

# BOOK OF ABSTRACTS

MARTE S. GULLIKSEN AND KIRSTINE RIIS (EDS.)



# MAKING

AN INTERNATIONAL CONFERENCE  
ON MATERIALITY AND KNOWLEDGE

NOTODDEN, NORWAY  
24.-27. SEPTEMBER 2012



### Organizer

The conference is organized by the Nordic research network, Nordfo. Nordfo is the Nordic Forum for research and development in Craft and Design. Web site: <http://nordfo.org>



### Host and organizer

Telemark University College (TUC), Department of Art and Design Education, Faculty of Arts, Folk Culture and Teacher Education, is hosting and organizing the conference. <http://hit.no> , <http://hit.no/eng>

### Scientific committee

The scientific committee is the Presidium of Nordfo, represented by:

- Associate Professor, PhD, Marte S. Gulliksen, Telemark University College, Norway (Leader of the committee and deputy president in NordFo)
- Professor, PhD, Marlene Johansson, Göteborg University, Sweden and Åbo Akademi, Vasa, Finland, Telemark University College, Norway
- Associate Professor, PhD, Mia Porko-Hudd, Åbo Akademi, Vasa, Finland
- Associate Professor, Bente Ytterstad, Oslo University College, Norway
- Research Fellow Eva Lutnæs, Oslo University College, Norway

### The organizing committee

The organizing committee consists of the Scientific committee, supported by

- Research Fellow Kirstine Riis, Telemark University College, Norway (practical coordinator)
- Professor, PhD, Liv Merete Nielsen, Oslo University College, Norway (representative for the main co-operating institution)
- Head of department Jostein Sandven, Telemark University College , Norway (Leader at the conference venue)
- Senior Executive Officer, Carl-Magnus Nystad, Telemark University College, Norway (in the venue administration)
- Executive Officer, Tonje Brokke, Telemark University College, Norway (in the venue administration)



## The Making Conference

**Making – an International Conference on Materiality and Knowledge in Notodden 24th-27th September 2012 – aims to provide an arena for discussions on field-specific, inter- and transdisciplinary knowledge production within Making Disciplines/Making Professions/Making Education.**

The active and creative meaning of the word Making is the first key-concept of the conference and the centre of focus. The making of something in something, a material, renders a focus on the physical and material aspects of making. Materiality is as such the second key-concept of the conference. The third key-concept of the conference, knowledge, emphasizes the need to understand Making as both a knowledge-based and a knowledge-generating process.

The conference takes an educational perspective on these key concepts. Questions asked, are:

- How can education in the Making Professions prepare the future citizens for identifying and solving possible future challenges?
- What are the possible meanings, functions and consequences of materiality and material-related knowledge in such a context?

The conference acknowledges the multiplicity of meanings around the Making Professions. Critical and constructive exchange of ideas and debate will be welcomed. Therefore, in addition to the key-note speeches, time is provided for two larger panel discussions, and for prepared peer-response on presented papers.

### Invited papers

When we called for papers we welcomed papers related to the Conference's three key-concepts: Making, Materiality and Knowledge. We encouraged paper presentations to be more than simply lectures and have welcomed sessions that incorporate other and more active/making forms for presentation.

At the deadline for submission 145 abstracts were registered. The abstracts were then evaluated by a select team of peer-reviewers in April/May 2012. Confirmation of acceptance was followed by a publication of the abstract on the conference website. We are here proud to present the abstract of the 109 papers to be presented at the conference.

Since we have invited both traditional academic papers and papers with emphasis on a more multimodal presentation we have chosen not to have a template for the papers presented at the conference. The abstracts show this complexity and are discussing a broad spectrum of relevant aspects within the framework of MAKING.



## Categories of presentation

At the time of submitting the abstract, the author marked which category the paper was to be considered for.

1. Papers with peer-response: Papers in this category will be given 20 minutes for a presentation, 10 minutes for a prepared response/discussion from a peer, and 10 minutes discussion with audience. Authors who wanted their paper considered for this category, sent full papers to their peer by 1. September 2012, in order for the peer to prepare a response.
2. Paper without peer-response: papers in this category will be given 15 minutes for a presentation and 10 minutes for a discussion with audience.

The peer-response system at the MAKING-conference is an orally presented, constructive critical reading of the paper, given by a peer. The format may be response or a prepared discussion. It is emphasized that the peer-response should be exactly that: a response, not a review. The Peer-response system is set up in order for presenters to get a more prepared response on their presentations, for peers to have more time to think about a contribution before discussing it in public, and for the audience to get more insight in the presentation before raising their own questions or comments.

## Post conference publication

The conference has a partnership with the scientific journals *Studies in Material Thinking*, *Techne A* and *FORMakademisk*. All three journals will publish a special issue with articles based on papers and keynote lectures presented at the Conference. Together, the three journal issues and this Book of abstracts form the official publications from the Making Conference.

Notodden, Norway, 16. September 2012

Marte S. Gulliksen & Kirstine Riis (Editors)

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SESJON 1 WITH PEER-RESPONSE

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CRAFTING AUTHENTICITY

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The great thing about graphic design is that it is almost always about something else.  
Michael Bierut

Throughout my MFA and teaching Graphic Design at Virginia Commonwealth University, I have noticed patterns in the students design methods and how they differ from my own. Many students rely heavily on digital technology, and seem uninterested or unaware of exploring hand techniques. This is most apparent in their design solutions. Something is missing.

Utilizing a digital design process aligns with how many people think of Graphic Design, but fails to acknowledge the vast potential of making methods the computer cannot replicate. Since technology is almost always accepted without hesitation in our society, I initially felt the need to defend the hand to my students and myself, and I placed too much emphasis on this kind of discovery. As my theories developed, I realized I had overlooked the immense potential of balancing hand and digital techniques, and also failed to see what was really missing: authenticity. At first, I tried to circumvent this word's intimidating presence, but it has an incessant ability to beg for a definition. Here, I'm tempted to paraphrase Justice Potter Stewart, a 1964 U.S. Supreme Court Justice, speaking on pornography: I may not be able to define it, but I know it when I don't see it. Authenticity seems easier to identify when lacking, but how do we know what it is and how to achieve it?

Authenticity touches a vast range of human experience we speak of authentic food, authentic music, authentic dance, authentic art, authentic roots, etc. Authenticity gathers people in communities that are vital, essential, and real, providing members with an unmatched sense of belonging. Authenticity can describe love, the scent of spray starch, and your seventh grade math teacher. The desire for authentic experiences draws us to charismatic leaders, expressive artists, and social movements; it makes us trendy consumers and fanatical collectors. Given all these varied uses, how can authenticity be defined?

Authenticity is what we want from the world, from others, and crucially from ourselves and what we make. As it relates to Graphic Design, I define authenticity as a match between form and purpose. Graphic Design relies upon visual language to simultaneously communicate multiple elements of an idea, and the outcomes are limited to our process and essentially to what we already know. For the designer, authentic qualities may be discovered through the act of making and research through experience. This process allows the designer to simultaneously develop a fluid concept and craft a design/object.

This paper will focus on the outcomes of a project exploring authenticity through personal experience and research through making. With the visual language of one family farm in the Midwestern United States as the subject matter, this project reveals that what is personal and authentic to one can become universal and authentic to many. In the words of D. F. McKenzie from his 1985 Panizzi Lectures on bibliography, My purpose is to express a need and stimulate discussion.

THE KNOWING OF SYMBOLIC EXPRESSIONS IN ARTEFACTS A LEARNING STUDY  
OF A SUBJECT CONTENT IN SWEDISH SLOYD EDUCATION

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This paper aim to explore what it means to (know how to) create symbolic expressions in sloyd artifacts, what is expected to be known and how this knowledge can be taught and assessed. The content of the Swedish school subject Sloyd is often taken for granted, even by Sloyd teachers, as technical skills in woodwork, metalwork and textile work. However a recent thesis on Sloyd education states the importance of an integrated aesthetic perspective on sloyd competence and the role that Sloyd objects can play as narrative artifacts with communicative values (M kel , 2011, p. 238). The national evaluation of the Swedish school subject Sloyd in 2003 showed that pupils tend to lack awareness of other dimensions of Sloyd competences besides technical skills such as aesthetical, economical and environmental perspectives on craft. The focus in Sloyd education seems to be more on to simply accomplish artifacts or learning specific techniques rather than knowing how to accomplish specific symbolic expressions and aesthetical values through crafted artifacts. There is a lack of research regarding how to learn to create Sloyd artifacts and also how to teach and assess aesthetical aspects of sloydwork (M kel , 2011, p. 228).

The knowing of symbolic expressions in artifacts is an example of subject specific content knowledge in Sloyd education. In the latest Swedish National curriculum Lgr11 there is a specific field of knowledge called Sloydens estetiska och kulturella uttrycksformer which can be translated into the aesthetical and cultural forms of expression in Sloyd . I have together with Janice Wemmenhag and Andreas Broman during 2010 and 2011 performed a so called Learning study in Sloyd education. A learning study is a collaborative and iterative practioner based research method developed in Hong Kong and Gothenburg, Sweden, by amongst others Lo Mun Ling and Ference Marton (Marton & Ling, 2007). It is a hybrid of the Japanese teaching developing model Lesson study and the research method Design experiment which aims to generate knowledge of a specific object of learning as in this case knowing how to create symbolic expressions in Sloyd artifacts. This particular learning study has been conducted in the Swedish school grade 5, altogether tree classes, one per cycle. It involves sloydwork in different materials such as fabric, wood and horn. The results of this study will be presented and discussed in this paper.

NORDIC CRAFT TEACHERS VISION OF POSSIBILITIES FOR USING SCIENCE  
KNOWLEDGE IN CRAFT EDUCATION.

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The moment of integration with subjects like mathematics, chemistry, physics or history is organically linked to the subject of craft. Although there have been lots of discussions about integration, teaching sciences in comprehensive schools has mostly remained the same in its isolated area of the subject. It can be the reason why students are not able to cope with acquired knowledge outside the subject. In addition, the students motivation for acquisition of science knowledge can be affected. A positive attitude towards solving different problems using acquired skills does not develop. Therefore, the subject of craft would be indispensable to verify the usefulness of learned material of other academic lessons and use it in real technical situations since the best way of understanding of processes occurring in our surrounding is to perform them practically, thereby to be convinced of their validity.

In this article, the possibility of integrating acquired knowledge in sciences into the subject of craft is being discussed. Science in particular context is understood as mathematics and physics taught in comprehensive schools. The opinions of craft teachers in different countries about integrating science into craft and their experience are presented and compared in the article. The meaning of knowledge integration is explained as the process of synthesizing two or more knowledge models (initially independent fields) into a common model. The result of the process is the development of new quality knowledge (with wider meaning and bigger effect). And more complete conception of the real world phenomena. The two field knowledge integration is achievable when one-field knowledge is applied in the other field.

The answers to the questions are looked for in the article. Does the craft syllabus direct teachers to dealing with integration in teachers opinion? How are the teachers aware of the presence of science knowledge in the process of work in craft? Do they point to the moments of integration in their teaching? Are there any similar principles and methods in different countries how to use science knowledge in the lessons of craft? Also, what do teachers think about the benefits of integration? Does it help students have better understanding of our everyday life in the society and make associations between knowledge of science and real life? The teachers understanding of developing integrative skills is essential as teachers opinions on the matter whether pupils are required to direct towards integrative knowledge or it occurs anyway without special teaching or direction depend on it. The article s data analysis bases on the conducted interviews in sample countries (Finland, Sweden, Denmark, Norway) in 2010.

Keywords: integration, science knowledge, craft education

LEARNING ENVIRONMENTS, CULTURE AND COMMUNITY: EXPLORING THE  
PRECURSORS OF HUMAN INNOVATION

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Many of the individual variables leading to creative behaviours are known (Runco, 2010, Amabile, 1996), but less is understood about the nature of how learning environments, specifically community size and national culture shape creative and innovative behaviours. This paper will examine the role of cultural and environmental influences on creativity, using two recent examinations of creativity as expressed in elementary-aged children and adults.

This paper takes the perspective of a cultural psychology of creativity, in that creativity is expressed through individual acts of novelty and utility articulated in an environment that is receptive and responsive to the new creation. Both the individual and the environment play a pivotal role in the production, for without the individual, there is no new idea, object, or accomplishment, and without the culture there is no inspiration, reception, or transmission. This reciprocal interaction between behaviour and environment acts as a dynamic force prompting innovation.

The driving influence of the environment on the individual was supported in a recent study by the authors of this paper. In an investigation of children's creativity and divergent thinking, large and significant differences were found between children attending rural schools in communities of less than 5000 inhabitants, and those attending urban schools in communities with more than 10,000 inhabitants. The children in rural areas obtained substantially higher scores on this measure of divergent thinking (the Torrance Test of Creative Thinking) than their urbanite peers. Follow-up discussions with teachers has supported the hypothesis that the low population density of rural areas leads children to develop creative and innovative behaviours at an early age, reinforced by the need for independent play, lack of the wide range of programmed urban distractions, and relative lack of supervision by parents, as compared to city-dwelling children.

This evidence is further bolstered by earlier research conducted by one of the authors which examined the childhood experiences of highly innovative adults. These adults often cited freedom, unstructured play, and wide open outdoor spaces as driving influences of their creativity later in life, more so than formal education or structured learning opportunities as children.

Within the knowledge stream of this conference, these two studies will be examined in reference to Glaveanu's (2010) principles for a cultural psychology of creativity in order to explore the known foundations of creativity that lead to human ingenuity and cultural production.

MAKI-E THE SPRINKLING OF A MAGICAL HISTORY: MAKING IN THE NEW  
WORLD

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Japanese lacquer encompasses the summary of the dexterity of the hand, the imagination to tell a story and maximum perspective on materiality. For the last few years now, the interest of Japanese lacquer and Maki-e has been the core to the development of the jewellery and objects formed in my practice. The application of lacquer in the studio practice has intrigued further pursuit in both the hand skills development and material diligence. Maki-e is a decorative Japanese lacquering technique that is comprised of a painted surface detailed with gold or silver powders. It is one of the many techniques that fall under the umbrella of Japanese lacquer. Lacquer is a material language with a history expanding over 6000 years across the Asian continent. It is a unique paint that requires the science and knowledge to material, hand dexterity, and patience. In early 2009, I arranged for a cultural visa to undertake a professional 2-year residency with lacquer master Kitamura Tatsuo of Kitamura Kobo in Japan. This paper will discuss the traditions of studio lacquer techniques studied at the professional craftsman level, from an insight of a contemporary wearable object maker. Secondly, it will address how this ancient craft has influenced the personal studio work for new translation. Finally, discuss the role of the maker, working alongside traditional techniques and processes outside its natural realm. Challenging what the medium's potential possibilities are in different environmental circumstances and landscapes. Thus engaging the old for new interpretation and revitalisation.

The paper will begin with a historical overview of Japanese lacquer from past to present with an emphasis on the discussion of Maki-e. An analysis on the characteristics of this lacquering technique and its geographical uniqueness to Japan will be viewed. Furthermore a discussion on how the metal's surface lustre qualities has intrigued my professional jewellery development as a contemporary maker. The paper will also address ideals of absolute perfection between hand to brush and conditional environment. Review the notion of repetition and cycle in making and building hand skills. This will contrast to observations of lacquer's material technology in making within the Australian climate. The confrontation of new challenges and how environmental factors and differences can set new parameters. The paper will also address the changeability of working with the material, how retaining the logistics of tradition and adapting it to the new changes around. This also leads into the discussion on influencing changes to artistic interpretation. In conclusion, reflect on these variations and how this is integrated into my own practice for the continuing role of lacquer's translation in a contemporary making practice.



IMITATION, MATERIALITY AND THE MAKING OF PLEASURABLE THINGS DURING  
MING AND QING CHINA.

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Prior to the start of the republican era (1912) the Chinese craftsman either worked for himself, in private enterprise or in one of the imperial workshops which were dedicated to producing the finest of a particular craft for the emperor and his court. The imperial craftsmen were accorded precious materials and all the time they needed to produce works worthy of the court (Wang 1994). It was in these imperial workshops that many innovative techniques in crafts were developed and refined.

It is in this context of making and materiality that wan hao zhiwu or pleasurable things were produced for the court. In principle these objects which were produced during the late Ming (circa 1570-1644) and early to mid-Qing (1644-circa 1840) dynasties conformed to the conventions of Chinese aesthetics, and are often different from the decorative arts manufactured for export to Europe, Japan, North America, South and Southeast Asia and the Islamic world (Hay 2010). These objects were produced not in response to economic efficiency, rather they represented luxury, innovation and technical virtuosity for their own sake as a demonstration of imperial power.

This paper explores one facet in the making of imperial luxury objects from the Ming and Qing dynasties by focussing on imitation as a popular theme for the Chinese craftsman working in the imperial workshops. Imitation in this context refers to the playful mimicry of form and materiality in the making of the pleasurable things for the court and elite, and includes ideas based on archaicism, realism and symbolism. The conventional dichotomy of form and function constrains discussion on the relationship between our understanding of objects, and how they look (Risatti 2007). By examining the objects materially this paper aims to extend beyond the conceptual and formal aspects of the object by analysing the sensory experience of a selection of Chinese objects from museum collections.

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MAKING SENSE - WHAT CAN WE LEARN FROM EXPERTS OF TACTILE  
KNOWLEDGE?

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Key words: tactility, knowledge, making, clay, deaf-blind.

This paper presents a case where deaf-blind makers are observed and interviewed during their working process with clay. The aim of this paper is to understand the potential of tactile experiences in the making process. The pilot project presented here form a part of my thesis conducted at the Aalto University School of Art Design and Architecture in Helsinki, Finland. As a crafts-person with a master and apprentice background I have an interest in analyzing the meaning of tactile experiences in the making process.

In philosophy we have moved away from duality towards a holistic way of thinking about our body and the implicit knowledge is given more attention. Despite of this our everyday life is still audio-visually driven to a large extent. Til this day we developed an ocular-centric worldview that gives little space for tactile experiences. Compared to a pre-literal positioning, we have moved away from using our whole body in the sense making of our existence and our surrounding.

The purpose of this case study is to find out what we can learn from experts of tactility. How do these experts make sense through making? The case study will be conducted at the Tampere Activity Center for the deaf-blind, in the spring 2012. A workshop with 3 adult deaf-blind makers in ceramics will be arranged. The makers will be interviewed during their working processes with the help of their own interpreters. The setting will be video filmed with two simultaneous cameras to document both the working process and the interpretation. The interviews and videos are then transcribed and analyzed.

Expected outcomes from the workshops are that tactile experiences are at the core of the making process and that the tactile senses can be developed by giving them more attention. Tactile events and their results may be interpreted by others with similar experiences. This case works as a ground for the continued efforts in analyzing the meaning and potential of tactile experiences in the making process. It aspires to draw attention to tactile learning and understanding through tactile experiences and making.

BODILY KNOWING: THE DEVELOPMENT OF A METHOD TO ARTICULATE THE  
NON-VERBAL DIMENSION OF CREATIVE PRACTICE

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The proposed paper derives from a larger PhD research project into embodied experience within creative practice and identifies a need to develop strategies to research the role embodied understanding plays in the performance of materially inflected creative practice. This paper addresses research currently being undertaken to develop appropriate research methods for the generation and collection of data relating to the embodied experiential dimension of creative practice in studio making situations.

Despite the incorporation of Polanyi's notion of tacit knowledge as a form of pre-reflective embodied knowledge governing much of human action into discourse surrounding design knowledge, little research activity has been devoted to the development of frameworks, research tools and methods that would enable a fuller articulation of the embodied, non-verbal dimension of practice in order to understand its role within creative practice. The tendency within design research towards research investigating design activity in terms of cognition and problem solving, models design as primarily a kind of thinking. This assumes design is largely a disembodied and intellectual activity and fails to take into account the role of the body within the skilled practical action comprising creative practices.

In contrast, researchers in the areas of anthropology and ethnography have responded to theoretical developments in relation to embodiment and corporeity within the humanities to explicitly recognise the active body within research into human practices. Drawing on these methodological developments, the proposed paper proposes a method of data generation and collection to be employed within the context of a practice based doctoral research project that investigates the embodied relationship between creative practitioners and emerging artefacts in the context of studio making situations. In the paper I outline these two bodies of literature addressing embodiment, while giving specific attention to the way in which the developmental process has been informed by my own practice history and ethnographic observations of practice.

The first body of literature revolves around theories of embodiment and phenomenologies of practical action deriving from existential philosophy, while the second addresses methodological approaches to study embodied experience constituting human practices. This second body of literature emerging from anthropology, ethnography and oral history encompasses recent innovation in data collection methods videography and audiencing. These innovations are viewed by a number of authors as providing significant opportunities to access non-verbal aspects of practice including movement, gesture, performed skills, interactions with materials, equipment, behaviour and social interactions. This discussion situates and provides explicit rationale for the research method within research methodologies seeking to examine background, or the tacit dimension of practical activities.

I conclude the paper with presentation and discussion of the research method currently being piloted. This method involves an iterative process, involving the making of provocative artefacts, then undertaking a shared examination of those artefacts with other practitioners in touch and talk sessions. These sessions record the responses of invited creative practitioners to the designed artefacts. Observations are provided on the piloted study along with reflections on the efficacy of the research method. These reflections cover both exigencies of the pilot study's practical implementation and the identification of research foci for further investigation in the full implementation of the method.

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REGIMES OF COMPETENCE IN THE SUBJECT ART AND CRAFTS

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The ongoing reform of the assessment system in the Norwegian school system has put pressure on the assessment practice of teachers in all subjects. It is no longer sufficient to mark students with grades alone; they must be accompanied by an explanation and advice for future learning. The concept Assessment for learning has spread across the country to meet the government's ambition for an increased learning outcome. The content of education seems to be driven by assessment - if it cannot be assessed; there is no room for it.

