

# TEXTILE CRAFT STUDENTS' PERCEPTIONS OF SUSTAINABLE CRAFTS

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## Abstract

*Future teachers have an important role in education for sustainable development. This article describes textile craft teacher students' perceptions of sustainable textile craft. The data derives from a survey of craft teacher students of the University of Eastern Finland (N = 20). The questionnaire included open-ended and multiple choice questions about sustainability of textile craft education and the relevance of sustainability in the students' lives. The study reveals textile craft teacher students' conceptions as consumers, craft makers and future textile craft teachers. The open-ended questions were analyzed by content analysis and the multiple choice questions were analyzed with statistical methods. The results were reflected to Victor Papanek's function complex.*

*As consumers, students favour good quality products and recycling of textiles. They are concerned about workers' work conditions and against child labour. Although values and perceptions related to sustainable consumerism are high, sometimes the actual purchasing behaviour differs from the values because of the students' meagre budgets. As craft makers, availability of locally produced materials and materials made of natural fibres are important to students. As future textile craft teachers, students think that craft is an excellent way to teach sustainability and sustainable craft. They consider it is important to teach life-cycle thinking but also craft culture and skills.*

**Key words:** *clothing and textile design, sustainable craft, textile craft teachers.*

## Introduction

### *Definition of Sustainable Craft*

The concept of sustainable development is complex and fragmented. Sustainable development is often associated with concepts such as ecological and environmental responsibility, ecological carbon or water footprint, ecological rucksack or ethical consumption. These concepts describe some ways how human choices and lifestyle affect the earth's well-being. But what do these terms mean and how do they fit into the entity of sustainable crafts? Sustainable development is the ability to meet the needs of the present while promoting to the future generations' needs (Elliot, 1999). The carbon footprint refers to the greenhouse gas emissions that result from the product life-cycle (Carbon Footprint Ltd 2012). The ecological backpack shows how many pounds or tons of natural resources it takes to manufacture, use and dispose of a product. It is a concept of the German Wuppertal Institute's MIPS-method (Material Input Per Service Unit), which indicates the contribution of material produced per service. The ecological footprint means how big is the land or water area, which is needed to produce human's nutrition, material, or energy and the treatment of waste. (Wackernagel & Rees, 1996; Global Footprint Network).

Life Cycle Assessment (LCA) is a methodological framework which can be used in evaluating the environmental impact of a textile product from production to disposal of the item. LCA takes into account the fibre production, product manufacturing processes, product's use and care and also the disposal of the product. It illustrates how many different stages can

take account of the environmental impacts of textile products. (Suojanen, 1997, 18-23.) A significant part of textiles life cycle is the raw material production, but in craft production, a significant part of renewable natural materials can be used and recycled efficiently. The main stages of textile production are fibre production, pre-treatment and finishing processes and manufacturing the thread and the fabric. The production process takes extensive amounts of water and energy, uses a wide range of chemicals and causes a variety of emissions to the nature and the water system. Depending on the fibre, there are significant differences in water and energy consumption. (Fletcher, 2008, 46-56.)

At the end of the textile life cycle, a lot of textile waste is produced. The reuse of textiles can save substantial amounts of energy used for the manufacturing of new fibres compared to virgin materials. (Woolridge, Ward, Phillips, Collins & Gandy, 2005). Textile recycling materials consist of clothes, shoes and household textiles, for instance curtains, towels, carpets, etc. In Finland, only one third of textile waste is recycled through various organizations, such as The Finnish Red Cross, UFF, Fida and other second hand shops. Therefore, 90 million kilos of textile waste end up in landfill.

#### *Function Complex of Sustainable Craft*

Papanek (1991; 1995) proposes that a product includes a variety of functions. These are use, need, association, method, consequences and aesthetics. We can approach the definition of sustainable crafts through the function complex. At *the use function* we can examine, for example, where the product comes from and how it fits the intended use. The entire life cycle of the product should be taken into account, for instance, technological properties, aesthetics issues and product care. At *the need function* one considers what kinds of needs the product is designed for. For instance, a product made of wool fulfils the basic need of warmth. Social needs could mean that a person belongs to a community, for example a virtual handicraft community. The need for safety materializes in, inter alia, a craft product's non-toxic or natural character. The need for action, do-it-yourself for example, is in a significant role when talking about sustainable craft. The aesthetic value and the semantics of the product fulfil the need of beauty. At *the method function* one can consider methods of sustainable craft making; what kinds of materials and craft techniques are used to make a textile product. In that function, the economic aspects have to be considered as well, such as transport and the use of energy. The choice of method affects directly to ecological choices, for instance, how raw materials have been obtained or which dyeing methods have been used, or is the product systematically recyclable and disposable.

