descriptions, which seem to become increasingly complex, elaborated and reflected. Contrary to what one might think, this is not caused by the students addressing an increased number of perspectives, since the teams in general are working with between one to five perspectives over the four years.

In terms of insights, this could indicate that students tend to perceive the first two perspectives concerning material processes and user practices as strategies to influence cultures – to change or affect or interact with culturally embedded behaviours through tangible experiences around textiles and garments. From this connection between user and design, they address levels three and four and develop the systems and business models that fit with and sustain the interaction, thereby suggesting a design-led system building and business model development process fuelled by partly bold imagination, partly reflected analysis.

## 6. Discussion

How might we evaluate the outcome of the above analysis and discuss the role of the open, stable design brief in connection to student learning and competence building in the field of sustainability? We have chosen to discuss findings in the light of recent literature on fashion future.

First, we address the insights from cluster analysis 1 through a proposal for key fashion designer capabilities needed in the future (Tham, 2016).

Tham outlines a number of interlinked themes, posed as critical response to the industry's failure to foster real change and what she sees as "...standardization or blanket approaches, the inability for strategies to catch up with increasing volumes, and imbalanced power relationships intrinsic to the textiles and fashion industries". Hence, her critique "concerns the strategies' failure to contribute to system resilience by not showing sensitivity to complex relationships." (ibid. p.227). The themes that Tham argues as essential for future fashion curricula are: 1. Systems thinking; 2. Resilience thinking, meaning coping with disturbance by absorbing, adapting and transforming. Key capacities are diversity and flexibility; 3. Sustainability seen as *living with empathy*, for ourselves, for other people – near and far in time and space, and for the natural world"; which leads to 4. The notion of creative resilience thinking (which) helps to position ourselves as solution holders instead of problem causers (ibid. p. 225, orig. italics, authors' condensation).

Tham thereby argues for a shift in power perspective, from industry level to designer level, urging fashion and textiles designers and educators to fully understand how they themselves can build capabilities and competences to influence existing systems and build new ones. Moreover, how they can operate within them, how they can allow for ethical and empathic thinking and acting, and lastly, how they can use their creativity to bring about possible solutions instead of adding to the social and environmental problems.

We find that the above themes resonate well with what seems important to many of our students and becomes reflected in their group projects. Over the years, we have noticed an increase in students who show concerns about the industry and their future role as designers. Knowing that alternatives exist, and even better, that they themselves can take part in developing these, is paramount for students' inclination to work in the field of textiles and fashion. Overall, the Design for Change course could be argued to be a space where students are urged to explore a role very alike the role of a 'creative resilience thinker', as they create diverse systems, services and products by absorbing, adapting and transforming existing systems and practices. Moreover, they centre the user at the core of the design process, making space for an empathic designer existence. On the other hand, we can see that many students tend to design for and make studies of users very much like themselves. In this respect, the projects are more inclined to design with empathy for 'ourselves' than 'for other people', although it is clear that the natural world and bio-inspired approaches are increasingly applied in the projects. Yet perhaps the 'design for ourselves' focus partly originates from some of the taught methods (i.e. own favourite garment analysis, wardrobe studies, local materials) in line with Tham as she seeks more "pedagogies for textiles and fashion that start from individual and local values, interests and experiences "(ibid. p. 236).

In the analysis 1, we observed that some students started out by viewing sustainability as something they had to overcome, something they had to deal with, but expected would somehow limit their creative output and

aesthetic ambitions. Thus, some groups preferred ‘designing as usual’ and adding a sustainable alibi at the end of the process. Tham similarly observes that the general paradigmatic construction of sustainability is seen “as separate from and external to other pursuits, and to individuals and societies” and that this “results in sustainability seen as a cumbersome add-on, as opposed to an intrinsic motivation of all our thinking and doing” (ibid. p. 232). But already in the second year (2015), we can observe a decline and change in initial negative attitudes. So, what started as something to overcome, a barrier and mere constraint, ended up as an internalised part of their practice – a creative imperative.