In my PhD thesis (Lutn s 2011) I set out to study assessment practices of the subject Art and Crafts at the final, compulsory school level (10th grade). The fieldwork for the thesis was conducted amongst two teams of experienced teachers, using methods such as participant observation, individual interviews, group interviews, study of assessment criteria and students work. The combination of methodology was chosen to thoroughly document the challenges and dilemmas of assessment in the subject, and the vocabulary and strategies teachers draw on to solve them.

The thesis addresses what serves as assessment evidence when teachers negotiate the final grades in the subject. What status is given to verbal versus visual assessment evidence? Do students deserve top grades if they demonstrate an ability to transform wood, clay or textile into beautiful objects, but lack language to describe what makes their work successful? Further, must students develop their own, original designs or is it good enough to show proof of excellent craftsmanship through copying an idea provided by their teacher?

My study finds that the teachers regard the objects as the main assessment evidence. Spoken or written statements are rare, and as assessment evidence they seldom affect the grades in the subject. Craftsmanship is highly valued by the teachers. Students are primarily expected to repeat technical conventions provided by the teacher, and, in order to achieve the highest grades, add their own creative twist to the objects in question. The teachers have a well-functioning linguistic repertoire related to the assessment of technical performance, but struggle to find words to describe what makes their students works original or personal. The lack of vocabulary to assess the creative aspects of student work raises some questions to which direction the subject of Art and Crafts is taking and how it prepares students as future citizens in a wider societal context.

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POT THROWING: CAN AN ANCIENT EXPERIENTIAL EXPERIENCE BE EVALUATED? A STUDY ASSESSING EXPERIENTIAL AND TACIT KNOWLEDGE.

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Throwing as a ceramic process of making is established worldwide in a variety of forms, but essentially the process has changed relatively little through the years; the method of learning the skills (Schon 1991), from master to student, is as old as the craft itself. Such methods include the acquisition of both experiential and tacit knowledge through subtle learning mechanisms that are almost invisible to general observation.

Issues of inclusivity and accessibility have been highlighted by modern western society as priority and are placed as an element within the research study.

A national, purposive sample of throwing potters, with both experience and expertise has been used in the study.

The non-variable design intent for the study is two 1kg cylinder pots. At least one of the cylinder pots is to be thrown with commentary on the performance. From close observation through digital recording combined with alongside interview with and self-reflection by the potter,

Skills needed when throwing can be isolated through the application of task analysis with physical ergonomic evaluation. Key skill knowledge can be identified within the throwing performance. The compilation taxonomy outlines the proposed separation of performance activities and their assessment. A Framework for Integrated Methods, FraIM, as discussed by (Plowright 2011) will structure the use of both qualitative and quantitative methods. Valuable qualitative data can provide information which cannot be detected in purely quantitative analysis procedures and combining the two can provide a more complete understanding of the performance. This understanding will aid the practitioner and student in the refinement or acquisition of the skills needed for the throwing performance.

Future work leading from this study could be applied to other craft areas inclusively involving crafter, material and tools, tacit knowledge and skills.

Keywords: Pot throwing, task performance, mixed methods, inclusivity

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BEYOND THE POST-IT NOTE: MAKING IN THE CONTEXT OF DESIGN THINKING

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This paper critically reflects upon the affordances of different making strategies when the act of designing seeks to be evaluated by more than the designed, material artifacts produced. Designers increasingly find themselves practicing in new contexts where the process of how designers think and act in the face of large scale strategic projects is more highly valued than the material skills they may bring as a designer. The practice of design thinking co-opted by the corporate world tends to privilege the ideation phase, as does the emergent co-design and participatory strategies of service and experience design. Both of these worlds, in very different ways, embrace the capacity of design to negotiate complex situations and propose novel solutions, and yet the practice of prototyping is often a collective act undertaken with non-designers. For a discipline that is in part defined by its relationship to the material world and the act of crafting artifacts this shift represents a challenge to how design understands the agency of making. Yet the situation also presents an opportunity to consider the role of making from a new perspective, with the design community being more mindful of the capacities of making as a facilitatory approach to discussing and advancing strategic propositions.

This paper takes the point of view that one of the valuable attributes of making in this dematerialized context is the design move of proposing solutions as a strategy for better understanding the situation one is designing into. The focus here is on the possible ways making practices might work with the simultaneously speculative and reflective move of proposing possibilities to better interrogate the situation. The paper will explore this attribute of making by closely reading the affordances of two situated, yet somewhat familiar, approaches. The first works with a practitioner's graphic design expertise to create complex speculative, ambiguous diagrams that facilitate the process of figuring out ideas that are still under negotiation. These figuring diagrams are characterized by a process of deep introspection where the individual designer is in reflective conversation with the situation. The second approach works with ready-made objects as prompts in the collaborative process of narrating the potential contribution of a design proposition. These narrative-based workshops, in contrast, are characterized by a collective process of meaning-making through crafting stories.

Contemporary practices present the possibility of a more expansive and integrated role for design, with designers being engaged at the launch stage of a project. In this context it becomes valuable for designers to be able to make visible tentative ideas whether that be, for example, narrating the possibilities presented by a social innovation project or framing a debate on the potential of an organizational change project. In comparing different approaches this paper discusses not just the opportunities and challenges presented by the experience of making in this context but also the extent to which the material-making strategies may direct the kind of discussion being facilitated.

THE SPECULATIVE PRACTITIONER: OR, THE WAY INNOVATIVE THINKING MATTERS .

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The focus of this paper is on making and thinking; thinking-in-making and the making-of-thinking; and, to some extent, an understanding of thinking activity where these two fold into each other. The particular address of the paper is thus focused on inventive rather than analytic modes of thinking; and, focused on this inventive thinking, especially, in the way it is directed to artifice in the production of forms for, and of , living i.e. design.

Michel Serres has proposed the invention of liquid history (and the ages of water ); understanding that the solidity of thought and material (thought-material) is merely a passing condition in the liquid flow of events and matter. This follows a reversal in dominant epistemes in physics, which, since Lucretius, conceived of liquidity as a special condition of the solid. This pass, in thinking, which now proposes solidity as a particular state of liquidity, has emerged, in the last few decades, in the evolving field of non-linear dynamics. Serres s writing (especially in the later works such as *Genesis* ) evokes a world where all that is solid is bound (loosely) and found temporally as an order built on a substrate of disorder (a turbulent sea) which tugs at its structure, so that in its relative cohesion and relative evanescence like the proverbial cookie , crumbles (quoted in *Mapping Michel Serres* , p.7, ed. Niran Abbas (2005); Univ. of Michigan Press).

The idea of the clinamen (Serres, Prigogine, Stengers and others) is a useful intellectual conceit to understand the way changes (in formation) are wrought. Most of the references to the clinamen in recent theory deal with the entry of chance into an ordered universe and the subsequent break up of order and chaos into a universe lodged between the probable and the exceptional; a universe in which order finds itself a highly improbable state of affairs (Berressem, H. in Abbas (2005), p.61). The clinamen may be thought of as the invasiveness of the multiple, of noise, into, what is just audible viz. the drone of the same; thereby, manifesting the irreducible plurality of causes or of causal series (ibid.) deep in ostensible order. It is the principle of diversification, of alterity, that infuses and subtends formation i.e. de- (possibly re-)formation in the heart of the formed.

For too long we have cited Schon s *Reflective Practitioner* as the exemplary trope of designer s thinking. In Schon s writing, reflection returns the given in mimetic production an all too easy certainty in the volition of practice. What this paper ultimately aims to do is to draw attention to and emphasise speculation (bound to reflection), which in its involuntary spasms and in-articulation, and the way it matters (in the doubled sense of how it engages the material world and how it does so significantly), draws alterity into the mimetic.



EMPOWERMENT THROUGH CRAFT: CRAFT MAKERS DESCRIPTIONS OF THEIR CRAFTING

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The aim of the presentation is to depict how craft makers describe their crafting as a making activity. The presentation is based on the qualitative study of the written narratives of 92 textile craft makers aged 16 to 84 (men and women). The narratives were written as a response to a request published in eight small provincial newspapers in Finland. The data analysis takes inductive content analysis and a hermeneutic approach as its methodological basis. Atlas.ti, the computer software program for the qualitative analysis, was used as a tool for facilitating analysis of the large volume of written text. Based on the results, craft has been in many different ways an empowering activity for those interested in crafting. Making crafts has enabled self-expression, self-realisation and constructing one's life through working with one's hands. For some, crafts has meant homing and downshifting; this has not been just about coping at work or at home but about creating a whole new way of life without stress and the throw-away culture of products and relationships. The essays show that making contributes to the makers feeling of personal integrity and has helped them construct roles and identities in their life context. Making crafts includes narrative themes such as ethos of managing: it has been time consuming and demanding but the makers were proud of making crafts and the produced artefacts. The empowering process of crafting can be traced to the raw materials; the artefacts; a sense of achievement; the possibilities for personal growth; the development of physical and cognitive skills; the control of one's own body, thoughts and feelings and the social and cultural dimensions related to craft. The results indicate that the participants had consciously or unconsciously used craft as an empowering activity. Craft has been three-way communication, in which the empowering relationship has been raised between the material, the craft maker and the making as an activity. The so-called holistic craft and ordinary craft played different roles in the process. It can be concluded that craft makers have empowered themselves through the concrete making activity in crafts.

MISS SISSELS SENSE OF SILK

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This presentation is about reflection and knowledge in action how to knowledge of crafts for educational purposes.

When I sense the smell of silk and feel the material, a creative process sets in motion. I search for the nature of the material and what it can be used for.

The knowledge of the texture, the right way of handling it, and the ability TO SEE the lines and the form is often based on experience.

Having this kind of basic knowledge is invaluable for a craftsman, using his capacity in the process of going from the beginning of an idea to the birth of a product and get it ready for delivery.

This knowledge is based on the tacit knowledge, the evaluations automatically made by the craftsman, a knowledge that can be hard to achieve by only theory.

A craftsman s assessments can be varied, but the more experience and bigger repertoire a craftsman has, the better the reflections.

As an educator on university and college level, my mission is to pass on this knowledge of experience in the process of getting a design from an idea to a product, it is a challenge to communicate the kind of knowledge that on some levels might be impossible to learn by reading theory.

Besides my experience as a craftsman and my contacts in the textile industry, I try to develop the field of this discipline and include in line with what is relevant today, and thereby bringing new knowledge into the fields of study which should be based on the leading research, academic and artistic development within design, and production of clothing.

Supporters like Victor Papanek with his formula for achieving good quality, Donald Schön literature on The reflection practitioner and Bengt Molander s Knowledge in action have helped me become more aware of my own choices in my work and give me good examples to use in my teaching.

The presentation will be about my reflections around a case of the making a dress. Using my craft experience and my network in the textile industry, I try to develop this field, and include relevant knowledge for the future. New research, technology in design and production and academic and artistic developments in the field of visual culture are key elements here.

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INHABITING MATERIALS, MANAGING ENVIRONMENTS

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The Inhabiting Materials, Managing Environments postgraduate architectural design studio proposed an exploration of immaterial environmental qualities through material means. Students were asked to manifest the relationship between a material (either cardboard, bubblewrap, tyvek, burlap or insulative foil) and an immaterial (either light, sound, heat, humidity, or air movement) in a 3x3x3m structure which would be a site specific installation for an urban shopping centre. The materials involved lent the project a capacity for experimentation, enabling students to work directly with immaterial phenomena, material and space. Thus, unlike many design-make studios, where students first design and then make the design, the approach offered here was to design through making.

We inhabit architecture: it is always surrounding us, conditioning us, texturing our existence and daily affairs. It is not so much seen as it is felt. It involves the manipulation and arrangement of material in such a way as to structure our world, and to provide a place for our daily affairs. The role of the designer of the built environment is then wrapped up in the adept handling of materials, so as to manifest their propensities and effects.

Architecture is ultimately immaterial. The fabric of our buildings are managers of their internal environments, maintaining our spaces such that they are comfortable and convenient for the range of activities they house. It is precisely these aspects of space that most truly affect us whether a space is too hot or too cold, whether a space is too bright or too dark, whether the air is moving at too great of too little a velocity, whether a space is too noisy or too quiet, or whether a space is too humid or too dry are ultimately aspects which evade most of our abilities to represent and hence design. Disembodied, as in diagrams and tables, they are devoid of meaning. But, physically felt, the immaterial qualities of our environments, and their management, are ultimately the reason why architecture exists.

It is thus crucial that the education of the architect encompass an understanding and appreciation of not only the material, but the immaterial qualities of our environments. These are difficult to explore on their own. As a result, they are all too often treated solely as a marginal technical subject, and ignored in the teaching of architectural design. But, in exploring on the interrelationship between materials and immaterial qualities, it is possible to gain a sense of how one might design with the immaterial qualities that are the ultimate raison d'être of our built environments.

As a result of the studio, the students gained a sense of appreciation for the relationship between materials and immaterial phenomena in the built environment. After exploring through the richness of material experimentation, they became all too aware of the limitations of representational methods regard the material/immaterial relationship. Perhaps, most importantly, they gained an appreciation for the rich interplay between material and immaterial that makes our built environment truly complex, without necessarily having to resort to complex form-making.

Making can thus be a way of coming to know both the materiality and immateriality of our world.

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MAKING LONG LASTING PRODUCTS BY ACTIVATING PEOPLE

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This article introduces how designers can make products that activate people through the design tool Contexts of experience (COE). The study is done with the aim to achieve product longevity in relation to environmental and commercial gain. The COE involves creating specific experiences in the different contexts of an ownership. The validity of the design tool is based on the synthesis of research on product attachment and psychological mechanisms related to practice.

The design tool was explored through a case study with student projects on master level in a product design education, interviews with students and industry representatives.

A tendency within the product concepts by the students that emerged through working with the COE was the embedded relational, be in motional and cognitive activation functions as part of the product concept. One example of such a function was the making of a radiator concept with stones for heat accumulation and massage purpose. The users are activated to take part in the making of the final product by collecting stones, alone or together with family or friends before and after the purchase of the radiator

We argue that the causal mechanisms for the tendency of the activation dimension in the student s outcomes emerged through the transferred consciousness of psychological mechanisms and different contexts of product experiences. Hence when a designer is lead to elicit feelings and experiences through products, the concepts will include strategies of relational, motional and cognitive activation.

Keywords: experience design, activation, environment, concept development



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CRAFTING A REVIVAL? THE PERSISTENCE OF MAKING

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We are, according to many scholars and critics, in the midst of a making revival . In his recently published collection of essays, titled *On Craftsmanship Towards a New Bauhaus* (2011), the historian and writer Christopher Frayling writes that Craftsmanship has again become fashionable in high places (p.7). This declaration of making as a contemporary concern has been reiterated across a proliferation of recent texts on the theme of craft and making, aimed at a variety of readers from theorist to enthusiast, including Richard Sennett's *The Craftsman* (2008), David Gauntlett's *Making is Connecting The Social Meaning of Creativity* (2011) and *The Case for Working with your Hands* by Matthew Crawford (2010), to name just a few. A decade earlier, Paul Greenhalgh edited a volume titled *The Persistence of Craft* (2002), in which he pronounced that despite crafts continued inferiority complex in relation to the fine arts, and its decline in popularity as a result of the 1980s designer boom, the desire for making, had stubbornly refused to go away.

This paper will take as its starting point, a critical look at the broad concept of revival , in particular as it relates to making in contemporary culture. Revival as a noun implies an improvement in the condition or strength of something, or an instance of something becoming popular, active, or important again. To experience a revival indicates that something has fallen out of favour or lost its original vigour and relevance. Is this what really happened to making in the late twentieth century, in order for it to be restored to life in the early twentieth century? Did craft ever really become unfashionable, as Frayling's text implies? What were the reasons behind this, and are there historical precedents from which we can draw useful parallels?

This paper will consider key factors which might explain the recent resurgence of interest in making, by comparing contemporary circumstances with previous periods of acknowledged craft revivals , namely the 1970s, and latterly, the Arts and Crafts movement of the late 19th century. In particular, it will examine specific economic, social and environmental concerns such as the impact of industrialisation and recession, dissatisfaction with consumerism, the desire to revert to a simpler life, nostalgia and the growing awareness of green issues, as factors which each period may share, and which might explain a desire to return to craft. It will ask whether a collective desire to return to making is something brought about by specific parameters within culture and society. Finally it will consider whether there are particular circumstances specific to our contemporary craft revival, which might differentiate it from its predecessors, and provide lessons for the future.

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DRIFT AS INNOVATIVENESS COST

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Process is a critique of materiality. This analytic dictum holds in both the cases of an artifact which has been revealed in a material medium and an unfolding mental formulation of a revealable form. The finished and in-making, stamped by human intervention, are critiqued by the process of making. This inherent function of process makes its interrogation a crucial undertaking.

In the current project, collaboration is presented as a device of making, one with embedded actions--themselves internal mechanisms affording critical interrogation. Because making as a collaborative project is a complex subject, some of those mechanisms might be easily overlooked. Yet it is crucial to identify and analyze as many of these as possible as part of the larger project of assessing effectiveness in making. One dimension of collaborative making has been identified for the current study: human agency in terms of its functionality within the commons.

The program is a project of shaping/making public space through codification. A code is a representation of intention(s) about material form. A group of graduate students crafted and posted specifications about a predefined feature of public space in a weekly blog. The far-sight of collaboration through open posting was to sketch a sophisticated set of representations which delineate public space in terms of how it is to be made.

Tardiness was identified as a weak link in the structure of collaboration. The problem is not just obviousness of delay as a liability, but its detrimental impact on the quality of intentions specified to delineate making of public space.

The problem is encapsulated by a phenomenon we have termed drift. Drift occurs when an individual moves towards an end without carefully pre-constructed mediations necessary to arrive at the target. One of the ways drift manifests in a collaborative project is as one person's acceptance/adaptation of a solution that somebody else has originated without addition of anything significant to the solution. Our research goal was to investigate presence and impact of drift.

Drift embraces these assumptions:

Ways of making: Collaboration is a device of making.

Telos of making: Making is normatively directed at improvement of a condition.

Value differentiability of human agency: In a collaborative project, how human agency is put to execution is vital; quality of actions embedded in collaboration is crucial.

Postings of codes for a semester were analyzed. The following are reported:

Two categories of submitters may be identified: early and just-in-time (JIT)[1].

Both categories always occur.

JIT submitters number more.

JIT submitters will drift more than early submitters (Sign test:  $p=.001$ )

Three independent judges assessed selected posts for improvement (i.e. later posts should be more improved ). Judges rated low: 21%, 28%, 22%.

Anatomy of drift thus yields certain consequences:

Resource underexploitation: Little new idea/concept is formulated in drift.

Inefficiency: Wastage occurs through copying/repeating ideas.

Creativity cost: Innovativeness is eroded.

Growth/improvement counteraction: Augmentation of current condition is eviscerated.

The current study identifies the erosive effect of delayed work on collaborative making. These findings inform both educators and those involved in collaborative projects.

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[1]Rotenstein, Davis, & Tatum (2009)



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THE DUAL LANGUAGE OF MATERIALITY IN CONTEMPORARY ART

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On the relationship between materiality and ideas. An interpretation of the meaning of the appearance of materiality in parts of today's art and how this can help communicate and even express the work's idea.

Art has always dealt with materiality. In classical painting from the late Renaissance onwards, advanced realistic visual representation of materiality was important. Common to this type of reference to materiality is the creation of an illusion of something material.

In today's art an illusion of materiality is no longer central. Some contemporary art has a different relationship to materiality, now more direct and physical. This development occurred partly with Cubists such as (Georges) Braque and (Pablo) Picasso, with their development of the collage technique, where they created a tactile visual fragmented reality of reality. Dadaist Marcel Duchamp introduced readymades in the art, by making use of everyday, mass-produced objects. With the "Fountain" from 1917, a urinal on a shelf, he presented an art space for direct and concrete materiality, an everyday materiality. This work triggered a heated debate, still ongoing, on the question of "What is art?". "Fountain" may be the first item of conceptual art, although it was not until the 1960s onwards that conceptual art became an orientation. In conceptual art the ideas and thoughts behind the work is important, indeed, they are more important than the work itself. In this way, concepts and ideas are the most important facets of the artist's materials, and thus we are presented with an abstract materiality of the idea.

The combination of concrete everyday materiality and the abstract materiality of the idea has had a major influence on contemporary artistic expression, and is expressed in a number of variations on the current art scene. I choose to base my presentation on three Norwegian artists.

Through a visual close study of selected works of art by Terje Roalkvam, Brit Sævi and Per Inge Bjørlo, I will discuss how these artists, in various ways, combine concrete and abstract materiality. The discussion is based on a hermeneutic interpretation of the connection between the application of the specific materials and the theme. Centrally important is the question of the application of materiality and how it can help to communicate and even express the work's idea. Here I draw the connection to Maurice Merleau-Ponty theories about the body as the point of anchorage for the human experience, and how we relate our social presence to a complex co-existence with everyday activities. Pierre Bourdieu's ideas about contemporary art and commitment to daily existence is also drawn into this interpretative framework.

Moreover, a central aspect to the art experience grasped by Viktor Šklovskij's theory of art, is recognition contra the breach of recognition. I will show how this is relevant to how current art uses materiality and collisions of materiality.

MAKING MASCULINITY - THE SOCIO-MATERIAL STRUCTURE OF MASCULINE  
PLACES INN THE WOOD- AND METAL WORKSHOP

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My research is concerned with the Swedish school subject Sloyd and for the moment I focus on the wood- and metal work. The Swedish Sloyd subject has a long tradition of gender division, a division still prominent through premises, pupils and teachers with regard to gender. In this presentation I focus one seemingly practical aspect of the subject the materiality of the workshop. By using Bernsteins concept of classification in relation to the socio-material isolation of the wood- and metal workshops in school, I argue that these workshops are reproduced as a socio-material structure of masculinity. Historical studies of school politics leaves little doubt that the wood- and metal workshops most consciously have been constructed as alternative, technological and masculine settings within school, targeting boys who do not comply with the traditional school culture.