*The association function* comes up with both craft makers' and users' values and attitudes toward craft products and craft making. Textile products are associated with people's cultural background, family and education. These associations are exposed to the effects of marketing and advertising. Physiological sensations are important to a craft maker; the feel of the material, like the fineness of silk, the roughness of linen or the softness and the scent of wool. The scent of wool or linen can remind you of your own childhood and bring back memories of past generations. The colours and shapes of textiles can act as psychological dimensions, and socio-emotional aspects can be seen in cultural environment, in fashion and in different aesthetical aspects of the products. According to Papanek (1995, 34) the *consequences function* includes ecological, environmental, social, materialistic and energy consumption consequences. These aspects are very suitable for researching the principles of sustainable crafts. *The aesthetic function* of the product is very important to the craft maker and also to the user. In sustainable craft products, aesthetics means quality, features, harmony or special emotional experiences.

## Methodology of Research

### *The Context and Participants of the Research*

The main purpose of this research is to examine students' experiences about sustainable crafts and what aspects should be considered in sustainable crafts education. The research was conducted at the University of Eastern Finland in spring 2012 in the beginning of a Research and Testing of Textiles course (5 Cp). The course is integrated into Project Work in Advanced Clothing Studies (6 Cp). Participants, 4<sup>th</sup> year students, were in the middle of their advanced studies stage. They had already completed basic and intermediate studies of craft science. After completing the **Testing of Textiles course, the students should have better awareness** of textile materials as a consumer and a craft maker. Over the course, craft teacher students acquire information on textile testing, maintenance, life span, clothing physiology and special characteristics of textiles. After the course they should be able to use their knowledge of textile testing to assess and define textile quality. In the end of the course students reflect on what they have learned from a pedagogical and scientific perspective.

The aim of the research is to find out what craft teacher students know about sustainable crafts at this stage of their studies and before the start of the Research and Testing of Textiles course. **The research question is: What kind of conceptions the craft teacher students have about sustainable crafts as a) consumers b) craft makers and c) future textile craft teachers?** The results of the research may help modify the craft teacher training program in the future so that it would better take account sustainability from the points of view of consumers, craft makers and future educators.

### *Data and Analysis*

The data derives from a survey of textile craft teacher students of the University of Eastern Finland (N = 20). The questionnaire included open-ended and multiple choice questions about the sustainability of textile craft education and the relevance of sustainability in the students' lives. The survey data was collected in spring 2012 from the craft teacher students in the beginning of their textile research and testing course. The age of the respondents ranged from 22 to 49 years. The questionnaire is based on data collected in the autumn 2011 from textile craft teacher students' short interviews (N=24) and essays (N=24). The questionnaire was divided into three different sections according to the research questions and included 64 multiple choice questions. The first part included statements from a consumer perspective, the second section inquired the students' views about craft making and the third part of the questionnaire included statements about craft teaching. Each section of the questionnaire also included open-ended questions so that the students had the chance of answering the questions in their own words as well.

The both researchers read through the answers to the multiple-choice and the open ended questions and analyzed them according to their specific research areas. **The open-ended questions were analyzed by content analysis and the multiple choice questions were analyzed with statistical methods.** The results were reflected to Victor Papanek's function complex and the students' perceptions in different areas of sustainable development were matched. The final phase of the analysis was to find out how **craft teacher students could better gain knowledge about sustainable crafts during their studies.**

## Results of Research

### *Sustainable Crafts from a Consumer Perspective*

A change of behaviour in consumption has very important role in sustainable development. The European Environmental Impact of Products Project has provided an analysis of the life circle impacts related to the consumption in households. According to the analysis, 70-80% of total impacts relate to food and drink consumption, housing and transport. Clothing ranks highest of the remaining products, accounting between 2 and 10% of the total environmental impact. (Tukker, Huppel, Guinée, et al., 2005.) Sustainable fashion interconnects people, processes, and environment and it can enhance the physical, emotional and psychological well-being of people. People have a great impact on sustainable issues in the fashion industry through their own choices. (Hethorn & Ulasewicz, 2008.) Also designers have an important role by creating sustainable clothes and textiles, which can change consumption behaviour to more sustainable direction. (Niinimäki, 2011.)