Finally, Tham proposes a concrete framework for building resilience thinking in fashion and textiles. Key areas are: Diversity, Modularity, Different Paces, Communication and Feedback, Innovation and Creativity, Sensitivity to Context, Overlap in Governance (ibid. p. 234-5). Without going into detail, we can observe in the data that the brief and the course framework open up pathways for the students to these areas: There is a huge diversity in types of conceptual approaches and solutions. Many groups work with modularity of different scopes, groups address complex combinations of temporal paces in the imagined life cycles, feedback systems are key in communication between stakeholders. Students also explore contexts and people and generally approach sustainability through creative competences. However, the brief might be attuned to open up further discussions around what Tham refers to as ‘Overlap in Governance’. Although more and more students are interested in distributing ‘power’ to the user, the aspect could be used to address the full value chain/life cycle. Here we would like to note that while students consider and work with systems thinking, the format of the course, i.e. school context with limited time and the workload of producing garments and textiles themselves, makes it difficult for students to fully unfold the systems level in the final outcome. But we do find that we can say with relative clarity that students obtain the theoretical and conceptual understanding, which we have seen many elaborate and unfold in their BA and MA projects.

What this study indicates, and therefore might add to Tham’s argument, is that *the practice* of learning and executing creative resilience thinking seems supported when carried out within a community, as for example a design course, in team work, over time, building knowledge and raising the level of reflection within the community group as a whole. Furthermore, Tham promotes future exploration into “fashion and textiles as interconnected wholes, which incorporate and set up no hierarchies between practices of designing, making, crafting, using, styling, writing, photographing, mediating...” (ibid. p. 236). This we have seen examples of in i.e. the way students disregard disciplinary borders and see potentials where formerly established domains meet (for example the design/styling/community project case 4). It thereby affirms the basic interests we have as educators: aligning the institutional research strategies and disciplinary research questions with how to conduct the teaching, and what questions we ask the students to reflect on in the brief.



Moving on to analysis 2, we employ the concept of the Fashion Design Micro Utopia, as proposed by Rissanen (2017), to seek out and discuss the imaginative boundaries of the projects in terms of scope: How does the brief inspire creative micro utopias understood as visions for a sustainable future? How can the concept of micro utopias be beneficial to future briefs – what to alter or add?

Rissanen finds that all fields of education need to embrace and embed sustainability in curricula and pedagogical approaches, as sustainability is not solely information; it is relationships, actions and abilities (ibid. p. 535). Consequently, in order for sustainability education to gain impact in society, he finds that we need to look thoroughly at how it is taught. For fashion, this means that: “Fashion design must move beyond a disciplinary model of design to facilitate deliberate societal change over time” (ibid. p. 528).

Yet, how can fashion design make this move? Rissanen’s answer to the challenge is a Manifesto, built on to a taxonomy of nine fundamental human needs: subsistence, protection, affection, understanding, participation, recreation/leisure, creation, identity, and freedom. (Rissanen 2017, citing Max-Neef, 1992, p. 536). The Manifesto ‘boldly reimagines fashion design education as a site to conceive fashion as a system of satisfiers for fundamental human needs in a post-growth society’ (ibid. p. 530). Hence, according to Rissanen, the Manifesto can be employed to ask how “fashion, including fashion use, represses, tolerates, or stimulates opportunities for groups or individuals to fulfil their needs” (ibid. p. 538), and to “fearlessly imagine new futures” (ibid. p. 531) that can lead to Fashion Design Micro Utopias.

Rissanen finds that the fashion design classroom as ‘unconstrained by commercial constraints’ is a site that can foster micro utopias. When assessing the outcome of analysis 2, using the sustainability perspectives model, we can observe similar traits. Reading through project descriptions and visual presentations it becomes evident that students often phrase a form of manifest to convey their ideas– thereby taking a stand or making a proclamation. Spanning from the poetic to the political. This is possibly reinforced by the group work format, where the students from the beginning need to agree on and articulate a position and an aim amongst themselves, although none of them explicitly speak about utopias. Moreover, the data show us that the agenda of ‘designing for deliberately societal change’ not only aligns with the brief, but it is also highly visible in the student projects, through a user focus as key to creating cultural changes. The data similarly align with Rissanen as he sees that students are already trained in looking ahead and simulating user and context. Yet, we find that working far ahead challenges the nature of the course presented in this paper, since one of the goals is to create physical manifestations of the garments in textile materials. Thus, the outcome (i.e. garments) must be understood as part of larger systems. But how can the students materialise what is not yet possible? What strategy should they work with in the experimental make-believe? As educators on the course, we face these questions each year without having any straight answers to offer. Our strategy has been to engage in dialogue with the groups, aiding a joint decision on what the group wants to communicate, and the means to do it. In this way, we may

have been "...guardians of possibility and guardians of the possibility of possibility", which to Rissanen, is paramount as educators (ibid. p. 543).