From a post-modern perspective, gender is a set of ideas or a concept that is culturally reproduced and produced. Gender as a concept is commonly associated with specific features of bodily materiality. However, I focus on gendered materiality found outside the body. The materials, tools and artefacts in the wood- and metal workshops are gendered in the same way as bodies. Thus the spatial setting of the workshop, as a material and gendered frame needs to be illuminated, and my tentative assumption with regard to the wood- and metal workshop is that since the workshop renders a strong classification as a masculine room within school, the material inside (the internal classification) is masculine as well. Different sorts or levels of masculinity lies embedded in the different places of the workshop. Drawing on feminist geography and a pragmatic-fenomenological notion of bodily transaction and perception, I argue that gender does not have to be a behavioural act or a performance going from the pupil to the material environment. Gender might just as well be perceived as existing in or stemming from the pupils transaction with the places in the workshop.

During an ethnographically inspired field study in a wood- and metal workshop last spring, I observed, interviewed and filmed pupils during sloyd lessons. My analysis of the material show that the masculine materiality the places seems to have effects on the way pupils position themselves among their peers. Different places in the workshop are more or less masculine, and by transacting through the places, the materialized masculinity of the places becomes embodied by the pupil. In my paper I argue that the metal workshop is the most masculine place of the wood- and metal workshop, while the painting workshop is the least masculine place. Possibilities for future research are discussed.

DISCUSSIONS ON THE IMPACT OF CRAFT EDUCATION ON CHILDREN AND ADOLESCENTS

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The society around us is becoming more complex to navigate yet our lives are being simplified by different technological inventions. Hmlinen (2009) brings out the characteristic problems of our society: the growth of insecurity, problems of choice, individualism, lack of norms, consumerism, materialism and instrumentalism. In this ever-complexifying society, adolescents are facing their developmental tasks with the inescapable goal to become competent individuals. As humans are becoming more distant from processing different materials by hand, in consequence of all the technological solutions offered to us, there aren't too many incentives to create something practical or artistic by our-self. By that, one misses out the chance to experience the sense of meaningful action, achievement, and joy. This all arises the question how does engagement in craft activities affect the youth?

The task of the current paper is to discuss the importance of craft education in the lives of adolescents in contemporary world. This is a part of a larger study where the focus of interest lies in how the teachers understand the meaning and significance of the compulsory craft education in basic education. Firstly, we are focusing on contemporary knowledge about problems concerning well-being in postmodern society and, secondly, recent knowledge about brain research. Aaron Antonovsky's theory of Sense of Coherence offers a kind of outside point of view to craft's impact on the development of adolescents; and recent brain research and neuroscience offer an inside point of view to it.

The sense of coherence (SOC) is a global orientation, a pervasive feeling of confidence that the life events one faces are comprehensible, that one has resources to cope with the demands of these events, and that these demands are meaningful and worthy of engagement (Antonovsky, 1987). This theory is examined from two points of view. Firstly, how the basic ideas of the theory help us to understand unifying meaning of craft in the postmodern society. A small scale sense of coherence can be experienced in the process of craft, because this process is comprehensible, manageable and meaningful. Secondly, to give an overview of different research results concerning SOC and especially of what Antonovsky called Generalized Resistance Resources: what kinds of GRRs are found that have relation to craft and learning of craft.

Latest researches reveal that the development of the brain, especially the frontal lobe, involved in higher mental functions continues rapidly through the puberty and into the 20s. In addition, it is known that to support the adolescents development and learning to the utmost, it is important that they can use their different senses. In the present paper, the effect that working with hands has on the overall development of the brain is discussed in the light of these recent findings.

In this study, conclusions are drawn about craft's importance on adolescents in the framework of these theories. Several presumptions are made to describe the educational importance and comprehensively developmental impact of educative craft as well as craft's influence on well-being.

Keywords: craft, child development, postmodern society, well-being

CRAFT AND DESIGN A NEW SUBJECT IN THE SCHOOL CURRICULUM, A NEW TEACHING PRACTICE.

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Problem statement: Educational research on innovation in the craftsman-like subjects in comprehensive schools focusing on merging the two subjects textile and slojd into a new subject, craft and design , in comprehensive school. Taking the conclusions of this research into consideration, will aspects concerning teaching theory be improved?

Background of project:

At present, the school subjects slojd/woodwork and textile/needlework are undergoing turbulent changes. In teacher training education, these two subjects have merged and a new subject, material design, has been implemented. This new subject must now qualify the students to cover/ be able to teach both school slojd/woodwork and textile/needlework classes.

In the spring of 2009, the Ministry of Education presented an action plan the purpose of which was to strengthen the practical arts in schools. It appears from the action plan that the Ministry of Education intends to strengthen pupils practical knowlegde and skills. It stresses the fact that the government Wants to do this by extending the range of materials, which pupils work with. This is to be done by implementing a new subject in 4th to 7th grades as well as en elective subject in 8th - 9th grades craft and design . According to the action plan, focus on evaluating the subject field should be intensified. In light of the above, the Ministry of Education udes nearly the same formulations for slojd/woodwork and textile/needlework in the law text called F lles M I II .

To facilitate the process of developing the new craft and design disciplines, the government has opened up to local school-based pilot courses over a two-year-period from 2009 2011. A major reason for this initiative can be found in the recommandations made by two Australian professors (Anne Bamford and Matt Qvortrop) from 2006 when they visited a number of Danish schools with the purpose of studying the teaching of practical musical creative subjects.

Project anchoring theoretical and methodological approach.

The project aims to add perspectives to a new discipline craft and design in Danish comprehensive schools. The basis will be partly theories of design and craft in a postmodern globalized world, and partly theories on importance to design and craft in relation to learning, creativity, education and training. The project takes its point of departure in theories based on design and craftsmanship in Dickson (2006), Jensen (2000 + 2003), Mogensen (2004), Klein (2001), Engholm og Michelsen (1999/2000), Jessen, Larsen og Mogensen ed., Volf (2009) and Kristensen, Norregaard, Kleis, Kock og Klausen (2009). On developing creativity and how creativity must be learned, the project is inspired by research presented at Tanggaard (2008). Moreover, the project can be seen in relation to texts of learning and discussion training/education in the hypercomplex society in the way it folds out in Qvortrup (2001 + 2004). Finally, the project is based on the current societal context, in which the government s course of action for the field including the subjects of practical arts in schools, along with the new formulations for slojd/woodwork and textile/needlework are important factors.

Methodologically, we intend to assume an action research approach. This means that we do not only intend to establish a so-called objective picture of how succesful schools are working to develop the new craft and design disciplines. In addition to examining how the teachers work with the development of

the profession, we want an open dialogue with these practitioners to influence development and thereby jointly construct new teaching theory.

The project is a subproject of the UCC /Profession Department of Didactics and Learning/ School for Material design/ Knowledge center for crafts and design.

During the spring of 2010 and the autumn of 2011, the project team worked together with teachers in two comprehensive schools:

1) Vallensbæk Skole. Two teachers wanted to work together and develop craft and design in their class on fifth level.

2) Skolen på Duevej: A team of teachers with one fiery soul teacher in front wanted to work and develop craft and design in their classes on fourth level.

The main purpose of this project is to improve teaching practice. Questions about what teachers do are in focus, e.g.:

In what ways does the teacher make space for the pupils work with creative design processes in which inspiration and ideas, planning, doing/practicing and evaluation are important aspects?

How can the teacher facilitate the pupils opportunities of generating ideas?

How does the teacher choose items and craftsmanlike products?

What are the pupils supposed to do to learn?

How can the teacher facilitate the evaluation of the pupils learning processes?

How can the teacher facilitate the evaluation of the education?

Project team:

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THE COMPOSITION OF A HAT

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My feet tread lightly on the livid red soil of a Broome bush track, and the birds are all around me darting, wheeling, rattling the undergrowth, calling to one another. I have come to seek counsel from my co-conspirators over some feathered hats. Back in Sydney, models wearing savage avian headdresses march across my computer screen, feathers slicing the air with elegant aggression.

In my work with feathers, I have enjoyed the cyborg pleasures of stroking those spines over the back of my pliers, feeling a brittle resistance wilt through the cool metal, and coaxing the plumes into a series of shuddering coils. This has given me an idea for some millinery feather-pieces, revolving around the idea of nests. A series of airy architectures that speak of birds, beauty, comfort and home. Remembering past romantic and sensual encounters, I feel a desire to push my hand into a downy hollow and feel the comfort of being enfolded, embraced.

Milliners, birds, fashion, feathers, tools and techniques, memories, chance and opportunity these hats come together, unfold in unexpected ways. As author , I am often surprised and intrigued by this fragile and contingent assembly of agents and agencies, that is composed and decomposed at every turn.

In *An Attempt at a Compositionist Manifesto* Bruno Latour (2010) calls for an end to the Modernist experiment that has divided nature and culture, where humans alone have agency, and the rest of the world waits patiently to be discovered by us. Most makers would acknowledge that their tools and materials add their own voices to the mix, often taking the work down a different path. Not to mention the other contingencies of the work client, institution, supplier. Jane Bennett (2009, p56) also argues for a vital materialism, a creative materiality with incipient tendencies and propensities .

This paper will present research in the form of a rich, reflexive ethnography, or anthropology, of the composition (or making) of one hat. Informed by material semiotic and actor network approaches, this project will attend closely to the minutiae of concrete daily design practice, and generate a variety of research materials video, audio, image, material artefact as a means of capturing and communicating the detail and complexity of the design process. It hopes to present a more democratic representation of the disparate elements and agencies that come together in the process of making a hat.

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ENTREPRENEURSHIP EDUCATION IN SLOYD

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Entrepreneurship, entrepreneurship education and the development of an active approach towards life, through education, has in one form or another been subject for discussion and debate in all Nordic countries. A proactive approach to life can be seen as a foundation for individual, as well as social and economic wellbeing and can thus be seen as a key goal for public education. Furthermore a proactive approach can be regarded as a key competence for the individual when confronting future challenges. The theme has been the focus of interest from a political perspective, from industry and commerce, as well as from an educational perspective. In Finland entrepreneurship education is included in the national curriculum as a general theme called *Deltagande, demokrati och entrepren rskap* [eng: Participation, democracy and entrepreneurship ] and the focus is on developing an active approach to life in general, as well as on promoting entrepreneurship as a future career. In an educational discussion on entrepreneurship education sloyd and sloyd education has repeatedly been pointed out as especially well suited for developing entrepreneurship. This paper focuses on discussing the connections between sloyd and entrepreneurship education from an educational point of view and thus connects to one of the conferences key questions: How can education in the Making Professions prepare the future citizens to identify and solve possible future challenges? By discussing the aims of entrepreneurship education in relation to theories on learning through sloyd and sloyd-processes an understanding of how sloyd education can develop entrepreneurship is formed. This discussion is based on an ongoing postgraduate research process with the focus on discussing the conditions for entrepreneurship education from a sloyd educational perspective. The study focuses on the theory base for entrepreneurship education, the impact of teacher s basic outlook on their profession and the impact of the schools organization on the conditions for entrepreneurship education. The empirical research focuses on interviews with teachers in order to gain understanding of their perspective on the conditions for entrepreneurship education.

DESIGN LITERACY - KNOWLEDGE AND MEANING IN CONTEXT

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Design literacy is both connected to the creation and to the understanding of artefacts and images in a broad sense. We acknowledge that research on multiple literacies has received considerable debate and redefinition within several areas of research (Coiro et al. 2008); it is no longer tied to the understanding of literacy as the ability to read and write verbal text (Moats 2000). Literacy is used for the expression of competence, where different ways of communicating meaning, is incorporated into the understanding of a literacy concept (Wertsch 2008). Design literacy is regarded as a competence not only for the professional designer, but also for the general public in their position as users, decision makers, and consumers (Nielsen & Digranes 2007; Dong 2008).

Concept combination of design and literacy has previously been linked to the skills of a graphic designer (Heller 2004), but such a limitation is inappropriate. Within the media research community, media literacy is discussed through what it means to be a competent reader and writer in our culture (Erstad 2010). In the field of visual literacy, Ann Stankiewicz discusses a similar theme, in which she shows how changing technology in a complex society requires expertise in visual language, and the deciphering of the power relationships that exist in these social structures (2003). The concept of ecological literacy is discussed by Nathan Stegall (2006). He claims that the idea of a sustainable product within the design field has been misunderstood to include only the recyclable product, and to smaller extent awareness about the object's purposes for use.

We regard design literacy as a precondition for real user participation and for sustainable consumerism. This links design literacy to materiality in context of movements such as green design, cradle to cradle and product longevity. In an educational context design literacy is linked to education for citizenship and to the promotion of participation and democratic ideals. Placing, defining and orientating the concept of design literacy is seen in relation to the broad research that deals with the concept of literacy and highlights what it means to be a competent participant in a culture based on multiple modes of communication.

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FORM IS MAKING EXPLORING THE RELATION BETWEEN FORM AND MATERIAL  
IN KNITWEAR.

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When describing the form of a garment, we use the notions of silhouette and garment-type. The most common notion in daily discourse is the garment-type as the definition of form and function e.g. trousers, skirt, jumper etc. As most people are not trained fashion designers, but still interact with clothes everyday, a common sense language like this is very useful. But this way of describing clothes is just as common within fashion as an academic subject. We are used to read clothing forms from the formula of garment-types. We often even start our creating of a garment by stating what kind of a garment-type we are about to make. How does this affect the making of new forms in fashion design?

To be able to create new forms (unfamiliar clothing-shapes) we would have to shift our understanding of the connection between the making and the form. Normally within fashion design we sketch and then select a material that will embody the thought-out form. This means that form is an abstract notion just waiting for its material; the myth of the silhouette.

When it comes to knitwear I question the prevalent division between form and material.

Within knitwear design we can either choose to make a fabric or a garment. If we choose to knit a garment, we do not first need to knit the fabric. The material is hence inseparable from the form. What would it mean for the design process to understand form and material in a closer relation? To work from the idea of a concrete geometry that affects the way to construct.

If the idea is implemented in the design process it will provide another link between making and expression; form as the way in which we knit.

Possibilities of concrete geometry in the design process for knitwear will be discussed through two of my design projects. Both are part of my on going Ph. D work in Fashion design methodology:

**Identical:** A number of garments made in crochet. Form is here understood as the number of openings, and the distinctness of a garment's beginning and end. Form is then the formula from which the garments are made. All garments start simultaneously around the four openings, and end at the row with the contrast colour.

**Transformation** A number of knitted prototype garments. Form is in this case understood as the transformation from plain to curved that is held as a possibility within the knit itself. Form is thus explored through the angle, the opening, the merge of inside and outside; three aspects of transforming.

WEAVING AS DRAWING: UNPICKING THE RELATIONSHIP BETWEEN TEXTILES  
PROCESS AND DRAWING

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The relationship between making Textiles and the use of Drawing has a long and complex history: tapestry developing through a process of translation from drawn cartoons, traditional textiles where drawing is applied to (Print & Embroidery) or embedded within the design (Woven) and frequently featuring drawn naturalistic representation, through to contemporary digital print and jacquard weaving where a more direct relationship between drawing practice and textiles process is developing. In a digital age the emergence of these new technologies can be seen to place drawing as central to the creative and consequently the making process.

Hand rendered art work has historically been key in the development of Textiles across a broad spectrum of making from the hand made to industrial production, and currently even large scale mass market manufacturers Monsoon and H&M seek to employ individuals with good drawing skills, whilst textile design education still focuses on drawing as a key component of successful textiles practice and it is embedded in most curricula in a variety of guises Leo Duff makes the point that The fascination with drawing from the artist s or designer s point of view is the inconclusive way in which it works within, yet moves our practice forward. Drawing helps to solve problems, to think and to develop the end result. \*

Drawing research has done much to define the process and purpose of drawing within the broad art & design context, and my own practice sits at this juncture of drawing and making where each is informed by the other.

This paper aims to explore and examine the role and purpose of drawing in the more specific textiles context and its relationship with textile practice and contemporary making. Through analysis, discussion and reference to Textile making across the discipline, and acknowledging current drawing research the paper will explore the following key points:

Drawing for Textiles

The notion of research, observation, sketch, and experimentation with media

Drawing in/on Textiles

Naturalistic representation and the act of direct translation into or onto cloth

Drawing/ Drawing informed by Textiles

Using Textile sources as inspiration or subject for making drawing

Drawing using Textiles media

Work emerging from a Fine Art position where artists work with Textile media and processes: Tracey Emin and Louise Bourgeois are perhaps the 2 highest profile examples.

Making Textiles as Drawing

Where drawing no longer contributes to a direct act of translation into Textiles but where the work is a fusion of ideas and materials- a cross over of making practices and drawing thinking.

The paper demonstrates the richness and variety of drawing practice and seeks to identify its role and relevance within contemporary Textiles making across a broad spectrum of activity.

\*Drawing-the Process Leo Duff

QUALIFYING FOR PUBLIC DISCUSSION THROUGH THE SCHOOL SUBJECT ART  
AND CRAFTS

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In January 2006, the Norwegian government proposed public discussion concerning the design of the future Regjeringskvartal - government quarter. The government presented their desire to listen to both professionals and lay people and created a blog where opinions about the future of the Government quarter could be provided (<http://blogg.regjeringen.no/regjeringskvartalet/>). Which skills are needed so that the general public can actually participate in this type of discussions?

With the 2006 Knowledge Promotion Reform, architecture became one of four main subject areas in the school subject Art and Crafts (Kunnskapsdepartementet, 2006). The history of the school subject shows that different ideological views have influenced the subject throughout time (Brønne 2011). According to Efland (2004), a new educational paradigm is created by establishing new educational visions. This means that in addition to the official curriculum, it is the degree of acceptance within the professional community of Art and design education, engagement of students in teacher training, and resonance in society that determine whether a vision can become a new paradigm. An analysis of the main area architecture and the teaching practice that is outlined in the journal FORM, indicates a movement within the subject. At an intentional level the main area architecture operates as an alternative to the charismatic heritage from the previous century. Within architecture distinct subject-matter content, reflection and societal relevance is emphasized (Fauske, 2010).

The project DESIGN LITERACY - from primary education to university level highlights design education in Norwegian schools, from primary school to university, with emphasis on the transition between the different levels of education. The project focuses on the importance of design literacy in the broadest sense, both for the education of the professional designer and for public influence on the design of one's local environment. In connection with this project, students in Art and Design education were asked to reflect on what made them choose this particular program. Architecture is included to a very limited extent in students' reflections about their own motivation. There seems to be a gap between political intentions, changes within the subject and the students. This paper discusses the role of the school subject Art and Crafts in the transmission of knowledge for participation in public debates about the design of architecture and material culture.

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POSTHUMANIST DESIGN

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I will present an approach to making that assumes the agency and continuous becoming of the material world. The development of a collaborative process between water as matter, and the maker/designer will be the focus. The paper will question the culturally located and anthropocentric notion of the maker/designer, and the practice of socio-natural design collaboration will be presented as an alternative.

The paper will investigate theoretical ideas around material agency, objectivity - subjectivity, irony and situated and partial knowledge, developed by Haraway (1988), Barad (2003), Latour (2004), Szerszynski (2007) and Linton (2010). Research into the agency of water in the form of a short film will be presented as part of this, as will a series of initial collaborative experiments with rain, bath water, dew etc. along with resulting made artifacts.

A manifesto for making that emphasises the continuous and mutual becoming of both matter and knowledge and the irony of our socio-natural position will be declared as a direct result of this research.

The second part of the paper will present documentation of the process of making a piece of temporary hydrosocial architecture in collaboration with water, and in adherence to the manifesto for making . The architecture will hack the aesthetic of event architecture (tents/marquees) and intend to subvert the socio-natural relationships inherent to such spaces. This architectures ability to embody and raise questions about a different way of being in the world will be reflected upon and critiqued.

The paper concludes that the enactment of our socio-natural relationship precludes our material knowledge. It posits the process based practice of making/designing from a site of irony and continuous socio-natural becoming as an effective and urgent environmental strategy.

CONSTRUCTING KNOWLEDGE IN THE PROCESS OF CRAFT-ART IN THE  
CONTEXT OF THE BASIC CRAFTS EDUCATION OF YOUNG PEOPLE

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Making craft is like a discussion with the material. It is a possibility to explore the surrounding reality as well as the inner world of the craft maker.

The focus of my study is the knowledge which the maker presumably constructs in the process as a result of that discussion. The knowledge is here understood as a versatile concept including also subjective, experimental, intuitive and silent forms of knowledge. I presume that the knowledge is constructed both individually and shared experiences between other craft makers.

The main task of the study is to develop a concept model about the nature of the knowledge that constructs the process of making craft. The process of craft making is integrated work, when the same maker is in charge of all the phases of the process. The basic element in the process is a craft maker who is shaping material with some tools or machines. In the craft education there is also a teacher, a group of makers, a room, where the making takes place, and a curriculum, which defines aims, methods and subjects of the education. The concrete result of the process is a product or an artifact. One of the possible abstract results of the process is the knowledge that the maker constructs during the process.

The context of the craft making in this study is The Basic Arts Education system in Finland and specially The Basic Crafts Education. The Basic Arts Education is goal-oriented, progressing from one level to the other. The basis of the curriculum is given by the Finnish National Board of Education. Seija Karppinen defined The Basic Crafts Education as a craft-art. The Craft-art is a concept that I am using to describe the context of my study.

The method of the study is the grounded theory. With the grounded theory method the researcher systematically codes and analyzes data by using the very specific procedures. The purpose of the grounded theory is not to describe the phenomenon but to conceptualize it.

The empirical data consists of the interviews, field notes and participant observation. I interviewed students of The Hämeenlinna Visual Arts School Aimo. They were at age between 13 to 18 years. In the process of open coding was found 20 concepts. About those 20 concepts I developed three main categories: intentional information searching, practical theory and identity of a craft maker.

The category of Intentional information searching consists mostly of the data about different variety of sense perceptions. The perceptions could be divided in basis of the activity versus passivity or their function. The category of practical theory describes how the maker transforms information from outside given instructions or assumptions to their own experimental knowledge. During the interviews students also told about their images of themselves as a craft maker. This part of the data I named as identity of a craft maker.