The majority of textile craft teacher students pay attention to the aspects of sustainability when they buy clothes and products. For them, it is not very important to follow fashion and buy fashionable clothes, but usually they are seeking to acquire high quality and durable products. 70% of respondents agree or mostly agree with the statement “I purchase only few clothes, because I have found my own style and there is no need to change it often” and 75% of the claim “I don’t purchase a product if I don’t necessarily need it.” For students, easy-care clothes and affordable textile products are essential. However, half of the respondents don’t buy cheap products at bargain sales if they doubt their usefulness or durability, but on the other hand, over a third of the students did not know whether to answer the question negatively or positively. More than half of the respondents welcome used products when it is possible. Used products are purchased mainly from second hand shops, because three quarters of the respondents said they don’t exchange clothes, accessories or materials with their friends and they don’t rent or borrow clothes. For 95% of the respondents, it was important to recycle their clothes or donate them to charity, not just to throw them away.

*“I buy good-looking clothes from second hand shops, I don’t really buy from the mainstream shops.”*

*“I buy clothes which are of high quality and sustainable; long-lasting and timeless. If my old garment is in good condition, but for example, no longer fits me, I sell it at the flea market or I take it to the recycling store.”*

60% of the students considered it important to buy from fair trade and ecologically operating companies. They prefer that the products they purchase have minimal environmental impact. Half of the students were strictly against child labour and would not purchase a product made that way. On the other hand, most students claim that it is hard to obtain information of the production, since four out of five respondents would like to know more about the origin of the products to be able to choose more sustainable products in everyday life. Only 10% of the respondents said that they acquire products even when they know they are produced in poor working conditions and with low payment.

*“And I don’t buy from the companies which I’ve read or heard of using child labour. I prefer to buy organic or fair trade, and every now and then I support the local craft workers by buying things from them.”*

*“I do buy clothes and textile materials which are made in cheap labour countries if the quality is good.”*

*“I have studied ideologies of different companies. My interest also arises whenever the price tag*

*of the garment includes information of the sustainability or ecological values of the garment. I have seen documentary films on global garment industry, which have led to using only natural fibres and textiles with less colorant. The idea is to avoid textiles to harm my skin and body. No chemicals please."*

Although values and perceptions related to sustainable consumerism are high among the majority of students, their actual purchasing behaviour sometimes differs from their values. 7 respondents out of 10 admit they sometimes act against their own values by buying clothes from cheap clothing chains, even if they know their garment production chain to be unethical. This is mainly due to the students' meagre budgets.

The students are paying some attention to the environmental load of washing clothes, as for half of the respondents it was not very important to wash their clothes often, but to protect them so that they do not need frequent washing. For all respondents, it was essential to take good care of clothes. Product aesthetics is also significant for many students: the majority of respondents feel it is important or quite important to acquire products because of their beauty. Students also buy hand made products from craftsmen or other objects because of their significance. Buying domestic textile products is also a rather important point for more than half of the students.

There is similarity between the students' opinions and the Slow Fashion movement. Slow Fashion contradicts the notion that fashion should always be about something new. Slow fashion emphasizes collaboration and the production based on local culture. A fairer distribution of the ticket price through the supply chain is an intrinsic part of the agenda. Slow fashion is an opportunity for business to be done in a way that respects workers, environment and consumers in equal measure. In slow fashion designers, buyers, retailers and consumers are more aware of the impacts of products on workers, communities and ecosystems. Slow fashion garments emphasize good design, product quality and longevity as well as the possibility to repair garments. Quality costs more; people will buy fewer products, but higher in value. (Fletcher, 2007; 2008, 173.)

When the results of consuming attitudes are reflected to Victor Papanek's function complex one can see that *use, need, method* and *consequences* were the most important aspects for students as consumers. They want to purchase products only when they really need them, and when they buy, they buy useful, durable and sensible products, which are ecological and ethical. The limited budget of the students on the other hand inhibits them to be as sustainable as they would like to be, but on the other hand, it helps them to eliminate unnecessary consumption.

### *Sustainable Crafts and Students as Craft Makers*

In this study craft teacher students wrote about how they can implement sustainable crafts as a craft maker. They consider it important where to acquire materials and what their origin is. This aspect includes the production method of fibres and also processing fibres to yarns. Generally, the students favoured the use of natural fibres and natural colours in products. As craft makers, they want to purchase fibres which are produced near and locally, for instance, wool directly from the farm. Wool was seen as the most ecological fibre because it is a by-product of sheep. The same respondents mentioned Fair Trade products and were seeking organic materials from shops. 50% of the respondents answered that it is difficult to obtain information about the origin of products.

*"When you are in a shop, ask the origin of products and also ask if they have any ethical or ecological materials. If not you can ask them to order those."*

Zero waste design means that clothes are designed in such a way that there is minimal or no cutting waste at all (Gwilt & Rissanen, 2011). In this survey teacher students wrote that they use materials economically. Most of the answers mentioned using recycled materials and also repairing and refashioning clothes. Students also repair their friends' and relatives' clothes. Only 5% of respondents throw away their failed craft products, so the majority of students use them again as raw material or as parts of another product. Also leftover yarns and fabric pieces were restored for subsequent craft projects.

