

## **Upcycling Technique for Eco-Fashion Products made by Slum Communities at Cakung, Indonesia: Students' Experience**

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### **ABSTRACT**

This report presents the findings and implications of research on how students apply an eco-fashion strategy with a local crafter from a slum community in a rural area of Cakung, Indonesia. Based on a fashion course titled Fashion Future, it discusses sustainable design more commonly known as Eco Fashion. The objective of this paper is to describe the students experience on collaborative undertakings with the slum community in Komunitas Anak Cakung. The findings suggest that the experience acquired provided students with useful insights.

*Keywords:* Fashion, eco fashion, textiles, collaboration, projects, upcycling, education

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### **INTRODUCTION**

The objective of this paper is to describe the students experience in their collaborative work with a slum community in Cakung, Indonesia in order to learn *upcycling* techniques for fashion products.

Recently there has been interest on the role of different forms of Eco Fashion in helping people to 'get by' or, to "get on". Everyday fashion is generally seen as a resource in people's lives, it is therefore important to respect the power of fashion and adornment, and understand its significance in cultures throughout the world. Fashion performs many roles: it is a social catalyst, a communication medium that functions in both personal and public spheres, as it is simultaneously both inward and outward looking. Fashion provides livelihoods, and sustainable fashion must continue to meet our personal and symbolic needs, while addressing the intrinsic problems of the fashion system (Black, 2013, p.8). By sharing our resources more equally, we can focus on the things that

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really matter and achieve genuine and lasting progress with higher levels of well-being.

There is a significant opportunity for fashion education institutions like BINUS Northumbria School of Design to play a key role like the Fashion Future class which talks about Eco Fashion - fashion that are aware of environmental impacts in realizing this approach; such institutions are ideal catalysts as they are in the position to be able to bring together key stakeholders and cutting edge thinkers.

### **The Project Aim**

Firstly, the project aims to establish the extent to which fashion/textile industry is related to the incidence of ever growing waste and negative impacts for the environment. Secondly, it seeks to determine whether the eco-fashion strategy alters response to alleviate poverty by ethical trading in ideas and knowledge service using fashion education through Upcycling methods. The project aims to develop a design based on eco fashion strategies, using waste as the main material for a wide range of innovative eco fashion products. The research also hopes to describe students 'experience in their collaborative work with slum communities.

### **LITERATURE REVIEW**

While *upcycling* is an increasingly popular way to make something valuable from discarded clothing, recycling fabrics is another viable choice in the prevention of

textile waste. The use of the term “recycled” in this text refers to fabrics made from reprocessed waste materials. Recycled textile gained prominence in the 1990s, when innovations such as fleece derived from plastic bottles made headlines. Yet textile recycling is one of the oldest forms of material reprocessing in the world-and, with the exception of a few recent advancements, the production processes and uses of recycled textiles have changed little over their long history.

Although the uses for recycled fabrics have expanded in recent years – becoming especially important to the contemporary sustainable fashion industry – recycled fabrics have been used for “low grade” (non-fashion) purposes for centuries. When shredded, the material can be made into paper, used as insulation or stuffing, or quite literally used as rags for wiping or polishing.

The use of recycled materials in recent high fashion collections underscore their importance. High profile campaigns aimed at educating and engaging consumers have also helped to further understanding of the importance of recycled fashions. In April 2012, for example, prominent British retailer Marks & Spencer launched its “Shopping” campaign, an initiative that encouraged shoppers to trade items of used clothing when they purchased new garments in-store. As part of the campaign promotion, buildings on a street in London’s Brick Lane were entirely covered and filled with used clothes – the number of which was the equivalent of clothing that is thrown away

every 5 minutes (approximately 10,000 garments). The awe inspiring display certainly made its point. The campaign was also launched and supported by British actress Joanna Lumley, who publicly stated her concerns over the amount of clothing that is simply thrown into landfills. "I think young people have been encouraged to buy something, wear it for months and throw it out, particularly if they're not very good at mending things. I donate a lot of my clothes to charity because I hate throwing things in the dustbin. It does not seem right to me. Hopefully, we will roll up to M&S with something we don't want anymore." Not long after the Marks Spencer recycling program was initiated, Swedish fashion retail giant H&M began a similar campaign (H&M, 2015).

As a major global business, the fashion industry 21<sup>st</sup> century fashion courses are preparing students for an industry that seeks to bring a political dimension to fashion education and make it a potent catalyst for change. (Gordon & Hill, 2015, p.20)

## **METHODOLOGY**

The regular activities at Komunitas Anak Cakung - which is a slum community at a rural area in Cakung, Indonesia are an alternative education for children who lack access to education, especially for children whose parents are economically less and are usually located in the suburbs of Jakarta. Their beneficiaries are children in Cakung and Muara Baru. Since 2012, the

organization started renting a house that they call "Rumah Belajar" or Home Study, as a place of learning.