Keywords: knowledge, constructing knowledge, process of craft making, craft-art, the basic art education, grounded theory

GARMENT MAKING AND ICT STUDENT S PERSPECTIVES ABOUT ADVANCED CLOTHING STUDIES - COURSE

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This study focuses on textile craft teacher students experiences in learning garment making with information and communication technology (ICT) and their use of ICT as a study tool. This paper concentrates on students attitudes and actions in the course of Advanced Clothing Studies, which is partly online; the course consist of three pre-recorded lectures (voice and Power Point presentation), tasks for students and web links (web pages, videos) for independent learning in Moodle learning environment.

The purpose of the study is to find out if this kind of online learning is beneficial in a course in which the content is very tactile, skill- and material-based; during the Advanced Clothing Studies course students design and make party dresses or evening gowns using e.g. draping and embellishment techniques. The aim of this study is to illustrate students opinions about online learning of this course and also to examine students behavior and concrete actions during the course: how they use the content of the Moodle environment and other internet resources during the course.

Research data is gathered from the textile craft teacher students of the University of Eastern Finland who attend the course in spring 2012 (N=14). Students opinions are gathered with an open-ended questionnaire. Methods for gathering data of students concrete actions are reports from the Moodle environment (forum posts, activity reports), students written project plans and portfolios. The data will be analysed using content analysis and evaluation of the frequency of actual usage of the Moodle environment.

Preliminary analysis of the students project plans indicate that various internet sources are used as an inspiration during the clothing design process in the beginning of the course. Web sites are referred in the project plans, photos are copied and used as examples of visual features or as part of moodboards, although instructions of the plan did not require using internet or photos. Preliminary analysis of the questionnaire shows that students consider pre-recorded lectures good in learning theoretical things but not in learning patternmaking. Various web links are considered to be only additional information of the course.

This study is part of the project Online learning in Advanced Studies of Craft Science. Online learning is used because the University of Eastern Finland has three campuses in three different cities; textile craft teacher students can participate in some courses of craft science while studying other subjects in other campuses. Moodle learning environment is used for online teaching and studying in this project because it is the official learning environment at the University of Eastern Finland. The study project Online learning in Advanced Studies of Craft Science focuses on students perspectives of learning with ICT and the potential benefits of it.

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MAKING APRONS MAKING CONCEPTION OF ORDER, CLEANLINESS AND PURITY

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This paper bases on the ongoing PhD research, Aprons in front of women crafts, clothes or ideological concepts. The theory of the study includes craft science in the perspective of clothing and craft making, and women s studies in the perspective of social construction of gender. The focus is in past from two points of view: aprons as clothes and crafts during one thousand years and aprons as material representations of family ideologies, cleanliness ideologies and craft ideologies in the beginning of 20th century. The first part of the study is composed of existing research of different fields as history of clothing, ethnology, art history and sociology. Because of the subject of the study is restricted to aprons, it was possible to took advantage of various sources as women s magazines, schoolbooks, old Finnish movies, fictions and individual memories for the second part of the study.

There have been many rules about how, where and when to wear aprons as well as there have been different kinds of rules and advices about making them. These written codes describe not only clothing and craft making codes, but the hidden, even unconscious, social norms of being a socially accepted woman.

In this paper I concentrate on the aprons, which were made and worn by schoolgirls. In the beginning of the 20th century aprons were harnessed as representations of the national hygienic discourse in Finland. Aprons were not only exercises of making crafts or protective school clothes but they involved a broad range of meanings that could be understood from different angles depending on conception of cleanliness. I study making and wearing aprons through three different theories advanced by Mary Douglas (2000) Elizabeth Shove (2004) and Olli Lagerspetz (2008). Applying their theories I try to find an answer to the question: What kind of ideas girls materialized when they made their aprons?



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SVERRE STOKKE

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TRACES IN METAL

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Aim of study was to find out what kind of art a discarded car engine can inspire us to make. The method used in this study was to disassemble a car engine, forging selected parts and photographing the results.

The results from the initial study gave new and interesting ideas that required further exploration. The same method used in the initial study was implemented on other items.

The pictures resulting from this study was displayed in an art gallery during November 2011.

Keywords; Forge, discarded items, traces, imprint, texture, macro photography

THE INVISIBLE AND VISIBLE IN MAKING. REFLECTION ON PERSONAL PRACTICE.

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The experience of making has both invisible and visible dimensions, working in a continual, dynamic, state of flux and interaction. The mystery of reification of ideas into concrete forms is discussed, alluding to Heidegger's (1966) arriving into presenting of a made object, and the shaman-like role of the artist. In relation to this role, reference is made to Aboriginal and Maori traditional perspectives on the inculcation of spiritual beliefs into the making of objects.

This journey of making is surrounded and improved by rich, unseen imperatives, that involve prior knowledge, skills awareness, cultural underpinnings, conceptual vagaries, and the process itself. Within this wider context, the relationship between the artist and the voice of the materials is explored, as a responsive and responsible set of actions, both internal and external. Particular attention is directed to my experience working in wax, bronze, wood and glass, with emphasis on the spiritual, emotional, sentient aspects that fit into this partnership dynamic. The transitional space that this collaboration occupies is discussed, along with the nature of flow (Csikszentmihalyi, 1990) as a rich and vital experience. Reference is also made to the concept of wairua (spirit) which can have both a personal and cultural facility, when imbued in a made object.

INTEGRATIVE CAPACITY THROUGH MAKING

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This paper discusses the development of a modular dwelling system through a new sense of making and reflecting upon material practice. The project takes a multidisciplinary approach using integrative thinking and application-oriented prototypes.

According to Feast and Melles (2010), one problem of practise-based doctoral level education in design is a lack of interdisciplinarity and an impoverished view of research methodology. This is because its complexity requires taking into account different disciplinary perspectives in order to develop a comprehensive understanding.

This research recognises an opportunity to span across disciplinary boundaries through the embodiment of making. It links mathematical computations, using minimum materials, based on self-generative/organising principles with textile design, smart technologies and crafting, to engage different specialist expertise. This synthesizes a unique combination of skills, interests and experiences, to formulate and generate innovative design solutions.

This paper focuses on one aspect of this ongoing research. Advances in digital- and rapid processing-techniques, along with developments in manufacturing processes, introduce a new sense of making. Here mathematical investigations can directly inform and instruct the material process through the translation of mathematical formulas in rapid 3D-prototyping techniques, potentially minimizing development times, improving the communication of ideas, transcending the barriers of different disciplines and generating holistic, interdisciplinary knowledge.

The research translates theoretical investigations and explores unacquainted territories through an embodiment of making, as a way to express new design solutions. This evolving multidisciplinary approach engages with complexity and seeks to address methodological boundaries.

Keywords: interdisciplinarity, complexity, design, embodiment, making

WEIGHING THE CURRICULUM OF CRAFTS. TEACHERS OPINIONS AFTER EIGHT YEARS OF EXPERIENCE.

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When examining the Finnish craft education one has to bear in mind that the subject consists of two separate contents, called textile work and technical work, both taught by different teachers in a substance-specific learning environment.

In Finland the planning of the new national core curriculum will start in 2012. Preliminary information about the new core curriculum suggests that it is going to be based on the analysis of competencies. In this research some crucial phrases of the existing core curriculum are reflected against the factors of competencies by experienced teachers of craft, that is, teachers of textile work and technical work.

The research data is collected in a seminar dealing with developmental issues of crafts subject in basic education. The seminar is arranged in March 2012. In order to get a representative sample of Finnish craft teachers (total population 1438) an extra identical online enquiry is arranged in spring 2012.

In this quantitative research, craft teachers conceptions of the focus areas of craft education in the existing core curriculum are examined. Research data is collected by an instrument in which the teachers reflect different descriptions of subject s task, objectives, core contents and assessment criteria of the core curriculum against the different factors of competence. These factors of competence are knowledge, skills, values, attitudes and ability to act.

The analysis of data is expected to highlight the weight of the factors of competence. With a simple frequency distribution the emphasis of different competency factors can be examined. Cluster analysis (or factor analysis) enables the grouping of different respondents and also constellation of different questions. All these operations give opportunity to study the existing core curriculum and also make conclusions for the future curriculum of crafts.

keywords: the core curriculum of crafts, competency, craft education, textile work, technical work

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MAKING MATERIAL NARRATIVE TOWARDS AN AESTHETIC UNDERSTANDING OF EDUCATIONAL SLOYD

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Once there was a linguistic turn, then a visual turn and now we face a material turn. All these turns constitute and communicate meaning in different ways. In this paper I will use the notion of turns as a mirror reflecting glimpses of literary, visual and material-based concepts for the development of a narrative understanding of sloyd objects, especially concerning narrative qualities of material expressions in sloyd. Thus the paper addresses possible meanings, functions and consequences of materiality and material-related knowledge.

The Swedish school subject sloyd is a mix of perspectives. Three major ones accepted by most within the educational field are the aesthetic perspective, the pedagogical perspective and the skill perspective. In this paper I focus on the aesthetic perspective seen as consisting of aesthetic, figurative and creative aspects. In addition to these aspects I consider narrativity as an aesthetic property of sloyd.

Looking at sloyd objects as narrative artefacts will allow a wider understanding of the sloyd process which in general has been recognized as a concept encompassing stages such as the ideational stage, the conductive stage and the evaluation stage. Most agents consider the sloyd process as an oscillating movement, i.e. the actual work consists of jumping back and forth between different stages, which finally settles not primarily in the fulfilment of a product but in the evaluation of the process.

A narrative approach takes into consideration both what existed before any of the stages and that which follows after the working process. The objective of narrative is to create meaning and coherence on an individual level including context and relations. Therefore both process and product participate in the creation of narratives; many processes connect with plot and some products are in fact semi-characters or at least mirror characteristics held by agents.

The research project is integrative consisting of semiotic, hermeneutical and narrative perspectives to cover both analytical and interpretive aspects. Also various mediations such as speech, texts and photographs in the study call for integrative processing of narrative instances.

Drawing on observations from an empirical study conducted in the 9th form in lower secondary school I propose a theory of narrative artefacts inspired by the literary research field as well as visual and material culture. The research design is inspired by visual ethnography. Results are presented in narrative format, i.e. short stories constructed from qualitative interviews and photographs. The main contribution is a narrative understanding of designed objects for the benefit of developing concepts within education.



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MASTERS AND APPRENTICES OF TEXTILE CRAFT

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In the spirit of national romance and need of employments for women the establishment Handarbetets vänner was founded in 1874. The aim was to develop and preserve the Swedish textile tradition through education and manufacturing. Skilled craftsmen created a textile knowledge culture in the making of domestic and public textile, a culture that remains alive until today.

This ongoing study focuses on how the craftsmen learned their skills, how the knowledge was and still is transformed between the craftsmen and in the culture. Eleven craftsmen have been interviewed; they have all been employed between ten to fifty years at the studio.

The skills are thought in the process of making. The apprentice is firmly placed in the care of the master, whose purpose is to teach the masters personal skills and ways of interpreting the artists original. The making is conducted on the basis of the masters taste and way of doing things, despite this the apprentices describe the work as being conducted in an open and generous spirit. Even though the apprentice imitates the masters work they don't experience this as imitation, but rather as making in the spirit of the master. The apprentices work conditions is also somewhat adjusted; they get to make a simpler part of the work.

Being a situated knowledge the learning engages the whole environment in the studio as a knowledgebase, the education doesn't end when the apprentice leaves the master. Even the walk to the lunchroom past other craftsmen is a moment of learning. The knowledge is also situated in its way of being unique, the way of twisting the yarn in a weave or how to mix materials in embroidery is specific for the studio. This might not be something seen by everyone but it contributes to the high quality of craft.

Discussions if knowledge in craft is tacit are always ongoing. The craftsmen describe the learning of craft skills as a verbal and manual process. Words are important in reinforcing the manual skills but also as a possibility to verbalize for example shades of color or experiences of surfaces. The knowledge might be described as tacit by the fact that the learning is never verbalized though it's never discussed or problematized in the group of craftsmen.

The result of the study shows the importance of having several active craftsmen. Through different ways of conducting the craft and interpreting color and the artists original, a base of knowledge is constituted. All these different ways of solving the tasks create a culture of knowledge, in this culture a core of accuracy and high quality rules.

Another result is the importance of letting the work take its time. To reflect within the process and let thoughts mature is important and natural in the studio, however the craftsmen must never forget the fact that the studio is a business and is supposed to carry its own costs.

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ON MAKING THE AFFECTS OF THINGS

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What are boxes for? Opening or containing? In making a box we are making a stage for the drama of the box being used, being filled, being opened, being emptied, being reused, being folded flat and sent off for recycling. Because the box slips into the background of the drama of the object it contains (to reveal and release), the box becomes available for a range of possibly complementary, complimentary, neutral and even disruptive affects. The box may disguise its contents by looking nothing much like what it contains, as happens with a plain brown rectangular cardboard box (ugly duckling affect); or it may predict aspects of the experience of its contents by offering an aesthetic experience in its own right, as happens with cigarette packets (pleasure dome affect).

Apple has made a fine art of making boxes. The packaging room [at Apple] is so secure that those with access to it need to badge in and out. . . . Inside the covert lab were hundreds of iPod box prototypes. . . . One after another, the designer created and tested an endless series of arrows, colors, and tapes for a tiny tab designed to show the consumer where to pull back the invisible, full-bleed sticker adhered to the top of the clear iPod box (Lashinsky, 2012, pp. 49-50).

Pulling back the sticker, is a key part of the consumer's reception of the object. That is, the object is not simply taken hold of by its new owner, it is presented, in the unboxing theatre, as the drama of the transference of meaning and value from maker to user. This transitional moment of the object's identity allows for the making of precise affect possibilities.

In hazarding a theory of object affects, this paper will explore a variety of object affects that are formed in the drama of getting things.

(Lashinsky, Adam. 2012. *Inside Apple: The Secrets Behind the Past and Future Success of Steve Jobs's Iconic Brand*. London: John Murray)



EXISTENTIAL ANGUISH INSIDE ARCHITECTURE: THE INTERIOR --DISQUIETING  
YET FAMILIAR-- IN BETWEEN ENCOUNTER AND BELONGING

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In the current age of unsettlement, my research aims at understanding and potentially incorporating existential anguish into architectural design. Inquiry into the architectural Unheimlichkeit (a reference to Vidler's the architectural Uncanny) addresses a paradoxical and disquieting force in architecture that does not intimidate but rather stimulates the growth of human creativity through architecture. What are the limits of one's own certainties and how can one overcome them even if they cause existential anguish? In reducing the meaning of architecture to technical and material commodities, one damages the fragile faculties of architectural experience such as memory and anticipation.

Unheimlichkeit may specify a small yet existential part of the immaterial domain of architecture: it can be considered to be both approach and theme in architecture. Hence the inquiry into Unheimlichkeit proposes a specific approach towards architectural design and education. In so doing, Unheimlichkeit complements prevailing values and norms in architecture as pre-set by society (commodities, light, sight, and so on). The architectural Unheimlichkeit envisages and embodies a frictional design approach that promotes the growth of other values in architecture such as mortality, empathy, trans-disciplinarity and alteration. Simultaneously, we conduct specific pedagogic experiments through a number of Research Design Studios called Onheimelijk as collectively organized with and by students/researchers of the St Lucas School of architecture, Belgium.

This article means to address a central question: how can Unheimlichkeit consolidate the architectural discipline yet instigate thinking beyond the discipline? By provoking particular unfamiliar thoughts, I inquire the possibility of the architectural interior to become a frictional vehicle to overcome existing dualities. Through the lens of a polemic debate, I will describe the interior as a frictional vehicle that both consolidates and expands the architectural discipline, in between materializing and thinking.

The architectural interior may -or may not be- a medium to question a way of living here and now in the light of one's mortality. The whole underlying intention of my research into Unheimlichkeit in architecture is not to lose the specificity of architecture, but rather to treasure architectural experiences by interpreting them as charged with specific values, even if those values might be subversive.

I will argue that a paradoxical formation of both matter and thinking emerges in the architectural interior. The paradox of material thinking originates in the tension between the safe enclosure of belonging a homely sense of Geborgenheit and Heimlichkeit - and the unheimliche exposure to an uncertain encounter with the other. It balances between fiction and friction, belonging and encounter, materiality and thinking, consolidation and expansion, making and imagining.

DESIGN DIARY OF A WOODEN BIKE: PUTTING THE PRACTICE-LED LEARNING  
TO CONSCIOUS USE

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In this article I describe a design of a wooden bicycle through examining a series of drawings and models that have forwarded the design. In the drawing process I have strictly envisioned only a certain kinds of materials that fit with the chosen drawing technique. The intent was to make only use of processed materials and elements that could be bought, and that building the envisioned outcome would not require a machine tool shop. I have consciously kept this process within the drawing board as much as possible, to help keep a clear view of the progress. The purpose for the exercise is not only to reach an interesting outcome, but to examine the means for consciously telling about one's practical work within a research context, a central issue in practice-led research. The bike example is discussed using Donald Schön's concepts and vocabulary to make sense of a practically-oriented study. The visual material on this concrete example is brought forward and examined as means to contribute to the field of design through reporting selectively on material design activity, both through images and text. The example attempts to provide a highly condensed, intentionally focused effort that provides a whole picture of one design case. Describing one's own design process from an insider perspective is seen as advantageous, as it helps keep view of the longer background, motives and influences that have driven the work. Elements such as talk-back of the drawing material, envisioning constraints and underlying guiding principles are especially visible. Knowing these concepts consciously during the design process is discussed critically in light of research aims. Exposition of a design case benefits from the sense-making devices offered by literature and theory. But these concepts also drive the design, as the sketching already becomes informed by the concepts I have learned from literature. The design steps and the drawing diary are already directed by an interest toward reflecting back and reporting on the done things. This can be seen as either undesirable or acceptable, depending on whether or not one wishes to see the practical making as separate from the theory in a research project. In the presented case the research interest has freely intermingled with an aim to create a concrete design outcome, and the paper seeks to open up arguments for this approach. Learning the theory has increased sensitivity towards identifying how design advances through interaction with material, influenced by metaphors and ideas.

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SOCIAL STRUCTURES AS MATERIALITY AND FORM.

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In this abstract I would like to present a proposal for the Social as Material (form) in Art Education, as my contribution for the conference MAKING Materiality and Knowledge.

To begin with, I wish to establish reflections on how it is possible to understand social structures in a way that allow us to acknowledge the social as something mouldable. Based on views from Social Constructivism I will extract the elements of social structures, which we actively shape as a part of the making of our common reality.

Secondly, I will present some examples from the Contemporary Art Scene, which contain perspectives on how we become participants in the shaping of our common reality, through artistic methods. In the field of art theory, the Relational Aesthetics presents viewpoints, that helps enlightening the possibilities of describing the social as an artistic material, but also other artistic perspectives, such as Performativity and Sosial Engaging Art, brings contributions to the understanding.

Ultimately, I will link these perspectives to the field of art education by partly, exemplify how working with social structures can be done, through examples from the academic field of art education mainly outcomes of work that has been done in the collaboration CAVIC - Contemporary Art and Vicual Culture in Art Education. - And partly, by discussing why it is important to include this work in the field of art education. This discussion will have teacher-training students as the object for discussion, and the main point is to emphasize the significance of their Reflexive Processes, as an important part of their educational development.

9NI>VWRITING HOW MAKING REFLECTS THE DESIGN OF KNOWLEDGE: OR  
HOW MAKING WITHOUT KNOWLEDGE CREATION CAN WIN THE BATTLE BUT  
LOSE THE WAR

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For this research I initially considered producing a reflective exploration of the ontological relationship between making and writing . This led to the speculative exploration of the physicality of the words making and writing that resulted in the non-word, 9NI>VWRITING, which now lives in the title. It has meaning but is not a word in the traditional sense.

The paper promises to expand and report on the above inquiries but has issued itself the challenge of delivering an answer to the proposition that grows out of addressing the title of this paper -That making is not alien to knowledge creation even if there are issues with its relationship to writing.

Knowledge creation is an abstraction of the real. It is analogous to viewing oneself in a mirror. The benefit of having access to this representation of oneself outweighs the reality that the image we see has only similarity to the real and contains inherent fundamental distortions. The reflection is an abstraction, a representation of the materiality of the viewer. We can live with and indeed adapt, to counter these distortions. As we do with the image reversal we encounter in a mirror without concern, which only attests to the advantages of having this other perspective a mirror provides us. The problems of distortion, of only being a representation, of not being the real are superseded by the larger benefits of being able to see this abstracted image of our selves. Likewise the distortions encountered in creating knowledge of making are out weighed by the larger benefits this alternate perspective gives making .

The paper will address making from a broad perspective and attempt to avoid discipline specific interpretations and terms. The conclusion will argue that the design of the instruments and conventions of word making effects the materiality of academic knowledge production as viscerally as clay affects the making of a potter.

WHAT AND WHEN? A VISUAL SYNTHESIS OF SERVICE DESIGN METHODS AND  
THE PHASES FOR IMPLEMENTING THEM

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This paper presents a set of methods, instantiated as "info-cards", to help guide design processes. The derived methods are based on interviews with, and subsequent design-feedback from, design-researchers focusing on service design. Our focus was to find a set of methods that describe and aid different key phases of design processes. The methods were instantiated into six cards; physical boundary objects to open design processes and discussion.

We describe possible uses of the cards in learning, research and development environments. Also, we compare our cards to other design research methods-cards.

The uses of our method-cards are multi-fold. They open discussions of design-methods, their characteristics, possibilities and limitations. In doing so they re differently relevant at different levels of design. They introduce beginners to design methods, including the public, and, they open up design processes for discussion and analysis with design teams, as well as to co-deciding users. To aid co-deciding users in design processes, the cards help share understandings of design processes and methods, enabling users to further understand the realm of possibilities and be more informed in helping find relevant co-determined paths through design processes.

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THE BUILDABILITY RESEARCH PROJECT

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The future of architectural education has been heavily debated in the modern era, and the present times make no exception. Apart from discourses on design, central to these discussions are the possibilities for new modes, agendas and opportunities in architectural practice and research. However, in spite of any conjecture, and regardless of divergent or alternate approaches to architectural education, it remains that the main concern of Architecture itself is in the design and realisation of built environments.