The craft teacher students were unaware of which fibres, natural or man-made, are ecological from the perspective of environment. Generally, natural fibres were considered to be more sustainable and more comfortable to use. Also the possibility of recycling was a benefit of natural fibres. When asking students what was the most ecological fibre, they only suggested natural fibres. Sheep wool was considered by far the most ecological, because it does not necessarily have to be processed, e.g. dyed before use. A hole in a wool product can also be fixed by felting it. They also suggested other ecological natural fibres: ecologically produced cotton, silk, linen, hemp and nettle.

*"A tough question. I have use linen fibres myself which I have bought as a fibre and then span it to yarn. It then felt like an ecological material, because I modified it myself. But the truth of its cultivation, fertilization, irrigation and pesticide-control may be different."*

When the results of craft makers' valuations are reflected to Papanek's function complex, one can see that *methods* and *associations* were important issues to students. There has been a long tradition in Finland to produce and modify textile materials, for example, spinning wool and making natural dyes from plants. Choosing the right craft method can save a lot of natural resources and, at the same time, revive the traditional methods of modifying fibres. These factors are increasingly important issues for students and knowledge of them is a part of our cultural heritage. As craft makers, they also want to favour locally produced and recycled materials for their craft products.

#### *Sustainable Crafts from the Point of View of the Future Craft Teachers*

Sustainable development has been taken into account in various school curricula in Finland. There are many aspects on how sustainable development should be included in the different school subjects. (Kaivola, 2007, see also Rohweder, 2007.) However, even if there are models across different subjects on sustainable development in school work, there are not any direct models for teaching handicrafts from the point of view of sustainable crafts. According to Van Oers (1998, 482), contextualising craft means context-making to real life situations. In craft education, the teacher has to choose and design the basis for the craft process and the related activities, and respectively, at the pupils' level, contextualising denotes the process that takes place within the pupil during the learning process. (Pöllänen, 2009.) Huovila and Rautio (2011, 131-142) have developed a practical tool for craft teachers and teacher educators. A fourfold table contains a model from the pupils' perspective and also a model for teachers. The craft learning goals have been grouped into four areas from the pupils' perspective: 1) crafts knowledge and skills, 2) design competence, 3) working skills and 4) educational/growth-related skills. These objectives are based on the National Core Curriculum for Basic Education (Fnbe, 2004, 240-244). The teacher's fourfold table has the corresponding areas: 1) teachership competence, subject-specific knowledge and skills, 2) pedagogical planning skills, 3) pedagogical implementation skills and 4) growth as a teacher/upbringing competence. (Huovila & Rautio, 2011, 131-142.) A future craft teacher has to understand and manage an entire craft process, because craft as a subject includes working skills and craft processes but

also understanding of wider educational skills. By setting the sustainable craft issues to the fourfold table will lead to a deeper understanding of how sustainable development can be incorporated into craft teacher students' education.

The craft teacher students considered sustainable development and life cycle thinking important to their future teaching: it was seen as a duty of the teacher. They also thought that craft making and craft teaching as such are sustainable activities. The respondents felt that sustainable development is relatively easy to include in their lessons. In this study, most of (95%) the craft teacher students regarded as important or quite important that pupils' work is useful and it has a clear purpose. Also our previous research showed that craft teachers do not want to carry out useless projects and the products must be made of high-quality material, either new or recycled. As future craft teachers, the students also want to focus on high-quality handmade products. Every respondent mentioned that elaborate designing and respect of handicraft is very important or quite important in craft teaching. In the future, the students want to teach how to make textile items and garments and how to take care of them. An important teaching point of view was also that craft teaching should break the limits of classroom practices. Other disciplines could be combined with craft teaching and 70% of the respondents were of the opinion.

*"I do not know how it appears in the current curriculum, but it should be set out so that others will take it for use. I think that school craft is an excellent way to teach sustainable development, and it only depends on the teacher"*

However, the problem is that, in practice, it could be difficult to take into account all of the sustainable aspects of craft because of lack of craft lessons. Lessons should involve use of recycled materials in time to time, visits to a recycling centre to obtain materials, for example. The craft teacher students hope that sustainable development will become a natural part of teaching and its integration into teaching should be clear. Using recycling materials in craft teaching could encourage pupils to restrain their own consumption. Teaching craft in school was seen as an excellent way to teach also sustainability issues and the goal is that the main issues of sustainable development become an integral part of craft education.