A group called Usaha Mandiri (Independent Business) has producing products such as greeting cards from paper quilling (usually the production goes for greeting cards of Easter, Christmas, Valentine and such), and recycled beads for necklaces, bracelets, earrings, coasters, bowls, Bible covers, purses and pencil cases. Children of the 3rd category are approximately 11 children (aged 11-15 years), whereas participants of Independent Business activity are about 8 people (aged 13-20 years old and the mother of childbearing age to old age). Skills activities kids categories 0 to 2 are usually combined, there are about a maximum of 30 children (aged 5-10 years).

The group assignment require students to join the field trip activity on 5 October 2014 as part of the syllabus requirement, it consists of 2 tasks: (1) Written research report and (2) Power-point format. Upon the completion of this project, students are expected to be able to demonstrate an understanding of current eco fashion movements and identify and analyse various creative approaches, techniques used and how the eco fashion product promotion works. Students also need to identify and justify 2 other alternatives to produce an eco-fashion product. In addition, students are required to create an informative and effective power-point format report and present in front of the class as a knowledge sharing session.

A group of students (2 people) are expected to apply one of the 10 eco design strategies in a fashion product, using TED TEN's Strategies ([www.tedresearch.net](http://www.tedresearch.net)) as a reference. First, are design to minimize waste such as creating long-life textiles, recycle and re use of materials, re-working existing garments to produce up-cycled products, design multi-functional products, zero waste cutting, using new technologies to 're-surface' pre-consumer polyester. Second, design for recycling / *upcycling* such as designing for recycling / *upcycling* from the outset , which is a more proactive approach and responding to existing garments / materials to Recycling / Re-engineering a product/garment (reactive approach), *upcycling* – adding value through process or concept to existing garments/materials, transfer printing onto polyester to produce up-cycled products, closed-loop recycling (forward recycling) of post-consumer polyester, mono-materiality, borrowed materials and design for disassembly.

Third, design to reduce chemical impacts, consider using organically-produced materials, use mechanical technology to create non-chemical decorative surface pattern, such as laser / water-jet / sonic cutting and laser / sonic welding, to seek convincing alternatives to harmful chemical processes such as devore, chemical dyes, mordents etc. and consider natural dyes and their processes. Fourth, design to reduce energy and water use, innovative labelling to increase consumer knowledge about best laundry practices,

digital printing, exhaust printing and dyeing, design for No or Low laundry / Short life textiles, localization, prioritize natural energy systems, dry patterning systems / Projected patterns, design for recovery of energy. Fifth, design that explores clean and better technologies, dematerializing e.g. using sonic welding instead of threads, Using new technologies like laser etching to 're-surface' pre-consumer polyester, Bio - GM technology, vanishing muslin, regenerated cellulose fibres, digital Printing - 2D and 3D, production technologies such as 3D warp knitting, coating and Finishing - nano, colour technologies, Teflon, Smart - Piezoelectric materials, shape memory alloys and shape memory polymers, magnetic shape, self-healing materials, Smart Devices - RFID tagging, mobile technology. Sixth are design that looks at models from nature and history. Learning from past examples to extend the life of a garment, adapting traditional craft skills for contemporary contexts, and to consider local materials and production. Seven, design for ethical production such as learning from historic examples of extending the life of a garment, adapting traditional craft skills for contemporary contexts, ad to consider local materials and production. Eighth, are design to replace the need to consume which are employ Emotional Durable Design/Slow Design, design textiles and products which adapt and change with age, to celebrate vintage, personalize / Customize / DIY, Recycle. Re-use, to apply experience / User-centred design, and to explore Co-

Design, mass collaboration, collaborative consumption, crowd sourcing. Ninth, Design to dematerialize and develop systems and services such as to create Multi-functional products, temporary / non-invasive installations, to establish design systems and services instead of products such as lease, share, repair and develop on-line/local communities. And lastly, the tenth are design activism which are to Raise awareness of environmental and social issues, joining participatory engagement using web and open source platforms, extending the reach of the designer beyond making products. For activism, approaches are to make process findings of research by identifying and analysing various creative approaches, eco fashion designer figures, eco movements, and techniques used behind the profile assigned. Also, to present research findings from field trips and organized independent research (including materials and sample exploration) in front of the class wherein each individual will be given 12 minutes for the presentation in front of the class.

To present the Final Product, by having the research book completed which makes more research focus on making the prototype; students are required to produce fashion products (mini collection, a garment or accessory.) To finalise the design process, start molding design into a promotable eco fashion collection through e-commerce and including a display through photographic styling and digital illustration of the product for the final project website content. The design

workshop will continue to further develop their final proposal resulting in a series of visualisation sand a final working prototype. Teams will prepare promotion and marketing material to endorse their product and their final presentation. The teams will present in front of a wide range of public including a selected panel of assessors. Presentations should not exceed 15 minutes, made concise and lucrative for the public eye. The research book will be available physically and on-screen in the presentation to justify their final product.