In light of these observations, and in recognition of my experience in both the practice and teaching of architecture, I was awarded two scholarships so as to undertake research into a highly contested subject area of architectural programs worldwide the area of construction and making. During 2010 and 2011, with scholarships in hand, I established and undertook this research project, entitled BuildAbility: the future of construction education .

The BuildAbility project recognised that within the frameworks of aesthetics, functionality and sustainability, the future of architecture remains heavily dependent on the profession s collective and individual knowledge bases in regards to building materials and technologies, and their integration and implementation. However, in both the universities and the profession, there is strong evidence that foundational and continuing education in construction, structures and fabrication has changed over the past two decades, in many cases to the detriment of achieving quality and holistic learning for students of architecture.

So as to identify benchmark pedagogies in relation to construction, structures and fabrication, the BuildAbility project involved an international review of a range of architectural degree programs and approaches to providing learning opportunities and integrated teaching in these subject areas. In particular, the project focused on those architecture schools for whom design/build studios, material/making studios, integrative design philosophies, and experimental material research are highly valued.

The research reconfirmed that design/build and material/making studios provide opportunities for expanding design and integration skills beyond the limitations of traditional construction teaching. Such projects and studios also provide avenues for a closer alignment and greater efficacy between design and technical research and the core curricula of architecture schools. Further, the research outcomes determined that there is substantial evidence that these studios engender learning opportunities well beyond the specifics of the studio brief, including high level peer to peer learning, the development of investigative intelligence, and enhancing students appreciation for integrative experimentation with material and form.

Key to the execution of the research project were interviews, meetings, and reviews of architecture degree programs, school cultures and agendas with architectural academics, researchers, sessional teaching staff, workshop managers, practitioners, writers and students, as well as observation and participation of studio sessions and design/build projects in progress, reviews of completed student work, and visits to facilities utilised for design/build or material/making studios and projects.

This review of the BuildAbility research project will present an overview of its methodology and

execution; exemplar case studies of design/build and material/making studios, integrated design curricula, and material research; and the recommendations made in the completed research report.

ENGINEERING OPPORTUNITIES FOR INNOVATION: THE IMPORTANCE OF  
PLAYFUL MAKING AS DEVELOPMENTAL METHOD IN PRACTICE-LED DESIGN  
RESEARCH.

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The evolution of knowledge through making is enfolded into both designing and the research-by-project PhD structure. Making and meaning are inextricably intertwined. Harrison (1978), Schön (1995) and more recently Cross (2007) and Pallasmaa (2009) have all considered the generative potential of reflection-in-action, where the practitioner evaluates and analyses their actions as they make, responding to information generated by the process and adjusting their actions accordingly. The reflective creative process can be a transformative experience for the creator, revealing hidden areas of enquiry, sub-conscious influences and obstacles. Donald Schön (1995: 78) describes the development of design through making as a reflective conversation with the materials of the situation. In design practice and research this dynamic dialogue often originates from the playful manipulation of materials driven by making processes built on intuition and embodied knowledge.

Play can be a process of exploration and explication as well as a means of individual expression. Using ludic research methods for practical production allows one to work in a way that is spontaneous and without pre-meditated purpose. It offers opportunities to break out of linear patterns of thought and established ways of working ingrained by institutional education and years of professional practice. The purposeful purposelessness of play cultivates a very particular mind state in which one is relaxed enough to relinquish control and allow the unknown to occur. By being immersed in the moment, totally absorbed by the task in hand and acting through intuition not intellect, one not only finds fulfillment (Csikszentmihalyi 1991) but also allows space for innovation. But how is it possible to preserve this precious playfulness within institutional constraints that often prioritise intellectualised, rationalised and well-documented methodologies?

To achieve balance and rigor in academic research-by-practice it is necessary to devise systems to record and reflect upon both the pragmatic and the phenomenological aspects of the research without losing the spontaneity of embodied, playful and intuitive design practices. Models for such active documentation of practice have been explored by people including de Freitas (2002) and Pedgley (2007). This paper compares the differing opportunities and challenges presented by playful, unbounded approaches to practice-led design research and more constrained, delineated methods to see which might best support the development of innovative practice-led design research. Through an illustrated case study the paper investigates methods that aim to achieve balance between free playful exploration and containing boundaries in order for creative design practice to flourish and advance beyond established methods.



COMMUNICATION AND MEANING-MAKING THROUGH ARTEFACTS. A STUDY OF STUDENTS WORKING PROCESSES WITH INSTALLATIONS

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This paper grasps a specific educational project which is only a small part of a PhD project. The aim of this paper is to observe the function of the artefacts in the students working progresses with installations. I am analysing how students uses materials and artefacts, how they justify motivated communications choices and choices of artistic effects. I look at these processes in the light of multimodal communication and meaning-making.

In this specific project my role was more like a researcher teacher and a participating observer. In the project the students were given a variety of artefacts and were asked to make further use of text and other optional materials, artefacts and techniques. The group discussions surrounding the artefacts, justifications of themes, meaning-making and choices of artistic effects in the process were documented by the students in a report. These reports and my observation notes are the empirical data for my analysis in this paper. I link the educational project to a phenomenological and contextual approach to the discourse of installations because my empirical data puts me in an intermediate position between them. Through this division I try to locate and clarify important attitudinal and theoretically concentrated points in the installation discourse.

This is a work in progress. Based on early research findings it appears that it is equally important to understand the artefacts physical design, their sensual materiality and how their area of utilization influence the students as it is to understand the symbolic function and the artefacts ability to be a carrier of meanings and messages. The students do not isolate the significance of the artifacts from the use of the artifacts. The presented artefacts seems not only to be a symbol of something since the students associations, experiences and understandings do not exist beforehand, but the artefacts are more like a driving force producing the experiences. The students creative processes with the installations seem to be a mutual process in which students arrange the artefacts around them simultaneously as the artefacts arrange their experiences.

This is not a linguistic reflection or a conceptualization so to speak, but rather an objectification. Socializing with artefacts becomes a way to create bodily experiences and to make the experience practical and concrete - in a process where the installations appear to be material narratives.

PUPILS SLOYD LEARNING CULTURE DUE TO THE NATIONAL EVALUATION  
RESULTS IN FINLAND

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The first national evaluation of the learning results in sloyd was implemented by the Finnish National Board of Education in the spring 2010. In Finland sloyd includes technical or textile work contents of craft & technology in school. The evaluation was carried through 9th grade pupils with general (N 4792) and advanced (N 1548) questions.

The analysis of this study is based on experts articles of the FNBE publication. The research question based on the articles is: What kind of learning pupils have in sloyd? The three learning areas of sloyd are: (i) what was pupils comprehension of learning towards concept of complete sloyd, (ii) how the pupils have learned technical or textile work contents and (iii) how the pupils have planned and produced sloyd processes?

The FNBE has evaluated pupils learning towards the concept of complete sloyd by measuring pupils comprehensions of it. The textile and technical work are optional sloyd contents in the Finnish curriculum. Technologies in neither of contents are specified. In the FNBE evaluation the measurement was constructed with most common and most important contents by group of experts and comprehensive school sloyd teachers.

According to the FNBE evaluation most of the pupils have comprehended the elements to control their learning towards complete sloyd at least some times. Learning towards complete sloyd varies a lot. Girls participation in technical work explained their knowhow in both of the sloyd contents in some degree. Girls and boys knowhow in craft skills was on the same level, although girls mean value was a little bit higher than boys. In textile work designing and in technical work both designing and technological modeling are explaining pupils instrumental abilities. By evaluating learning results in the separated or halved contents no significant results are found to develop sloyd subject as a whole, because technical skills are defining such evaluation. Furthermore pupils involvement in sloyd learning culture is in important role.

The data of pupils attentions, leisure interests and classroom techniques was gathered as well in the FNBE evaluation project. The data will be improved in further studies with multivariate analysis of the sloyd learning areas presented in this paper. The research question for further studies is: How the pupils involvement in sloyd learning culture is linked in their learning results? The research project is based on the FNBE evaluation project data and it is carried out in the University of Turku, department of teacher education in Rauma.

Keywords: sloyd education, sloyd learning evaluation, sloyd learning culture, technical and textile work

MATERIAL EXPRESSIONS OF INTENTIONALITY

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This article introduces a case study where an artist collaborate with health professionals in order to explore how material-based art contribute to a interdisciplinary processes to create health promoting environments (Melles, de Vere, & Mistic, 2011; Mäkelä, Nimkulrat, Nsenga, & Dash, 2011). The health professionals were invited into a creative process of making material based art objects for a geriatric ward in mental health care. An interdisciplinary dialogue illuminated the variations of intentionality by the participants which influenced the shape and surface of the art objects. An analysis of the case was performed to disclose structures in the process and furthermore to synthesize these key findings into an analytical tool (Jørgensen, 1992; Yin, 2009). The aim of developing such a tool was to validate key factors that influence participatory design processes through introducing material based art as part of the process and thus contribute to knowledge transfer between education and practice.

Design methodology was used to enhance internal consistence of the engendered analytical tool (Buur & Larsen, 2010; Topo & Iltanen-Tähkävuori, 2010). The pragmatic validity was explored to establish the degree of coherence between the process that emerged by the characteristics of the research design and practice (Kvale & Enerstvedt). The interdisciplinary dialogues which were oriented about materiality and forms are discussed in relation to education research within the topic of collective creative processes (Lahti, Seitamaa-Hakkarainen, & Hakkarainen, 2004). One key finding was that material based art can contribute to concretize abstract ideas and boost the flow in collective creative processes by facilitating and influencing the dialogue through the direct and specific response in the actual material during the process of making. We argue that this knowledge can transfer to similar processes in order to motivate towards sustainable environments in general (Melles, et al., 2011).

Key words: Materiality, intentionality, sustainability, material-based art, design

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THE ENVIRONMENT FOR INGENUITY: AN EXAMINATION OF CREATIVITY IN CANADA AND NORWAY USING THE TORRANCE TEST OF CREATIVE THINKING

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Human capital refers to the specific skills and knowledge which enter into the productive process. As such, human capital as a general category can include many different and specific attributes, including investment in formal education, the value placed on creative and innovative thinking, and the eventual product of innovative learning (Florida, 2002 ; Runco, 2007; 1995). Our collective need for creativity stems from Western culture s move away from economies based on factory complexes, and to a world powered by human intelligence and technical thinking (KreaNord, 2012; Lund, 2011; Florida, 2002, Robinson, 2001).

As a personal characteristic of value, creativity is a combination of individual cognitive processes, personal qualities and sustained interaction with a set of dynamic environmental variables (KreaNord, 2012; Gl veanu, 2010, Vygotsky 1978). Individuals who are creative are better at problem-finding and problem-solving, are have a greater ability to adapt to shifting environments, and generally report higher levels of well-being (Beghetto, 2006; Cloninger, 2004). Students who demonstrate creativity are able to access and utilize ideas in multiple ways, can recognize the cross-fertilization among ideas, topics, and skills, and are able to engage more readily in activity, leading to higher achievement as well as feelings of personal self-efficacy (Beghetto, 2006; Moran, 2010).

The manifestations of creativity cross-culturally have been discussed widely, but rarely studied (Moran, 2010). This research study explored the concept of creativity through visual images produced by Norwegian and Canadian children. Using a descriptive-evaluative framework, researchers in each country measured the creativity of 247 eight year old children (158 Canadian, 89 Norwegian) in the spring of 2011 using the Figural version of Torrance Test of Creative Thinking (Torrance, 1974). Eight years of age represents a milestone in terms of cognitive development (Case, 1992; Torrance, 1974; Inhelder & Piaget, 1958) as at this age children s cognitive processes begin to take on a high level of abstract thought. Such processes as perspective taking and meta-cognition emerge with detail, making it a critical juncture to investigate the ways educators promote or inhibit creative thinking. Tests were administered as in-school exercises in the native language of each school, and scored independently. Scores provided by Scholastic Testing Service were analyzed using SPSS software between-group Analysis of Variance comparisons. Results show significant differences in the demonstrated creative tendencies, specifically fluency, originality, and titles, in Canadian and Norwegian children.

Findings support a further investigation of the ways in which community population size could be considered a relevant variable when investigating creativity. Noticeable and significant differences were reported in within-country Torrance Test scores between children whose school was located in an urban (>100,000 inhabitants) versus rural (<5,000 inhabitants) community. The implications of national culture, creativity testing, and human capital will be discussed in reference to our expanding knowledge of creativity and human innovation.

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SITUATING CREATIVE ARTEFACTS IN ART AND DESIGN RESEARCH

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The practice-led research approach has emerged in art and design academia for nearly three decades. The approach considers the researcher's creative practice (i.e. the making of material artefacts) as the main vehicle for research, the results of which include not only a written text but also artefacts to be evaluated in a research context.

This paper aims at discussing the positions of art and design artefacts and their making in a practice-led research process. Two creative productions and exhibitions featuring my textile artefacts inclusively carried out for tackling specific research problems are examined as case studies. The first case comprises the production of a series of artworks and an exhibition namely *Seeing Paper* created as part of my completed doctoral research project entitled *Paperness: Expressive Material from an Artist's Viewpoint*. The research examines the relationship between a physical material and artistic expression in textile art and design. The second case includes the production of a series of luminous objects called *The White Light*. These objects are expected to generate a discussion on boundaries between functional and aesthetic objects and those between art, craft and design disciplines, especially when they were displayed in an exhibition arranged in parallel with *TRIP: Textile Research in Process*, a textile symposium held at Loughborough University, UK.

Both cases exemplify the roles of creative productions and artefacts situated in the process of inquiry. Throughout a practice-led research process, art and design artefacts can serve as inputs into knowledge production and as outputs for knowledge communication. As inputs, both art productions and artefacts can be the starting point of a research project from which the research questions are formulated. They can also provide data for analysis from which knowledge are constructed. As outputs, art productions and artefacts can 1) indicate whether the research problem requires reformulation, 2) demonstrate the procedural or experiential knowledge of the creative process, and more importantly, 3) strengthen findings articulated in the written output. In an exhibition, artefacts functions simultaneously as outputs for knowledge communication and as inputs into knowledge production when audiences responses to the exhibits are recorded and analysed by the researcher. Moreover, in an exhibition open to public, artistic processes and artefacts produced in academia can be recognised as art proper in the artworld as they can also reach a non-academic audience.

Creative practice in a research context can contribute to generating or enhancing knowledge, which is embedded in the practice and embodied in and by the practitioner. This knowledge can be obtained in the artist creating the artefact, the artefact created, the process of making it, and the culture in which it is produced and viewed or used, all taking place at a different stage of a research process.

SESJON 4 WITH PEER-RESPONSE

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THE INCLUSIVE SCHOOL AND AESTHETICAL LEARNING

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Both nationally and locally the concept of Inclusion is on the political agenda. At the Metropolitan University College, it has the highest priority as a research area.

Assessments of the Danish school system show, that completing school can cause difficulties for some pupils, especially boys, and that levels of motivation and outcome of learning differs widely. Many councils are establishing schools that from fifth grade onwards specialise in the more practical and aesthetic subject areas. This is, amongst other things, done as a means of increasing the motivation of pupils.

This project takes its starting point in the current national effort to establish the so called inclusive school, aiming for all pupils to thrive and to participate. The main objective is for 95 percent of pupils each year, to complete their youth education.

This research and development project is an empirical study aiming to clarify whether the work with practical and aesthetic learning processes in school is indeed inclusive (academically as well as socially), and to clarify the impact it has on the motivation, learning and participation of pupils. The study focuses on pupils from the seventh grade and includes two different public schools in Copenhagen. In the second phase, we will extract the concrete didactic aspects of the study, and develop concrete learning styles and programmes relevant to the inclusive school, supporting the objective of 9 years of school attendance for all Danish pupils.

Our presentation will expound our methods, the use of terms and theories of aesthetical learning processes, as well as which aspects we feel support the inclusion of pupils.

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ABSOLUTE BEGINNERS

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Tomorrow, I m recovering my Thursday child as an absolute beginner ,  
Transporting you to the essential touch of surface skin and space,  
Only for you, i do not regret, looking for education in a materia set.

My love is your love , my materiality is you making things,  
The legacy of our ethnography, craftsmen s old and disappear, make me strong hard feelings,  
Recovering experiences and knowledge sprinkled in powder of stone, wood and metal ( ) reflecting in  
your dirty face the tranquility of your serendipity.

Transport me to sensitive springs, most of the People run to mars like Major Tom ,  
they only have heroes that comes from the virtual tomb ,  
but Absolute beginners still deal with dust to dust , and ashes to ashes ,  
Looking again to Thursday s child and...

essential, exalted, noble and creative, knowing Materia is our path,  
our sense of a possible future not far from faith,  
We do need Enablers like you, that bring us the experience from old men s path s,  
Showing us the way that blow s in the wind

Well my love, timeless Enablers regard project design po(etic) attitude,  
hope to infecting us, even further with tools to talk about hopping then to say,  
that we (..) could be Heroes, just for one day .

This design aim rhapsody, pretend us to transport not only to the tangible music of Bowie, but to the  
essential spectrum that, we as teachers look for, when we pretend to pass our intentions and knowledge  
(John Dewey, 2004). The economic, environmental and social crises give us a strong minded support  
that we have to pass to our children and students. A sense that materia and the way we work on it can  
establishes profound bounds in the artifacts that fulfill our habitus .

Also, our research refocus in that particular intrinsic structure of creating a legacy spectrum of crafted  
people skills from popular craft/design (Morris, 1881, Gropius, 1919; Papanek, 1971, 1995; Bonsiepe,  
1998; Bozzi & Oroza, 2003), which still have the time to pass their knowledge to younger generations.  
A particular joy in labour , that comes from Morris times, recovering ethnographic and anthropological  
wisdoms, older tools and the way of tooling, proposing experience and connecting old/new language  
and technologies.

The project design research tries to find in this new ecology of transference (Manzini, 2006) of teaching  
and the paradigmatic old technics (craft and popular design), humbled producers/enablers that will  
perpetuate the pass (and present), proposing a future of knowledge exchange. A sense of global tools  
(Mari, 1997), connected locally and globally but that will give logic not only to immateriality knowledge  
but also to the awakening of new curios making minds.

David Bowie: Space Oddity, 1969; Heroes, 1977; Ashes to Ashes, 1980; Thursday s Child, 1999



EXPLORING TEXTILES IN ARCHITECTURE THROUGH TANGIBLE THREE  
DIMENSIONAL SKETCHING TOOLS

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In this paper, we show how textiles spatial possibilities can be explored by making three dimensional architectural models by hand. We argue that this tangible modelling makes it more likely textiles will be used in the final design. We tested this in two workshops at the University of Technology Sydney (UTS) with architecture and spatial design students, all textile novices . They experimented with two tools for three dimensional sketching consisting of model making materials, hereunder textiles. This approach is supported by earlier work that explores small scale textile membranes in similar workshops [4].

Multimodal forms of representations (hand sketches, material samples, physical and digital models) are generally considered important in architectural practice [1, 5 and 6]. However, few look deeper into the role of material samples and materials. The tested tools attempt to promote textiles by making them available for hands-on exploration and to bridge the gap between model and final building.

Possibilities with textiles in architecture go in several directions, including regulation of sound or daylight, sustainability and interior walls [2]. Our focus was on textiles to regulate daylight in the UTS tower building. In the first workshop (with 14 architecture students) the context was an exterior building skin; in the second (with 11 spatial design students), it was two interior spaces.

In the first workshop, two textiles for building skins were presented alongside examples of applications of these. The students were then given cardboard, wire, a loosely woven polyester textile (representative of one of the presented textiles) and tooling to create a model of a textile building skin for the UTS tower building. Three material strategies were identified: the materials were either used to materialize, to illustrate or to develop a concept. One limitation was the openness of the tool, meaning no instructions were given on how to use it, resulting in a somewhat shallow exploration of textiles effect on daylight regulation. In the second workshop, three principles defined by Boutrup and Riisberg [3] about textiles and daylight (importance of density, number of layers and distance between layers of textile) were introduced. The students were then given a cardboard room , a scenario (e.g. an office space), a translucent textile cut in three square pieces and a limitation ( The textile can be attached to the ceiling. ). They created spatial configurations with the textiles, and took photographs of these, holding the room up to a light source. After some time the limitations were loosened, e.g. allowing them to cut the textile. Contrasting the openness of the first workshop, the limited degrees of freedom in the second workshop resulted in more solutions, producing good three dimensional models. The latter showed a deeper exploration of the possibilities with textiles for daylight regulation.

Subsequently, the students supervisor, a registered architect with 10 years of experience, was interviewed. She argued that the tools would also be suitable in a professional practice where they could be used early in the design process, as a way of literally sketching with textiles to expand one s material repertoire.

A CROSS-DISCIPLINARY APPROACH TO CRAFTING MATERIALITY, PLACE AND MEMORY

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Within craft disciplines, and in particular within my field of Contemporary Jewellery, making implies the shaping of a form by hand, achieved by a skilled person, expert in a particular field of practice. More recently, the notion of making has expanded to accommodate rapid technological change and refers to many forms of production, including digital technologies. Such developments have redefined the role and significance of materiality within relationships between making and being made.

This observation is informed by a case study I conducted on Peter Zumthor's architecture and by my perception of architectural space and its connection to materiality, place and memory. The relationship of the Self with the in/tangible object was examined through the action of experiencing the building in its natural environment and, thus, contributing to its making, or else life history.

This paper explores making: materiality and knowledge from a cross-disciplinary approach. Contemporary architectural and jewellery practice are examined side-by-side to evaluate the meaning of making and materiality in disciplines that use two distinct modes of production, yet share parallels in their relationships between maker, user, object and space.

The miniature scale of jewellery often prompts the designer-maker to operate in an autonomous way. The advantage of such singular but holistic approach to making is the ability for the maker to be in control of, and actively participate in, both the process and the outcome. By contrast, the architect's vision or project is reliant on a team of experts from various fields of practice to be realized. In this context, collaboration is integral to the making process.