If we return to the analysis 2 of project and sustainability perspectives, we saw a tendency for students to drive cultural change through material and user-based design concepts, whereupon suitable systems and business strategies were 'made to fit'. The question is if the course brief meets its limitations when faced with the challenge of rethinking "...the whole political, ideological, technical and economic context", which to Rissanen, is a core task as educators (ibid. p. 534). The length, level and format of the course does not allow for large-scale testing or implementation of concepts. The course can 'only' be a laboratory, wherein ideas for the future slowly add to its volume and are disseminated in the community and beyond. What could be taken on board, is the human needs taxonomy, as it points to diverse ways of generating value, apart from economic, and makes specific the *empathic design* that Tham emphasises. Likewise, the taxonomy might be a relevant tool for further exploring the new types of designer roles that we see the students envision.

### **Concluding remarks and further perspectives**

In this paper, our aim was to examine the role of the design brief as initiator for intellectual, conceptual and practical competence building in relation to students' learning outcome. Inspired by a cluster analysis approach, we have explored students' translations of an open, almost stable design brief pertaining to the Design for Change course module over a four-year period.

The first part of the analysis on student approaches showed that 1. there is a great span in the way sustainable strategies are combined, 2. the same approaches may lead to very diverse aesthetic expressions; 3. there is a high level of focus on user needs embedded in the students' concepts. In addition, the study indicates that understanding issues of sustainability is not something that is only built within the individual student, or even in the individual group. Awareness is usually built in a community over time, among students in all five years, workshop leaders, educators and academic staff at DSKD. Keeping an open, holistic brief seems to further discussions in the team work as well as strengthen experiments, intellectual reflections and deep research fuelled by the students' own interests.

The second part of the analysis conducted on students' perspectives showed that 1. students find the relationship between the product and the user as well as new ways of perceiving, using and processing materials central to their work; 2. students display an increasing complexity in the conceptual levels of the projects over the four years; 3. throughout the years, students work with 1-5 perspectives. Overall, this part-analysis indicated that students tend to perceive levels one and two, material processes and user practices, as strategies to influence cultures. From this connection between user and design, they address levels three and four and develop the systems and business models that fit with and sustain the interaction. Thereby they suggest a design-led system building and business model development process fuelled partly by bold imagination, partly reflected analysis of information collected during the course.

Through the discussion, we evaluated findings and found that the brief appears to allow students to obtain important future fashion design competences such as creative resilience thinking and facilitation of cultural and societal change over time. Adding to this, the discussion uncovered areas where the brief could be attuned to consider attention to user diversity (design for others), power structures (governance) and the effect of fashion on the needs of groups and individuals (repress, tolerate or stimulate). In this paper, we have mainly looked at the brief as influencing the outcome, but it should be mentioned that when the timeframe fluctuates between 8 and 10 weeks, it affects the outcome in several ways, e.g. the time allocated to the wardrobe study, introduction to new skills in the workshops, the quality of the finishing in the garments and the complexity of textile techniques employed. These challenges are also important parameters to study in relation to the ongoing evaluation of quality in the education.

### *Further perspectives*

As sustainability seems to evolve from being a course specific subject to becoming a mind-set, we find it relevant to further investigate how students carry out and embed this approach in their own self-defined design projects later on in their studies. Moreover, we could ask how they operate when they conduct the compulsory collaboration with companies in their BA and MA exam projects. These questions could inspire and inform new design briefs in the education. Recent strategic developments in the DSKD curriculum have fostered a new interdisciplinary Master Programme in sustainability, named Design for Planet, with the intention to provide the time and critical framing to also explore the ‘backside’ of every approach to sustainability. Where lies the challenges, barriers and problems? What are the pros and cons, and how do we weigh them against each other in a real context beyond the school walls? Here, knowledge could be further built, not only in terms of future briefs, but also in terms of future inter-disciplinary possibilities.

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