By Mid and Final Semester, students need to submit a group written research report in power point format (of a minimum 12 pages) to illustrate findings from the Komunitas Anak Cakung field trip, samplings, identifying and analysing various creative approaches, eco fashion designer figures, eco movements, and techniques used behind the profile assigned.

### **Students' Empirical Experience**

Fashion future is a course that talks about Eco fashion, to bring up the issue of environmental awareness that arise in the fashion industry. The writer examined the responses of semester 5 students in a total of 22 people at BINUS Northumbria School of Design (BNSD) who joined the fashion future class. The collaboration activity with the slum community held at a rural area in Cakung was also conducted by the writer who also designed the syllabus course. The responses are divided into 3 aspects, whether individuals responded differently to surveys administrated

via reflective writing papers. There are 3 aspects referring from the student's experience which are:

1. The aspect between the student and the collaboration
2. The aspect between the student and the slum community
3. The aspect between the student and the eco fashion theory that they have learned from the fashion future class

As this course proposes a service program for the target community, they are interested in taking part of this collaboration. It is part of the CSR activity that is a mandatory activity conducted by every university lecturer, by serving the community a knowledge in designing an eco-product and combining with the existing weaving techniques that they already know – or simply using any fabric waste, like banner waste that are available to collect from the slum site where they live. From the writer's experience with the community, the participants of the workshop are glad to acknowledge other product ideas that they can make and eventually produce and distribute to future customers.

Results promoted through social media on how eco fashion studies can raise environmental awareness had been shown at a Greenpeace "Detox Fashion" campaign by showcasing a student's work on upcycling garments. The idea was born out while a Binus Northumbria School of Design student previously attended the Fashion future class. The campaign showcase 2 other designers who

display their work on the runway at Sungai Citarum, a river polluted by chemicals produced by the fashion industry. The campaign was widely published in the national and international media.



Figure 1. Student 2, also applies *upcycling* strategies for her bag collection.

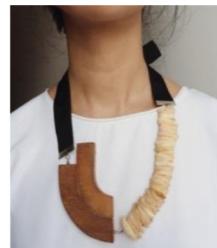


Figure 2. Student 3 makes necklaces using nuts waste such as unwanted nut shells & pistachio crumbles.

**Aspect 1: Student experience with the collaboration.** Comment from a student from semester 5 fashion management course on her experience of joining the field trip to a slum community at Cakung called Children of Cakung Community: "It was a good experience, to see the whole process of compiling the plastic waste from scratch. The people of the slum community were welcoming us with open arms."

Advantages that were derived from the collaboration was to gain new knowledge on *upcycling* technique. Students began to think of developing similar slum communities in other parts of the country.

**Aspect 2: Student experience with the slum community.** The students went to Children of Cakung Community organization, to look at the process of the waste that are collected from scratch, the slum community usually pick up around the landfill at Cakung, and then they wash it and dry it in the sun that are later cut into pieces. They use this as a plastic base material to weave into many products that are handmade like pouches, bags, vase, etc.

For student experience, the organiser hopes that students can conduct teaching/ exchange their design ideas in order to have learning skills for the children category 0, 1, 2, and 3 and also workshops for participants of Independent Business that are some children and mothers, which are useful to supplement their income or savings for the family's needs and for the teenager's savings. Students gained ideas to make innovative garments using the techniques, show it through fashion shows, telling the story behind the collection of the waste materials and promoting through social media.



Figure 3. Process in making a bag applying weaving technique as part of the *upcycling* technique

**Aspect 3: Student experience with the eco fashion theory.** From what they have learned from the visit to Children of Cakung Community and can relate through the Fashion Future course, students gain knowledge about more considerate design and being more aware about the environmental impact while designing or working in the fashion industry later. They realize that the fashion industry contributes so much waste – either from the retail industry or textile industry. Some students are now aware of using the right materials to use if they want to join the eco fashion cause, like applying *upcycling* techniques, natural dyeing, recycling materials and having more pride towards local products to minimize the carbon footprint. By the end of the semester, students finally understand the meaning of sustainable design and how to apply the strategies that make an Eco Fashion product.



Figure 4. Dragonfruit blended into a pigment which are later used for a fabric dye



Figure 5. *Upcycling* project of transforming a skirt into a buttoned top for the fashion future class

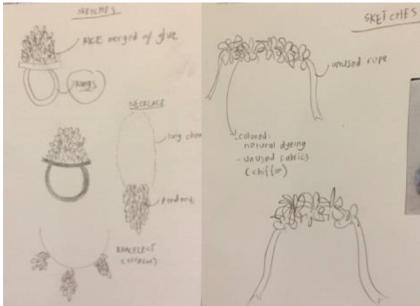


Figure 6. Student's sketch done on their research book

## CONCLUSION

Fashion can be used as a means to engage a small community that needs support and A study program which focuses on environmental issues, sustainable design, eco fashion, among other related themes can provide useful insights for students. Benefits for students by working with the community while doing their Eco Fashion course work not only enhanced potential for collaboration with the local but also I promote sustainable design products.

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