Central to both disciplines and a key finding of the research is the Self; its relationship to the object is underpinned by its sensorial capacities. These are essential human characteristics that enable the making of the object in space through materiality. Therefore, I argue that if the senses contribute to the materiality and knowledge of the making, the object, whether inhabited or worn, is as much shaped by the maker as by the user.

This concept was re-conceptualized through jewellery practice, following the findings from the case study on Zumthor's architecture. Participants were invited to contribute to the making of the jewellery object by continuously wearing it for a given time. The aim was to examine the characteristics that triggered sensorial and spatial responsiveness towards the object when it was worn and later, as a distant memory, once the work was returned.

This paper addresses questions in relation to the in/significance of the maker's emotional connection to the object related to materiality, place and memory, and how these contribute to cross-disciplinary discourse.

Key words: making, materiality, cross-disciplinary, architecture, jewellery, senses.

TEXTILE THINKING FOR SUSTAINABLE MATERIALS

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A textile can be defined as a flexible material consisting of networks of interlacing natural or synthetic fibres. These networks are formed using various processes including weaving, knitting, crocheting, knotting or bonding. The applications of textiles are endless and as such their pervasive nature places them as a key component of material culture. They encompass aspects of design, art, craft and technology indicating that textile practitioners, in this context those who design and make textiles, possess both a personal and collective tacit understanding of a specific blend of knowledge (Igoe 2010). Until recently this knowledge or way of thinking - textile thinking - has remained largely unarticulated. However such thinking has the capacity to originate new materials and material systems, as well as to express and enhance the potential sensory pleasure of existing materials (Igoe 2012 and Spuybroek 2005). The unique intelligence of textile thinking and the material culture it informs is often overlooked due to the tacit nature of the knowledge involved, which is often stored in the hands of the practitioner or embodied in the resulting textile artifacts.

In the proposed paper we will discuss the nature of textile thinking , the knowledge it generates and the impact of its applications through presenting the development and results of a networking project called Textile Thinking for Sustainable Materials . The project brings together textile designers and materials scientists with input from product designers to establish a number of creative dialogues via a series of interactive workshops. The aims of the project are to: establish a number of creative dialogues which will explore: the development of new sustainable materials for design-led functions; alternative use of materials technologies towards design; and new applications of existing sustainable materials within design contexts; capture and present emerging dialogues and concepts to create platforms for new research pathways; and assess the application of textile thinking within sustainable materials design as a means of advancing knowledge within this field. By working with textile practitioners the project draws on the pervasive nature of textiles to consider the possibilities of sustainable materials from: process perspectives, drawing on traditional textile production methods including weaving, knitting, printing and embroidery; aesthetic perspectives, drawing on decorative traditions; and functional perspectives, drawing on perceptions of use.

Through the paper we hope to explore the function of material related knowledge, specifically textile knowledge , within the context of current and projected challenges regarding sustainability. In conclusion we suggest how an textile designing and making might prepare future citizens to realise a more resilient future.

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COLLABORATIVE MAKING: THE DEVELOPMENT OF E-TEXTILES FOR DANCE COSTUMES

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The development and application of e-textiles requires a multidisciplinary or cross-sector approach, with teams made up of specialists from different technical or disciplinary areas. Such collaborative production brings its own organizational and communication demands, requiring a focus on articulation, dialogue and co-ordination, as well as technical and aesthetic development. Some of these processes are distinct from those used by individual creative practitioners. Different specialist languages and methodological approaches, that tend to be accepted as the norm within a specific discipline, need to be considered and negotiated in a multi-disciplinary team. Collaborative processes can assist the formalisation of tacit knowledge because the group requires more explicit information to co-ordinate, evaluate and integrate different stages and areas of project development.

The theorization of e-textiles still tends to be informed by techno-functionalist discourse related to parallel developments in human computer interaction and ubiquitous computing. While prior research in e textiles at the TDL had focused on areas of smart technical textiles for sports and health applications, developed in association with technology industry partners, the dance costume project opened up an area that demanded both technical and aesthetic consideration.

This paper discusses and presents documentation of a process of collaborative development in a project run at the Textile and Design Laboratory (TDL) at AUT University in New Zealand, The project led to knowledge discovery expressed and documented in the development of a range of samples and prototype systems, the integration of e textile components into garments and the documentation of technical information and procedures developed for assessing the aesthetics of interactive and visual effects The project involved an iterative process of experimentation, analysis, prototyping, testing and review by the research team, along with input and feedback from the costume designer and choreographer. The materiality of e-textiles is complex, involving yarns and textile structures, hardware and software components for sensing, processing and displaying signal changes and the integration of electronic control and energy systems into garments. The materiality of a smart dance costume extends beyond the garment itself to engage with the materiality of the dancers body and the environment of the performance. Interactivity is a phenomenon that is generated and amplified through the relationships between these different material components.

MATERIALIY IN SMALL CHILDREN S EARLY LEARNING IN A KINDERGARTEN  
CONTEXT

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Children s early learning in kindergartens is focused through governmental plans and reports, and through public debate. The pedagogical content of kindergartens are influenced by programs for assessment of pupils levels of knowledge (PISA, PIRLS), and the OECD recommendations for changes in Norwegian schools. In this way early childhood education in Norway, as in many other countries, adds a special pressure on mathematic and language skills. This main focus in relation to young children s learning influences also choices of themes for preschool teachers further education connected to the new Framework Plan for Kindergartens. In this perspective there is a risk of disregarding the close connection between play and learning in the Nordic pedagogical tradition of upbringing children, to fit more dominant approaches in international educational standards, programs and methods also for small children. Because of this, the position of art, craft and creative making processes as parts of children s daily life in kindergartens could be set aside.

The aim of this presentation is to discuss the concept early learning and the connection between small children s knowledge building and their explorative play with materials. The development of the Atelier in municipal Schools and infant toddler Centers in Reggio Emilia, Italy, has played an important role as a starting point and base of understanding for the study. These pedagogical experiences are related to the Nordic traditions of art and craft as important parts in the content of kindergartens. Children s material environment is considered as an important interaction-, or intraaction partner in this process, and the development of a theoretical framework for the discussion has two origins; in the tension between a pragmatic and a posthuman perspective.

The presentation will be based on micro analysis of selected video sequences of encounters between small children and materials. These video sequences are parts of a comprehensive empirical data collection gathered in connection to an ethnographic study in a Norwegian kindergarten during the period September 2011 to January 2012. The work is in progress, and the first results are intended to be presented at Making an International Conference on Materiality and Knowledge.

PRIMARY STUDENT TEACHERS EMOTIONAL EXPERIENCES IN CRAFT IN THE  
LIGHT OF HANNAH ARENDT S HUMAN CONDITIONS

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The study explores primary student teachers perceptions on their prior craft experiences in the beginning of basic crafts course in teacher education in the University of Helsinki. My interest lies first on student teachers prior craft experiences and prejudices of self as craft maker in relation to human conditions by Hannah Arendt. Second, how students experiences and their craft image have affected on their attitude toward craft and teaching craft.

The data consists of essays of the first year student teachers in 2008 and 2009. Totally 144 essays have been analysed by content analysis in the light of philosopher Hannah Arendt s theory of the Human Condition (2002). Arendt (2002) labels the elements of the human conditions with three concepts: labor, work, and action. Although Arendt categorises craft only as part of the work, here craft is included to all three concepts.

By labor Arendt means our everyday activities we do to keep us alive (like eating, sleeping). In the craft context that means students credit oriented activity which they do mainly to pass the course, get marks or to perform teacher s will. By work Arendt signifies productive activity, in the sense that a process is followed to bring into being a material object. Work, according to Arendt (2002), creates the world around us. Concerning craft, the concept indicates traditional craft in which the process of making craft with an end product makes sense in individual s mind and signifies material oriented activity. Furthermore, Arendt s action is defined as productive activity, but immaterially. Action means communication between humans. Thus, action is connected with plurality, and comes about through the fact that men, not Man, live on the earth (Arendt 2002). Craft, in connection with this concept indicates interaction oriented activity.

The three orientations of craft: credit oriented, material oriented, and interaction oriented activities frame student teachers perceptions of self as craft maker, attitude toward craft and future role as a teacher.

Keywords: craft, teacher education, emotional experience, Hannah Arendt, human conditions

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VISUALIZING SIGNIFICANT EXPERIENCES IN MATERIAL FORM

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In this paper I discuss a visualizing experiment that was conducted as final task of an intensive workshop, which concentrated on reflecting on students significant experiences. This three days workshop was arranged for five international MA design students in 2011. The main idea of the workshop was to facilitate students reflection on experiences and life events that they considered affecting on their choice to study design. Before this experiment, significant experiences were memorized with the help of pre-assignment and visual narrative building. The presented visualizing experiment was built around one experience that each student wanted to examine in more detail.

The selected experiences were processed into installations, which were built outdoors in a small town where the workshop was held. The students were asked to look for materials for their installation from the environment, and suitable places to place them. The selected spot was supposed to enrich the story by forming a staging for the installation. After completing the task, the students told the story of the artwork.

The outcomes became multidimensional and powerful crystallizations of students experiences. Some of the episodes were already described during the previous visualization task, but this three-dimensional installation let the viewer closer to the experiences, arousing empathy and more insightful understanding of it. The selected spot supported the story and made the described events multi-sensory and alive.

Based on the experiment, I propose that combining visual narrative building and installation creation is a powerful way to reflect on significant experiences. Due to the thorough self-reflection work done before the experiment, the installations can be conducted in a very short time, allowing tangible forms present what the two-dimensional methods lacked. Selected spot provides a stage for the installation, giving rich experience to the viewer due to e.g. sunlight, wind or movements in water, which were utilized to convey the experience to the viewers. Since the approach supports participants own expression, this type of method is reciprocal and empathic, resulting in rich data, which can be used in various ways in design research and education.

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MAKING IT REAL: VIRTUAL TOOLS IN 3D CREATIVE PRACTICE

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FutureFactories is a design research project exploring the creative possibilities afforded by digital design and manufacturing technologies. A specific aim of the project is mass individualisation; the industrial scale production of one-off artefacts. Tangible products would be printed direct from virtual meta-designs using additive manufacturing (Atkinson 2003). Distinct from mass customisation, where the product is configured to a specific consumer need or desire, individualisation involves introducing elements of random variance similar to the idiosyncrasy seen in natural forms.

In the initial research a computational design approach was adopted in which computer scripts were used to drive parametric CAD models (Unver 2003). A barrier to the adoption of such systems however, is the level of programming involved. Methodologies were developed to simplify the task such as Constructive Solid Geometry, CSG, building block approach (Dean 2009) whereby complex geometries are assembled from pre-defined primitives. In spite of this development programming remained a significant burden. A commercial desire to simplify further had to be balanced against an audience demand for ever more dramatic changes in geometry.

A potential solution came in harnessing computational simulation tools developed for diverse industries such as animation, cinema graphics and engineering. In cinema graphics, methods for the animation and rendering of natural phenomena, such as water, wind and fire, are increasing in power and sophistication to meet the leisure industry's demand for ever greater photo realism. In engineering, advanced simulation tools such as Smoothed Particle Hydrodynamics (SPH) facilitate the prediction and virtual prototyping of liquid behaviour. As the project has developed, computational fluid dynamics and physics-based animation techniques have been employed to generate form and difference between design iterations. In this way the burden of computation can be largely transferred to dedicated, plug-in, software packages with intuitive interfaces. In the context of this project, the complex and seemingly random behaviour of water, real or modelled, offers significant potential for creating difference. Moreover, given the ubiquity of water and the role it plays in our daily lives, it is something everyone can relate to.

This paper will describe experiments using digital fluid simulation techniques within a product design context. It will discuss the adoption and adaptation of virtual modeling tools in 3D creative practice. Functional product design outputs will be examined along with the practicality of the systems used to create them. As the transition between the digital and the real becomes increasingly simple, the virtual realm is set to become an ever more fruitful creative playground for design and craft practitioners.

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THE PROCESS OF FASHION DESIGN AND GARMENT CONSTRUCTION AS A PRACTICE INITIATED IN THREE DIMENSIONS - ARE WE TEACHING OUR DESIGNERS AS MUCH AS WE COULD?

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The rate of change in the fashion world and the exponential growth in capabilities and usage of CAD requires the educational system to bring people to the industry with a thorough grounding in basic skills in order to perform as safe pair of hands in an increasingly fast-moving industry.

This paper outlines an ongoing PhD research with the aim to develop an alternative fashion design and garment construction process for the initial design stages, using a practice initiated in three dimensions. The nature of this design practice research utilizes tacit knowledge. It was therefore necessary to find a method to express such tacit knowledge in a tangible form. Due to its exploratory nature and the need for substantial iterative practical work, the reflective, practice-oriented approach of Action Research was used as lead methodology.

Two case studies on fashion designers -Madame Gr s and Madeleine Vionnet, both well-known for their innovative design and construction techniques- were conducted. The analysis and re-construction of some of their garments resulted in findings on the design processes they used demonstrating the importance of the practices used to the conceptual stages of the design process. Subsequently this led to the development of a design approach called SCT, Split Cloth Technique. It is an evolved draping-related technique that offers a creative approach for the initial design stages.

In order to assess the utility of SCT, extensive peer evaluations were conducted with participants from the academic and non-academic design fields. These evaluations confirmed the utility of SCT in particular to design education. They showed the value as an immersive, tactile, hands-on process to aid understanding and appreciation of the physical possibilities of materials on the three-dimensional body. The creativity enhancing immediacy of the material and the versatility of the process allows for the application of design knowledge to be taught. SCT could lead to a more imaginative approach to garment design as it allows to think far outside the box of the prevalent block-based design and construction processes in fashion. As one participant put it, it opens the thought process .

The benefits SCT brings to fashion design education can be summarised as follows:

SCT will enhance the understanding of the whole design and garment construction process. It will give the student an appreciation for the various other functions in the process.

SCT is suitable for independent learning and offers an opportunity to allocate scarce teaching resources more effectively.

Complementing the focus on CAD and the virtual fashion world, SCT offers direct experience with fabric that compensates for the lack of hands-on work within the increasing usage of CAD.

The researcher has also initiated discussions with universities about how SCT can be brought into the curriculae for example in conjunction with CAD related topics.

Key words: draping, garment construction, tactile, 3D, fashion.

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PLEASURE AND DISPLEASURE IN RELATION TO TEXTILE WORK

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Sloyd as a school subject is characterized by learning through body and senses. The learning is also to a high extent social and communicative and occurs in interaction with materials and tools. Individual experiences of the interaction are expressed in different ways and there are major differences in the degree of awareness of the interaction.

When young people describe sloyd as a school subject they emphasize the making and the materials. In my study I focus textile work and according to students it is about sewing and knitting or materials as fabrics, wool or yarn. They also emphasize that sloyd is fun.

My study is an ongoing ethnographic multi method study of textile work in lower secondary school. The study's main focus is students' experiences of pleasure and displeasure when learning textile work. In their own dichotomous vocabulary expressed as having fun or being bored. Textile work is studied as a learning context where tradition and structured practice set the frame for students' experiences.

Theoretically the study relates to a socio cultural perspective and Vygotskij's thoughts about emotions as a driving force in the process of learning and the pleasure that directs the process forward as well as Dewey's thoughts about experiences as a moving force that support or hinder further experience.

More specifically I wish to discuss some of the study's methodological issues. One methodological challenge is to capture and pay attention in both verbal and nonverbal aspects of pleasure and displeasure and learning in textile work. The study's collection of data combines observations and video recordings from textile work lessons with individual reflexive interviews and group interviews. Edited video recordings are used as stimulated recall in focus group interviews. Which specific opportunities and constraints are implied by the choice of method? What is the contribution of the video sequences in relation to other research material in the study?

My actions, choices and priorities within and outside the classroom have effect on what results I may get. The method for collecting research materials is continuously questioned and during the research process my understanding of possibilities is developed.

In this seminar I will give some concrete examples from the collected empirical data and highlight and discuss how video recorded films can be used to clarify young people's notion of pleasure and displeasure in relation to learning and making in different materials.

Keywords: sloyd, textile work, video recording, focus group interview, stimulated recall

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THE ROLE OF MATERIAL EXPERIMENTING IN TEXTILE CRAFT DESIGN IDEATION

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Ideation is part of the design process, which provides foundation for the rest of the design process. Design ideation is, however, quite often experienced challenging in the context of craft education. The data for the study reported in this paper was collected from the surface and material design course where university students faced open-ended design assignment. The assignment encouraged creative and reflective insights about individual and shared practices, as well as emphasized the materiality in craft ideation. This paper concentrates to the role of the material experiments when learning to ideate in textile craft design process. Interviews and real-time data were collected of nine students participating to the study. Real-time data was repeated questionnaires, which were answered during the course. The data was analyzed with content analysis. It was found that materials had important mediating role to students idea generation. The usage of personal sources of inspiration and making material experiments engaged students into process of profound investigation. As a result, students produced unconventional ideas and got insights of the meaning of the design process in craft making and learned about themselves as makers.

KNOWLEDGE IN ACTION IN WEAVING

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Aspects of conceptuality and materiality are tied together in craft products; objects have a social history and a cultural biography as well as a material form (Appadurai 1986). Thus analyzing crafting knowledge must involve both mapping cultural meanings on craft, discussing the social relations of the contexts where craft is produced, and looking for artisans bodily competences (hand operations, touch, rhythm etc) and other skills performed when they meet and interact with their materials.

In the project Design, craft and culture we - a team consisting of a university teacher in weaving, an ethnologist and a photographer/media producer - have done this using visual/sensory ethnography (Pink 2007, 2009). Co-production of knowledge between university and small textile enterprises is one aim of the project. Thus participant observation, including video-filming and interviews, has been done at V vkompaniet, a handicraft shop situated in Bor s, in Sjuh radsbygden. The cooperative that runs the shop is one example that some small scale production of handmade textile goods still prevails in this part of western Sweden, which is often presented as an area with a rich textile cultural heritage. Filming and conversations intended at analysing knowledge in action (Molander 1996), performed while preparing a loom and weaving, have also taken place in different locations where members of V vkompaniet produce their goods. Based on this material educational films aimed at shedding some light on the meaning of the concept knowledge in action, have been produced. The films are intended for students at the University of Bor s, especially textile design students.

In the paper we will briefly discuss the social history and contemporary social relations which shape the weavers craft production, for instance the condition that the members of V vkompaniet also have other occupations beside being weavers, and their backgrounds in different communities of practices (Lave & Wenger 1991/2005). Furthermore we will bring up some cultural meanings on craft, expressed by the craft practitioners themselves; what they tell about work practices, inspiration, how they relate to the textile tradition etc. Finally we will use an extensive part of our paper to tell about the process of tracing the competences which can be seen as parts of knowledge in action in weaving, through conversations and simultaneous filming of the weavers work in the loom. At the conference we will show clips from the films to illustrate this part of our project.

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A SERIES OF RELATIONSHIPS: MATERIALS, MAKING AND MASS PRODUCTION IN  
MID-CENTURY AMERICA

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The material innovations of the mid-twentieth century are often discussed in terms of their impact on issues of science, industry and geopolitical affairs. Some of these developments, including nylon, cellophane, teflon, and mylar proved instrumental to the war effort, the space race and the rapid development of suburban domestic life in the post-war United State. This paper explores another, little known as aspect of the history of these 20th-century high tech materials: their use by established studio textile craftspeople and subsequent marketing of these materials as a means of exploiting the popularity of this movement.

Taking the work of two prominent textile designers of the mid-century, the American Dorothy Liebes, and Finnish-born, American based Marianne Strengell, this paper seeks to examine the use of materials - often high-tech ones borrowed from industry as they were used in the bespoke and often highly experimental textiles of both designers within the larger framework of the post-war effort by American industry to repurpose a number of industrial materials as consumer products.

Liebes was particularly known for her innovative use of materials in her textiles. Her approach derived from necessity as much as creativity; in the early years of her career she would use inexpensive materials such as bamboo reeds because they were both unusual and inexpensive. During the war, numerous materials restrictions silk and cotton in particular - severely reduced the range of fibers with which she typically worked, and she responded by using unconventional materials like cellophane, casein-based silks, and even industrial tubing. By the end of the war, manufacturers like Reynolds Aluminum and Dobeckmun were eager to capitalize on her popularity and her identity as America's first lady of the loom by featuring her work and her person in a variety of commercial advertisements or commissioning prototypes using these materials with an eye towards mass production. Likewise, the Cranbrook-affiliated textile designer Marianne Strengell employed aluminum yarns in her hand-woven textiles; the Alcoa Corporation subsequently used her fabrics made from aluminum yarns in advertisements in mainstream publications as part of their Forecast program to encourage the use of aluminum across a wide range of consumer products and activities.

These relationships between craftsperson/designer and industrial manufacturer highlight both the unusual position of craft and the key role that materials played in popular culture, as well as the concomitant importance of these components to rapidly evolving consumer culture in mid-century America.

NEGOTIATING GRASP: NEGOTIATING MEANINGS THROUGH MATERIAL EXPLORATIONS

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The presentation will focus on the significance of material explorations in early childhood. More specifically, the presentation will discuss how first-hand-experiences with materials relate to children's imaginative cognition (Efland, 2002): Which kinds of knowledge (in broad understanding of concept knowledge) can emerge from a child's materials explorations? What can be gained through first-hand-experience, including emotions, curiosity, imagination, mastering, self-confidence, aesthetic attention, motivation to learn, as well as art-specific knowledge about materials, tools, aesthetic qualities and so on?

The presentation is based on a qualitative study of young children's (age 3-5) explorative play with diverse materials. The study builds upon theories of Dewey, Eisner, Shusterman and Efland and adopts an understanding that cognition is closely related to learners' embodied experiences and imagination. The study aims to understand children's meaning-making processes during their many-folded explorations of materials. The methods of the study are inspired by arts-based education research methodology (Eisner, Bresler).