According to UNESCO's intangible cultural heritage, performing arts, rituals, celebrations and traditional craftsmanship are the world's cultural heritage and are therefore worth preserving and fostering. Part of regional or local cultural heritage is manifested in handicraft culture. The cultural dimension of handicraft is important because it maintains and develops traditions and is part of our national identity (Dormer, 1997). Handicraft related activities cover both the social, cultural and ecological environment and they cannot be removed from the environment in which they were manufactured. In Finnish cultural heritage, intangible heritage can include, for instance, language and dialects, habits in festivities and everyday life, skills, beliefs, traditions and place names. Tangible cultural heritage includes the objects, buildings and environments. Their purpose is to convey things in the past for future generations. It is important that every nation in the world maintains the cultural diversity in their national culture. (Kallioniemi & Lyhykäinen, 2008). Kokko and Dillon (2011, 487-503) highlight that individual experiences and collective values are strongly dependent on personal histories, and these histories affect both perceptions of crafts and craft education and also the values that individuals place on them (see also European Commission 2008).

In this study, the teacher students were asked if they should teach other countries' craft culture in school as well. Half (50%) of the respondents considered it important to teach multi-cultural craft, but they also want to emphasize Finnish craft culture. Regional culture is very important for cultural identity and for knowing one's own cultural roots (Kallioniemi & Lyhykäinen, 2008). In the Finnish school system, an objective of craft teaching is that a pupil welcomes both national and other countries' culture heritage. Therefore, pupils are led to access

Finnish and also other nations' cultural heritage and teaching content is to provide information and experiences of culture, tradition and also influences of other cultures.

The teacher students want to take sustainability into account in their future teaching in many ways. They want to focus on high-quality craft products having regard to the Finnish craft culture but also teach sustainability through other cultures. They also want to contextualize teaching to real life situations and break the limits of classroom practices. When reflecting the results to Papanek's function complex we can see that teacher students had thought about overall sustainable issues. They highlighted *need* and *use* functions, but also *association* and *consequences* functions in their future teaching work.

## Discussion

Sustainable crafts include a number of different points of view and we have approached these questions with the help of Papanek's function complex. All of our actions result in *consequences*. The mere choice of materials has far-reaching consequences for the environment, and this study may reflect teacher students to consider that their choices affect the state of our environment. Also the choice of *method* emphasizes the interrelationship between material, tool, and process. Teacher students had also considered the *need function* as craft-makers and as future teachers, and wanted that the product is necessary and has a clear purpose. As consumers, they had to think whether they buy a product or not. In this research, students had to think about the whole textile product life cycle, i.e. the *use function*. They also pointed out the *associations* to cultural factors and the responsibility of teaching sustainable development. The *aesthetic* issues were discussed mainly in choice for high-quality materials and products. (see Papanek, 1991; 1995.)

Teaching sustainable craft in school requires that teachers have pedagogical implementation skills as well as upbringing competence (see Huovila & Rautio, 2011). As future craft teachers, the study subjects considered it important that sustainable craft is a natural part of their teaching. Therefore, pedagogical planning skills are emphasized and the teacher can naturally connect sustainable values into the craft teaching. By recognizing the different aspects of sustainability, textile craft teacher students can naturally contextualize craft to other school subjects (see also Pöllänen, 2009).

## Conclusions

The research indicated that the students are well aware of the values of sustainable crafts. They make choices as consumers by considering the environmental impacts of textiles and clothes and favouring recycling. As craft makers, they want to take into account traditional methods and natural materials in their craft products. Through attaching sustainable values to a wider cultural context, the future textile craft teachers see plenty of opportunities for teaching sustainable crafts and sustainable development in the future.

The study results have relevance for developing craft teacher education into a more sustainable direction. The students are clearly interested in sustainable values; they are environmentally conscious and willing to contribute to and improve understanding of sustainability in their future teaching work. The study encouraged the students to think about their own choices of materials, about how textiles are produced, and how to take sustainability into account when planning their teaching in the future. The survey also helped the students to reflect on their personal professional knowledge and effectiveness as a teacher. They also noted how crafts can be integrated to other school subjects by taking sustainability into account. The next challenge would be to consider how to encourage students to come up with new and exciting ways to teach sustainable crafts in school.



More research about sustainable crafts is still necessary in order to study students' conceptions and their actual behavior more profoundly. Further research is also required for modifying craft teacher education so that it would pay more attention to sustainability. To this end, the perceptions of teacher trainers, lecturers and professors should, especially, be the target of further research, because it may well be possible that their students' conceptions about craft are currently much more sustainable than their own.

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Received: May 03, 2012

Accepted: June 09, 2012

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