The researcher combined her roles of an artist, teacher and researcher in similar manner as in the method called A/R/T-ography (Irwin), and interacted herself with children during visual art activities. Through the close contact with the children, the researcher gained access to the complex processes of the children's experiencing and expressing. Two children took part in each of the activities and a total of nine educational contexts (cases) were filmed and analyzed. The data were first analyzed using cross-case methods (Stake), with help of software NVivo9. In further in-depth analysis, five selected data parts were presented in form of vignettes, and analyzed contextually.

The study uncovered complex and highly contextual relations between children's embodied knowledge, qualities of the materials and of social interactions, but the study also suggested how imaginative cognition unfolded on the basis of the experiences: With help of imagination the children made connections between their earlier and new experiences, negotiated personal meanings and expressed them through embodied metaphors; Materials resistance often initiated problem-solving activities and engaged creativity; Unique solutions and new meanings emerged in form of micro-discoveries; What was possible to learn was highly dependent on the qualities of inter-subjective relations between the researcher and the children. The researcher's choices of materials and tools structured what was possible to negotiate meanings about, but her attitudes (expressed through body language, tone of voice etc.) were as important.

The purpose of the study was not to evaluate children's development or evaluate their products, but to understand the unfolding of the individual's process. Dealing with young children in pre-disciplinary stage of education, where their individual choices were respected and holistic experiences welcomed, made it possible to approach the children's experiences as unites that integrate embodiment, physical environment and social interactions. The specific research design made it possible for the researcher to grasp the processes from the inside and understand the great significance of embodied competences and biological urge to explore, find out, solve problems, welcome challenges and learn by doing.

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TO HAVE A BODY AND TO BE ONE S BODY

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The Cartesian dualism implies an absolute distinction between the thinking and the extensive substance, *res cogitans* and *res extensa*. Maintaining that I have a body implies a similar distinction between the I and its body, as if they could be thought separately.

Phenomenology claims that there is no such distinction between the I and its body. Quite the reverse, I am my body. Without the embodiment of our selves we would have no access to the surrounding world, nor any means to articulate our inner world. Descartes believed he could prove existence by the I THINK; Husserl bases it on the I CAN.

When Husserl says I can things long before I can think them he refers to the things I can as a body. It is because I am a body with senses that I can become aware of a world, and it is because I am a body with organs that I can explore the world, and even interact with the world and with other embodied selves.

My interaction with the world is possible only because I am a body. Being my body I have many ways to interact, and making is one such interaction between a maker and a material. Even my making interaction may result in many things, but there is no making unless it makes sense. Making makes sense out of matter, and materiality is basically materials made meaningful: organised, articulated, shaped, composed.

My making gives me insight, it yields a knowledge that I learn by doing. But this concerns a knowledge that resides in the hands, that is only activated in a bodily effort, and that cannot be translated into objective concepts (Merleau-Ponty 1945:168).

The Greek *theoria* means distanced observation, and that is what takes place when the thinking substance thinks the extensive world. Such observation yields theoretical knowledge. Making, on the other hand, corresponds to the Greek *praxis*, and practical action yields practical knowledge.

One of Husserl's merits is to have identified an implicit intentionality within the living body (*fungierende Intentionalität*) on which the intellectual intentionality is based. Our body has a capacity to move and to make that does not depend on a conscious aim, it is engaged in a project well before we are fully aware of its move, because my body, my senses are this habitual knowledge about the world, this unspoken or sedimented science (Merleau-Ponty 1945:275).

One of Merleau-Ponty's merits is to have attempted a description of this unspoken or sedimented science, without resorting to such objective concepts that would have missed it, and launched a far-reaching reflection on the pre-reflexive.



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THE GHOST OF THE ETHICAL OBJECT

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In this paper I pose the question, how do ideas about making that were informed by certain beliefs about the value of the hand-made object that emerged and were reworked in the period between the industrial revolution of the nineteenth century and the advent of the post-industrial era of the late twentieth and early twenty-first centuries, persist in the digital age?

Ideas about the improving quality of the act of hand making, the benefit of honest labour, and how this might be transmitted by certain aesthetic qualities in the hand made object were as much a social revolution as it was a response to the emergence of new ways of making that reorganised the nature of work, social hierarchies and the distribution of wealth. While these ideas depended on the dichotomy of the studio and the factory, in contemporary times the idea that the product of the hand and the product of the machine can be distinguished by such things as imperfections that are evidence of the hand of the maker is challenged by new technologies that can mimic these visual and tactile cues.

This dichotomy is further challenged in a world where objects can be made without the agency of the human hand, and where it is possible to make something in a place entirely geographically removed from the maker's studio. In the digital age handmade is no longer seen as an intrinsically ethical quality and does not necessarily continue to hold within it the meanings and values attributed to it by the Arts and Crafts Movement.

The contemporary designer maker takes advantage of the potential of hand making combined with technology and I use the example of Australian metalsmith Robert Foster as an object maker using such an approach that I describe by the term hybrid practice. It is clear that contemporary craft and design practice is diverse and encompasses both traditional and hybrid approaches to making. It is also clear that in the technological age the distinction between hand and machine is no longer as straightforward as it was in the time of Ruskin, Morris or Leach and this threatens to make craft, if it is positioned as an antidote to the factory, a redundant approach to making.

THE ENVIRONMENTAL SUSTAINABILITY OF DISTRIBUTED MATERIAL  
PRODUCTION: A LITERATURE REVIEW

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Increasing mass media and academic attention is being paid to operations that depart from the mass consumption and production paradigm, activities often termed prosumption . In prosumption the end-user is more involved in the design and production of material goods than in traditional mass consumption and hence production forms a part of the consumption process. This production is also marked by being distributed amongst non-traditional actors in a network, as opposed to being centralized and involving linear supply chains and economies of scale. The shift is demarcated by the proliferation of rapid manufacturing technologies, once solely the domain of business-to-business operations and now increasingly in the hands of private individuals. In this paper, the prosumption activities of interest entail mass customization offers and that of fab labs or maker spaces , which can range from official Fab Labs in the MIT Center for Bits and Atoms network to peer-to-peer fabrication facilities that are self-organized and -governed by communities of like-minded individuals often called makers .

Since many analysts regard personal fabricating technologies as potentially disruptive it can be put forward that in the interest of progress towards a sustainable society, the sustainability (or unsustainability) analysis of these practices is best done sooner than later. Reporting on the environmental sustainability of e.g. 3D printing in non-academic media tends to be taken on by enthusiasts and parties with vested interests. It is therefore deemed valuable that a literature review of the academic discourse to date be completed that could summarize the current knowledge and identify the key issues as well as epistemic gaps.

This paper will report on salient aspects of a larger literature review being conducted on the topic. The target of the review for this paper includes selected journals from manufacturing, materials and management (such as the Journal of Cleaner Production); the proceedings from relevant conferences (e.g. Mass Customization, Participatory Innovation, and Additive Manufacturing); and key reports from policymakers and university research groups, covering the 2000s up to the present. The recent timeframe of the last ten years is selected, as before this time there was little or no interface between these technologies and private citizens.

Papers and chapters from these sources that address the environmental impacts of the target practices will be analysed and summarized. The relevant studies may address various components and processes in the life cycle: the materials, their origins and their end-of-life; the equipment and their use; the products created and their impacts; and the potential to replace mass consumption volumes with personal fabrication or customization. As the actual numbers of papers will be relatively small, the attempt will be made to make transparent how sustainability is actually represented in the discourse.

Keywords

distributed production, sustainability, fab labs, mass customization, literature review

DOING CRAFTIVISM

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Activist performing craft like knitted tubes is a new sub cultural phenomenon named Craftivism. In order to expose the values these activists ascribe to the craft process and the artefact the activists create, we need to listen to their narratives. The narratives are supporting their identity as activist using the paradox of old fashion craft and rebellion as performative language.

We need to combine two points of view in search for an improved understanding: Cultural and Educational Theories, exemplified by a dialectic use of socio cultural (S l j , 2000, 2005) vs. discourse theory (Foucault) and situated learning (Lave & Wenger, 2003) vs. situated knowledge (Haraway, 1992). The theories will be used to study the informal space in which the aesthetic process of learning and creating the artefacts evolve. The main focus will be placed on the narratives as told by the sub cultural activists.

The ethnographic methodology (Agar; Spradley; Brinkman & Tanggaard) is used to identify and examine the subcultures virtually or in real life and build the narratives. The narratives are studied using the discourse analysis of the narratives (Foucault). According to Butler s performance theory (1997, 1999), gender performance and other behaviours are defined by culture. Likewise, doing craft is culturally defined and the aim of this research is to look for cultural values that characterise the sub-cultures and activist when performing Craftivism. Geographically the subcultures being analysed are operating in the capitals of the Nordic countries.

Finally the aim of this paper is to present a search for new values and new thinking that might add useful knowledge to the arts and crafts field in schools and education. The question is: How can doing craftivism inspire doing craft?

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A MOVING TOY! PUPILS AS MAKERS AND INNOVATORS

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In Finland a yearly technology learning competition is organized for grades 1-6 by the The Federation of Finnish Technology Industries. The idea of the competition is that pupils collaborate as teams of four persons and make a moving toy. The target is to promote pupils innovative work. Altogether 21 000 pupils joined the competition and 5 300 moving toys were made in 2012. As parts of a learning process pupils keep a diary and make a poster to present their innovative design process. Pupils work on the basis of a defined and given material set plus recycle materials they prefer.

The target of this research is to find out how pupils as a collaboration team describe their designing and making process and how the usability of a moving toy guides their work. The research questions are: how pupils define the target of their process and how and on basis they alter the design plan and what sources of information they use in the process to make their moving toy. The research is

The research is a qualitative case study. The research material consists of diaries, posters and video taped presentations of 13 groups of pupils in 5th grade in Finnish comprehensive education. The 11 years old pupils worked in groups of 4-5 members.

The research method is text based content analysis and the idea of triangulation is used.

The research results reveal how pupils as collaborative teams proceed in their design and making process and what are constrains of the process. The preliminary results indicate that pupils decide quite early in the design and making process the toy they will make. This leads too often to conventional solutions and does not give pupils time to develop the idea and function of their toy. The collaborative team work can be a promoter or an inhibitor of designing and making process. Pupils seems to need more counseling and supportive questions to broaden their ideas and thinking as well as making in developing usability and function of their toys to be more innovational.

The results of this research can be used in teaching and guiding pupils in creative and innovative processes, in subject didactics in sloyd teaching and learning and in student teacher and in-service teacher training. The results give also suggestions how to develop the nationally wide and meaningful technology learning competition further.

Keywords: technology learning, design and making process, sloyd didactics, innovation, collaborative design

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LAND ART IN PRESCHOOLS. AN ART PRACTICE

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The landscapes in which we live our everyday lives, are potential fields of artistic creativity. The rooms in which we perform our daily movements, are possible playgrounds. Our surroundings may seem static, but are subject to the dynamic movements of the bodies that inhabit them, the wounds of time, and the newness following decay.

The national framework plans for preschools in Norway state that children are participants and co-creators of their cultural environments (R-06, page 30, paragraph 2.6). In my work with preschool children and teachers, on site specific art projects, my aim is to heighten their awareness of their surroundings and the possibilities of creating art with what is right there. This implies exploring the site and its possibilities, using intellect and senses in doing so. It also calls for knowledge, both of materials and handicraft, and of a vocabulary of form and artistic concepts.

In my study, I tell a story of such a collaborative project in an open air preschool. I wish to present sensation, making and knowledge as mutually beneficial. In making creative imprints on our environment, we need to know about aspects of form, of time and of space. We also need to interact with the materials on site.

I further comment on how this kind of project is related to the history of western art, and to traditions and theories in norwegian arts and crafts education. These tell conflicting stories of why and how we teach art. I see these stories as major sources of knowledge as to how we understand children and their participation in cultural practices.

In this work, I propose knowledge of culture as inseparable from acting in culture. This provides an interesting basis for acting and learning in the field of art education. It is an issue for both schools and preschools, as well as for the education of teachers.

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TANGIBLE DIY: MOTIVATIONAL PATTERNS AND SOCIAL MEETING POINTS

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This paper introduces the phenomenon and notion of Tangible DIY. The prevalent DIY literature has mostly dealt with power-tool enabled home renovation and decorating practices or IKEA furniture assembling practices (e.g. Rosenberg, 2005; Shove, 2008). This kind of activity is not particularly innovative as the layperson has at its disposal a ready-made set of tools, materials and instructions. User innovation communities like open source communities (Freeman, 2007; 2011) on the other hand, create their own software tools from scratch. These two DIY strands are different with regards to the material properties of the transformative objects (Winnicott, 1953; Leontjev, 1976; Knorr-Cetina, 2001) that are handled and created. While the first is more tangible, the latter is harder to touch and sense. Interestingly, Internet user forums in renewable energy technology such as wood pellets, offer an interesting combination of hands on tangibility, innovativeness and Internet-enabled sharing of resources, ideas and tools. I argue that the different material properties of an object open up different possibilities for different kinds of innovative socialites and communities. In this article I explore this proposition through analysing the personal paths of participation and patterns of motivations (see Freeman, 2007) of individual tangible DIY projects, and locating the social meeting points that arise from these personal projects. The data comprises 128 discussions threads and 1683 emails in a DIY section in a Finnish user forum for pellet technologies (pellettikeskustelu.net) and 16 personal interviews conducted with lead users (von Hippel, XX) found in these discussions. DIY innovation in wood pellet technology requires deep knowledge on dwelling and metal work for building for example burners, or software knowledge for programming burner automation and monitoring systems. The preliminary results indicate that the distinct materiality of wood pellet technology offers both virtual and face-to-face opportunities for community formation.

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MAPPING THOUGHTS IN MAKING.

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Significant work involves focus, skill, instinct, poetics of the body, movement, commitment to the object, determined realisation, continual absorption of all past methods, rhythm, spontaneous improvisation, and a veritable jazz dance of the hands. \*James Evans.

This presentation will consider the hidden knowledge and thinking inherent in my making, framed around the fact that we know much more than we can express linguistically. I practice as a weaver, and for the purposes of this paper, I will focus on my making of woven spatial divides and panels. I am passionate about making, allowing myself to become totally absorbed in it. In the process little is actually verbalised but lots goes on in my head, the head knowledge only becoming visible in the final outcome. The challenge is to articulate the continual and in depth conversation I have with myself, both in the formation of my ideas and during the making. To identify the tacit knowledge, which it could be said, makes my work what it is beyond the technique. To understand the intimate knowledge that is hidden in my making and that may be considered lost along the way.

Can the hidden knowledge involved in making be visualised during the actual making process?  
How do these incessant conversations with myself impact my final outcomes and hence the dialogue the work creates with viewer?

To address these questions I will explore the relationship between making and thinking in my work; craftsmanship and bodily kinaesthetic knowledge in relation to intuition, instinct and latent content. In doing this I will consider how the finished work can engage the viewer in an emotive dialogue/reflection, referencing work made for health care and business environments.

\*Ideas in the Making. Crafts Council, England, 1998.

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POSSUM SKIN CLOAK: A MAPPING OF COUNTRY

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Prior to European colonisation, Aboriginal people from the south west of Australia made cloaks from the skins of possums. These cloaks were worn to keep warm in winter and used as bedding at night. But they were also a mapping of country . On the back of the skins, using mussel shells heated in fire, Aboriginal people inscribed the place-stories of their country, and identified their personal connection to clan and tribe. Each person s cloak was different, depending on the knowledges they were responsible for. Skins were added to cloaks over time as children grew to become adults and when they died they were buried in them.

Among the many restrictions placed on the Aboriginal community by the Crown after colonisation was a requirement to dress in European garb. Possum skin cloaks were outlawed and Aboriginals were instead issued with woollen blankets. By the late 20th century only 8 possum skin cloaks remained, two of which were held in the Melbourne Museum. It was thought that both the skills of making them and the many of the stories they held had been lost. In 2004, Aboriginal artists Vicki Couzens, Lee Daroch and Treahna Ham led a team of artists to make possum skin cloaks for 35 elders to wear at the Commonwealth Games that were staged in Melbourne in 2006. Part of the process involved developing new ways of etching and stitching the skins, acts of material invention for a contemporary era. Through studying the old cloaks in the museum they uncovered 81 stories that had been lost to living memory. Hamm and Couzens have said that through the process we were not only connecting with each other, but also with our people from the past who had made the cloaks just as we were doing The possum skin cloaks (kooramook) have strengthened our spirits, our hearts and identity. Our Elders and community are stronger; our Country in stronger.

In 2011 a new possum skin cloak project commenced. It is part of a creative research project led by the author of this paper investigating indigenous placemaking in light of an expressed desire by traditional owners for a centre for Aboriginal Culture Knowledge and Education in Melbourne. Unlike the other cloaks which carried the identity of the wearer, this cloak is a collaboration between all the traditional owner groups of Victoria. Each language group (there are 38) has been invited to etch one skin with a mapping of their place as they consider how they might make a new place together on Wurundjeri Land. Once stitched together the unity and diversity of south east Australian Aboriginal place will be evident. Seven language groups have participated to date.

This paper will be interrogate the complex relationship between knowledge and making, mythos and topos, that is evident in the practice of inscribing stories of country on possum skins. It will also reflect on the complexities of this intercultural collaboration between non-indigenous academics and traditional owners. As Carter writes of collaborative creative research, a process he calls material thinking , it is as much a practice of inventing new social relations. This to and fro process of making and sharing knowledge is also a story of decolonisation as a new mapping of country is prepared.



ILLUSTRATED SLOYD PROCESS IN EARLY EDUCATION EXPERIENCES AND  
BENEFITS

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Educational sloyd activities in early education are rare interest of scientific research. However, children age 4-6 years can benefit great deal of experiential learning, i.e. learning by doing meaningful task or projects that suit their developmental age. Well organized and planned educational sloyd activities fulfil the Froebelian and Vygotskian theoretical and practical demanding. Furthermore, brain research has highlighted the role of hand in brain development. In the present research the model of picture based sloyd learning was developed.

The research question was how do the children gestalt sloyd activities (sloyd phases) which were visualized with drawn pictures? Another question was to study how children regulated sloyd learning? To support children s gestalt and self-regulation of sloyd, the sloyd activities were divided into four process phases; ideating and planning, making and evaluation (see e.g. Virta, 2006). Furthermore, the sloyd phases were illustrated by drawn pictures.

In the study there were 15 children aged 4-6 years (4 children aged 3-4, 5 aged 5 and 6 aged 6). The data consisted of videotaped teaching sessions and interviews. The videotaped teaching sessions were analyzed by process analysis method (see e.g. Salonen, Lepola & Niemi, 1998) in order to study how children regulated sloyd learning. In addition, it was important to find out what kind of pre understanding of sloyd process and activities children had before teaching. The interviews were analyzed by qualitative content analysis (see e.g. Syrjälinen, 1994; Tuomi & Sarajrvi, 2002) to see how children gestalt sloyd process after teaching. This test was done by asking every child to put the illustrated sloyd activities into right order and tell what happened.

During the teaching children acted very task oriented and quite self-regulated with good motivation. The pre understanding of sloyd activities was vague. On the other hand, with the support of the pictures children gestalt and foresaw the process. The process pictures were visible all the time. Children aged 5-6 years benefited most of the pictures. Children aged 3-4 years had slight difficulties gestalt ideating and planning as the first phase. They started to put the pictures in to the right order from illustration of the making. During the interview they noticed that the last picture on the table was the first in the illustration of sloyd activities. Interesting was, that children learned a general model of sloyd process by the support of illustration. The results of interviews revealed that almost all children were able to describe how they would carry out a new sloyd project. With this model of illustrated sloyd process metacognitive knowledge and skills can be supported as well.

Key words: Sloyd education, early childhood education, self-regulation, gestalt of sloyd

EXPLORING THE ROOTS OF CREATIVITY - DECODING THE RESULTS OF  
TORRENCE TESTING IN CANADA AND NORWAY

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The Norwegian/Canadian collaborative research group on Human Creativity/Ingenuity began an initial examination of the roots of creative thinking by utilizing the Torrance Test/Exercise of Creative Thinking (figural version) with 7-8 year old children in both Norway and Canada. One hundred and sixty children were involved in the initial study. The study design controlled for school size (urban, small town, and rural) age, and gender, as well as Canadian vs Norwegian children. The Canadian sample included three Waldorf schools. Evidence on the reliability and validity of the Torrance exercise was examined prior to choosing this measure.

Researchers analyzed data from the Torrance exercise using SPSS. A selection of drawings from low, average, and high scorers were also analyzed and observation notes were taken as the children participated in the Torrance drawing process. The results showed that children in Canadian and Norwegian schools scored almost the same on average. Interestingly, Canadian children from rural schools scored significantly higher than children in small town, urban or Waldorf schools, a difference not found in the Norwegian sample. The resulting analysis will be presented at NORDFO by Hansen and Dishke-Hondzel.

Utilizing the Torrance Test/Exercise criteria mentioned above, Professor Kathleen Schmalz (Western University) examined a group of the high and low-scoring children's drawing to explore similarities and differences in both pre-selected and emergent ways. Pre-selected criteria included comparing drawings of children in Canada and Norway, in urban, rural and small town groupings of both Norwegian and Canadian children and comparing children's work from the Waldorf School with students from public school settings. As well, all works will be compared with works created during Schmalz 1997 study. In the earlier Schmalz study, children were from both public and Waldorf school settings. The drawings in the 1997 study were created in the children's own homes and under their own initiative, a markedly different setting than that utilized during the Torrance Testing.

Resulting observations will critically compare/contrast the educational vs cultural determinants of creative thinking (Glaveanu, 2010). Our analysis will focus on the selection of drawings themselves to see if the Torrance data can be supported, refuted, or explained visually. This analysis will focus on three criteria of creative thinking identified in the children's creativity literature (fluency, originality, elaboration (Kellman, 1995). This discussion is intended to assist future researchers who are attempting to empirically research the life-long creative thinking potential and development of young children. Images of children's art work may be a more crucial tool for analysis than heretofore thought, especially across cultures as in this international study.

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FORM STUDIO: GENERATING A LANGUAGE AND MAKING FORM

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What distinguishes the artifactual from the natural? A designed object originates from a fusion of materiality, craft, utility, symbolism, and more. We often identify these various properties as the province of science and engineering material, production, function or the humanities philosophy, art, and linguistics. What then is the domain of design? While product designers are not experts in any specific artifact, we argue that process is our domain, and form is the language of our discipline. We should aim to be adept, in fact masterful as form-givers, which requires an affiliation with all other disciplines. Then, what is the scholarship of form? Despite the fact that products have been made since time immemorial and made industrially at some level for centuries, such scholarship is thin, at best, within the academic world of product (or industrial) design. There is virtually no body of erudition dedicated to form as a scholarly domain in design.

This paper is a response to the need for a scholarly discussion in developing curriculum around form in industrial design. We feature selections of work from a pilot studio of 40 students at Virginia Tech in Blacksburg, Virginia. These examples intend to articulate not only the student work but also their developing vocabulary for form through their use of craft, materials, two- and three-dimensional iteration, and graphic analysis. The student work emerges from a new triangulation of courses at the sophomore level: Design Visualization (analog and digital visualization), Computer-Aided Drawing (using the application, Solidworks), and Design Proficiencies in Workshops (hand- and digitally-crafted 3D form studies in wood, polystyrene, steel, clay and nylon). These three courses scaffold the sophomore design studio, which is the central node of education within the industrial design curriculum at Virginia Tech.

Our story begins with a concept called, Form Families, developed by Joseph Ballay, industrial designer, partner at MAYA Design in Pittsburgh, Pennsylvania and educator (Emeritus Professor of Design at Carnegie Mellon University). Ballay visited Virginia Tech in 2010 to conduct form workshops with our studio. His approach focuses on developing a designer's primitive form vocabulary. We have advanced the workshop concept by reshaping our curriculum to push forward a language of form that addresses the qualitative nature of form-giving, while developing semantics, syntax, grammar and morphology for this spatial language. We begin an exploration of a new scholarship on form.

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HOLDING TIME: AN ANALYSIS OF JEWELLERY MAKING

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This paper focuses on the intersection between craft and art and the way artists explore repetition, form and space in contemporary jewellery practice. The study examines the idea of jewellery as an object that holds time by alluding to scale and size, the temporal nature of making objects and the value or role of the hand made. The research asks: how is time conveyed in the making of jewellery? And what methods do artists employ to investigate form and space? These questions are discussed by referring to examples of contemporary jewellery from Europe and Australia and the methodologies that underpin my studio practice.

The starting point for the research lies in the processes employed in my studio practice to manipulate paper and metal, which have been refined and developed over a number of years. These include: cutting, measuring, folding, threading, weaving, looping, knotting, annealing, hammering, pressing, filing and sanding. Through these simple, repetitive actions, the work explores the concept of time according to themes that interconnect such as 1) the significance of the knot, 2) the notion of no beginning and no end signified by the circle and loop, 3) the idea of folding, compacting and enclosing space, 4) and the harmony of opposites. The use of materials of opposing qualities requires the workspace to be divided into two zones one space allocated for metal processes and the other for working with paper. Therefore, repetition and a transitioning from one zone and mentality to the other define my studio practice.

These conditions in my studio practice are framed in the paper by theories from psychoanalysis particularly the concepts formulated by Donald W. Winnicott regarding the meeting of the infant's inner subjective world with outer reality in *Transitional Objects and Transitional Phenomena* (1953) and *Playing and Reality* (1971). I am interested in Winnicott's ideas on potential space as a transitional zone with the capacity for illusion, play and the creative imagination (1971: 545). The process of making art creates a loop in the cycle between internal and external worlds, which is reinforced in the context of jewellery through the connections between the maker and the wearer. This idea of transitions between two worlds, between subjectivity and objectivity, provides a broad base for an investigation of notions of time, space and form through processes and materials in contemporary jewellery practice.



TRANSFORMING MATERIALS INTO PHYSICAL ARTEFACTS LEARNING IN THE  
SCHOOL S PRACTICE OF SLOYD

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Classrooms for sloyd are both similar and different from other classrooms in secondary school. They are rich in physical and aesthetic experiences as a result of machines, instruments, tools, different hard and soft materials, smells and sounds. In sloyd lessons children and young people are given the opportunity during their childhood and adolescence to develop in the knowledge area making physical artefacts, knowledge that is important for both their everyday life and their professional life. This knowledge, making physical artefacts, cannot only be described verbally, such as how soft copper looks and feels, but also by allowing the pupils to discover, learn and think with the material so his/her body can remember the difference. Into summarising verbal communication and by feeling the material before and after softening, the pupils acquires the necessary experienced knowledge of the material.

Sloyd is communicative in several senses, this presentation is focused on verbal and non-verbal communication, embodied learning related to own embodied experiences and learning in situations between the competent person and the novice. We will discuss how verbal and non-verbal interaction can be used in learning. Verbal interaction is used to make the pupil aware of the feeling to be focused on in embodied learning and how language and action are integrated and a collective understanding is built up. The pupils are socialised in practice and also learn counts in the sloyd classroom. Their own experiences are mixed with collective experiences; meaning is created and cultural socialisation takes place in terms of how one learns sloyd in the classroom. The knowledge is shared with the teacher and other pupils. The physical environment, e.g. the classroom, tools, machines and books, together with the situation and the persons who are present, contributes to what is possible to learn.

ONLINE MASTER S DEGREE IN ARTS AND CRAFTS OPPORTUNITIES AND CHALLENGES

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In the autumn of 2008, online master s program in Arts and Crafts was initiated at Telemark University College. Master s program is a three-year run with part-time students. The core curriculum (60 credits) is completed in 1.5 years (1. period), and is both a preparation and a prerequisite for carrying out the thesis. During this period, students had weekly lessons and guidance online. In addition, they had three to four sessions of three days duration each academic year. In the winter of 2010, students started at their master s thesis (60 ECTS)(2. period), and this was completed in spring 2011.

An online Master s degree in Arts and Crafts has its particular challenges, for students, lecturers and tutors. To get the best possible mapping, analysis and assessment of key aspects of these challenges and how they can be met, it was decided that the program should be accompanied by trailing research.

Two of the main challenges can be expressed as follows, and also forms the basis for the research questions:

1. Opportunities and challenges of synchronous communication in lectures, seminars and counseling through digital communications platforms.
2. Opportunities and challenges of online teaching and guidance of creative work in materials.

There are some experiences with synchronous communication through video conferencing, but we have not found research-based knowledge in the arts and crafts at the master level. Web-based instruction and guidance of the creative work of materials is also new. What has previously been web based within this field, are working with screen-based imaging, graphic design and more. This shows that the online course to some extent can rely on past experience, but that it also includes new and untried fields, level and knowledge. Our trailing research has therefore focused on aspects of online studies from which we so fare do not have research-based knowledge.

#### Method and data

Data collection has taken place both in the period up to the work with the thesis started and from the thesis period. In the former period data were collected by questionnaires to students and teachers, and in relation to different study topics. Different aspects of teaching were assessed, based on the so-called didactic relational thinking model. In the thesis period, we gathered data from students and tutors through reflection notes, from three phases of the supervision period. They were asked to reflect on the possibilities and limitations of synchronous / asynchronous communication in connection with the master guidance of students in the relevant field.

Preliminary results related to:

#### 1. period:

teaching with lectures and seminar discussions, work well on the web  
informal discussions on the web works well in small groups, but less well in large groups  
technology brings expanded opportunities, but also distinct challenges  
students feel cared for as individuals, and they feel that they belong to a class



2. period:

guidance on the web works well within the theoretical areas, both synchronously and asynchronously  
guidance on the web works on the creative work, but with certain reservations

DESIGN LEARNING AS REFLECTIVE PRACTITIONERS VERSUS COMMUNITIES OF PRACTICE

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In this paper, inspired by the learning theories of Schön the reflective practitioners (1983, 1987) and Wenger communities of practice (Lave and Wenger 1991, Wenger 1998), I will discuss how the Iupiaq women of Kaktovik, North Alaska, practiced and learned designing of contemporary Inuit (Eskimo) clothing. The professional or academic design might well have something to learn from vernacular design or folk design. The purpose has not been to synthesise or integrate the two approaches, but rather to see both the common reflections and differences between them. Here, I want to discuss possible consequences of the designing situation in which practitioners exhibit a partial consciousness of their practice and learning of vernacular design. The study has been based on observations, interviews with seamstresses, and authorial participation in designing and sewing in conformity with Iupiaq tradition, and everything was recorded on digital video film. The interpretive procedures are inspired by reflexive methodology (Alvesson and Skoldberg 2000). I regard learning-by-watching as a crucial way of learning within a community of reflective practitioners, in particular within the visual field as designing. My contribution is to extend the concepts of practice and learning in the theory of the reflective practitioner. Learning as watching is important in addition to coaching. The social aspect of the practice and learning of the Inuit clothing design was certainly important. The relations between practice and learning in the Wenger-inspired interpretation show that learning to design Inuit clothing was integrated in the community of practice. Wenger stresses that learning is conducted in the community of practice, but not how the learning actually takes place. The focus here is on how the learner learns and not how the teacher teaches. The latter is often the major focus in learning theories. This study will be discussed connected to the investigations of design students and design teacher students answers about their own design education from kindergarten to professional studies in higher education in the research project Design Literacy. The purpose is to develop theory that could improve the design education in both compulsory and academic design education. A few of the better educated design students in compulsory school would certainly become better novice students in design schools as well, which probably would improve their quality as up-and-coming professional designers. Consequently, to improve the design education in both compulsory and academic design education, through learning-by-watching in communities of practice would make for reflective practitioners and better design in the long run.

THE CREATION AND MAKING OF ARTIFACTS IN SLOYD IN PRESCHOOL AND  
YEAR 1 IN BASIC EDUCATION DOES CONTINUITY EXIST?

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In our research we are interested in children's possibility to engage in sloyd-related activities and the learning that such can provide. We focus on what this possibility looks like in preschool and the lower years in basic education. Our preunderstanding is that preschool makes the most of children's spontaneous sloyd creation, whereas school generally is constructed around corrective situations where learning is expected to occur. We strive towards the problematizing of whether continuity exists in the view of children's creation and making of artifacts in sloyd during the transition from preschool to basic education. In our prospective study's theoretical framework we will emanate from the entire sloyd process, which comprises entities from idea to prepared artifact. We will strive to illuminate the role that play has in learning processes. Teachers' pedagogical thinking is considered a central resource during the operationalization of collective expectations into completed activity.

Our prospective study is a case study that will include educators from nearby preschools and schools. The purpose of the study is to investigate educators' ambitions in relation to activities that utilize children's creation and making of artifacts in sloyd-related esthetical learning processes. The purpose is also to determine whether continuity exists in how these learning processes are encouraged in preschool and basic education. We will therefore focus on a transition in a determined environment. The study will include focus group interviews of educators at a local preschool and a year 1 group. The study interviews will be analyzed through the help of models for esthetical and creative learning processes.

The research will provide a foundation for the continued development of the education provided to preschool and class teachers as well as the further education provided to these same teacher categories. Through a clearer picture of how teachers view sloyd activities, we can obtain improved possibilities to discuss children's creation and making of artifacts in sloyd during the transition from preschool to basic education. Such a discussion can contribute to the promotion of the continuity that is sought.

MATERIAL GIRL

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The main focus for my project VOLUM has been to explore how textiles can be manipulated manually in order to create new, interesting and voluminous surfaces and textures.

My point of departure has been dresses and costumes from the fashion history. This material has given me a rich and diverse source of inspiration and knowledge. Most of the dresses available for me found in museums and photographs are show pieces, not the everyday garments used for work; probably because these items have not been embellished or also been worn to shreds and thus not been found worthwhile collecting.

To me, the luxurious and opulent show pieces have been fascinating. The frills and pleats and embroideries used to decorate and ornament these dresses gave me ideas on how to modernize them. I wanted to explore techniques in which I could emulate the original look, but make them feel and look contemporary, and then find ways of using them in contemporary art and design work.

So i have been pleating, ruffling, shirring, smocking, flouncing and stuffing in various textile materials. The materials have been tested and pushed and chosen and rejected. The methods i have been using are in most cases not as meticulous and time consuming as the original artisans have used. I wanted to make them communicate with the present, not to be copies of past times.

My work process have much in common with how Donald Schön describes the processes of the practitioners he has studied- how they work in action. His work suggests that practitioners interweave their theoretical and practical knowledge while working. They lean on a vast repertoire of knowing; from previous, similar situations (experience), and use this experience to expand their knowledge by reflecting on how it can be used to solve new situations. In other words; they don't just formulate a problem based on technical expertise and theory and then set out to solve it. In many cases, the problem to be solved is often more some loosely formulated questions and then working them out by reflecting in action. Both in choosing and defining a project to work on and in developing that project, there is a difference between theoretical and technical professionals and the practitioners. Sometimes this difference in is referred to as hard vs. soft knowledge. In my own project, I started out wanting to see if I could make the old fashioned dress ornaments in a modern way without having any clear idea where to go from there. I tried out some techniques in various textile materials like silk, cotton, wool and synthetic fibres - and the situations talked back as Schön would have said. Some of the materials told me that I had found something interesting, something I could continue developing. Other materials or techniques did not go anywhere, and i had to abandon them.

Practitioners like me, artists and designers, often claim that a lot of their knowledge is tacit and intuitive and therefore hard to explain to an outsider. Both Polyani (1978) and Nordenstam (1983) has touched upon the concept of tacit knowledge. Bengt Molander (Kunskap i handling 1996, s. 41) talks about recognizing faces and the ability to ride a bike as examples of tacit knowledge, but he claims that some aspects of these activities are possible to describe and communicate. My aim is to bring some of my experiences in this project out of the silent realm in order to communicate with other professionals. For this purpose, I have made a manual in PDF depicting and describing how to make the textile surfaces - free for anybody to download.

Using one's own work as a case for research might seem like a bad idea. How can I be expected to keep a cool and disinterested gaze? Of course I cannot, but by trying to see my work processes in the context of D. Schön's (and others) research on reflective practitioners I hope to reach a broader perspective on the kind of knowledge, experiences and abilities needed to be a good practitioner in the field of art and design. Maybe this presentation in a small way, can increase the understanding and respect of these research and development projects?

This presentation will consist of photographs from the process and show a small number of the finished works, both photographs and material samples of the actual textiles. I will comment the pictures and try to place them in the context of general theories of reflecting practitioners mentioned above, and I hope the participants will want to feel and touch and comment on the actual materials I will be bringing with me.

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WEB-BASED LEARNING ENVIRONMENT IN VISUAL ARTS

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The Internet is the fastest-growing channel for communication in contemporary history. In its earlier years, the Internet was used primarily to exchange static information. Gradually, web pages began to exploit the possibilities offered by new web technology, such as multimodality and interactive functions. These demanded greater bandwidth to and from the users. The use of the Internet as a medium for communication has shown an increasing tendency towards a more audio-visual based and synchronous form of communication.

E-learning in visual arts subjects has largely been based upon digital learning platforms, or so-called LMS (Learning Management Systems). These E-learning models have generally built on traditions from correspondence schools. Correspondence schools use the postal services to send educational material and instructions, while most of the web schools use various LMS for the distribution of educational materials and electronic mail for communication between teachers and students.

Instruction in visual arts subjects depends upon visual mediation and is more effective with rapid Feedback to visual presentations and meaningful dialogue. Web-based studies in the visual arts therefore need to exploit new opportunities in video-mediated communication to safeguard necessary feedback and dialogue.

This paper will describe a course in Digital Imaging which was established in response to an initiative from the Department of Art and Design at Telemark University College. This paper will further focus on the characteristics of video-mediated instruction within the visual arts in web-based learning environments.

On the basis of our experience within the field we have developed and made available a new web-based course in visual arts in which we use video-mediated communication. Video-mediated communication provides new possibilities for direct communication with students via the Internet. This new web-based course has been developed to meet the challenges within Visual Communication, which constitutes a principal area in the Arts and Crafts curriculum within the current Norwegian National Curriculum; the Knowledge Promotion Curriculum.

Key words: the visual arts, E-learning, art, design, distance learning, visual literacy, web-based learning environments, digital images, video-mediated communication, Media Synchronicity, Telepresence.



FROM MATERIALITY TO IMMATERIALITY: THE ROLE OF CRAFTS IN MEDIATING  
THE ENCULTURED KNOWLEDGE AND PERSONAL NARRATIVES

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Over the past years, the discussion of how to define crafts and its position in the discourse of the art and design research has emerged extensively. Although this discussion has supported and even nurtured a prevailing understanding of the craft practices, material thinking still seems to dominate the contemplation of crafts in general. The attempts to reassert the role of crafts in the field of art and design often face these kinds of substantial formations, and thus, material aspects often seem to be emphasized and perceived as initial substance of crafts. Still, materiality goes beyond the physical aspects: materiality has much to do with mattering making matter and having special significance. As materiality tacitly implies the values, appreciations and traditions of particular communities, it sensitizes an awareness of intellectual property and personalized narratives mediated through crafts. This conjunction speaks for the premise that materiality and immateriality bound deeply together. The overall purpose of this proposal is to investigate the core essence of crafts within the discussion in which material craft objects meet the immateriality. From this point of view, the bodily skills of the craft practitioner and the processes of making as well as the material outputs of those processes operate as mediators of crafticultural knowledge. By engaging this culturally oriented craft knowledge, which embraces the practical, technically oriented aspects in connection with the cultural viewpoint, this proposal aims to outline the role of crafts in mediating the personalized narratives. Therefore it also elaborates the significance of craft practices in the process of revising a tangible material to a personalized craft narrative that connotes the inherent cultural knowledge. For the purposes of this proposal the essence of crafts is evaluated as the basic nature of the crafts and its significant individual features.

The empiric data of this study is collected with reflective interview methods within the participants of a multicultural craft group Textile crafts building the bridges . In-depth focus interviews of the group participants are conducted with reflective interview methods after the craft course, and the data is analyzed qualitatively. Due to their personalized nature, these narratives operate as self-reflective modes of understanding craftship, and therefore they reside in the actual processes of making and the handiworks produced. The main contribution of this proposal is the use of narratives in multicultural craft activity: the results will suggest that a reflective set of craft-making invites practitioners to consider the cultural relevance of crafts, and in parallel to broaden their horizons in relation to other beings.

Keywords: crafts, materiality, immateriality, narratives, artifacts, encountering, continuity



ROOM FOR SLÖJD - FROM THOUGHT TO ACTION - PROSPECTIVE TEACHERS  
CRAFT KNOWLEDGE OF ROOM FOR CREATIVITY IN TEACHING CRAFTS.

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A paper presenting my ongoing research project on school crafts everyday.

I present my thesis plan, my research and where I am in my work as a graduate student in the doctoral program in pedagogical practices at Linköping University. I raise questions about how I will process my data and the analysis that I work with during the project, which will run from autumn 2011 to spring 2014.

Background: As a teacher educator at Linköping University and the course coordinator, in distance learning program for courses in craft, I have over the years collected many different examinations. Teacher training for teachers / educators, who already have teaching qualifications and who reads to craft as an additional topic, course data and small studies of everyday life of school completed. Pedagogic practices is a field which mainly generates knowledge, providing new perspectives on, and studying various aspects of teachers work and the institutions role in society. (Hultman & Martinsson 2005). The field contains mainly three parts, links to research, interdisciplinary and practice-related research. The relationship between theory and practice is consistent and is both an area of expertise and a research area where research is focused on the field tied, the practice-oriented.

I follow in my research up > 150 observations in a Swedish school crafts (slöjd), wood, metal and textiles. From this material I have chosen to focus on how teachers perceive and describe the school s educational crafts everyday. Most of the empirical data taken from observational data, the self-reports are stored in the later years where teachers reported in writing how they perceive the crafts room and what they see in children s creativity and making.

My research interest:

An educational activity in a "slöjdroom" provides opportunities for action, exploration, meaning-making and teamwork. In this pedagogical practice among individuals, educators and environmental conditions are created for learning. Teachers reflect on what they perceive that they see / what happens in activity is key, and the focus is on what they describe that they see and what they consider important when they give examples from the activity. My focus crafts practice is about the didactic approach where crafts are studied everyday and especially the teacher s knowledge about this.

The purpose of my work is out of this material from the teachers observations and highlight what the teachers express.

What they write that they see after observations in the craft room?

How they describe what they see in the business and not least, what is it they want to see based on their own pre-understanding then when they give their vision on how to organize their own activities?

The result will be finished to present earlier than spring 2014 and will be described and show what teachers emphasize.

I want through my presentation on Makingconference from a first rough sorting, discuss how to deal with the analysis of this material.

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MAKING ABSENCE. EVOKING MATERIALITIES.

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Absence is usually seen as the opposite of presence, as emptiness and a lack of matter. It is a category that threatens to destabilize our understanding of materiality as a necessary quality of experience, as a basis of creating things and impressions. At the same time, however, absence are experienced by people of flesh and blood. Even more than that, absences can evoke very strong sensations and emotions in those who experience them. To find that something or someone is missing can create just a short moment of puzzlement but it can also result in frenetic searches or in a shiver that runs down one's spine.

The focus of this presentation will be on the different ways in which absences are made. Based on the research that is presented in a forthcoming special issue of the journal "Cultural Geographies" that I am co-editing and video material collected in my own research this presentation will demonstrate how absences they are brought into being through in specific material setups and through embodied practices. From the mason's mark left on a building's stonework or the use of black frames in artistic practices and visual representations to the different ways in which material traces raise the memory of a deceased person many possibilities exist in which something or someone that is absent is actually experienced as such. The structure of things along with the bodies and senses of those who experience the absence enter a complex interplay that evokes emotions and memories.

One of the most striking aspects of absences is their power. The ghosts that are raised by traces of past things and persons in a memorial site can haunt those who are present in this place, make them feel uncomfortable. Missing a beloved person can feel as if it something pulls one's heart out. How can something that is missing exert such force? This is the final aspect of the making of absences that will be addressed in this presentation: the fact that the experience of missing something can be so powerful because that which is missing has to be raised by the person who is experiencing the absence, they have to fill the void with their own emotions, with their embodied memories.

IN DIALOG WITH TEXTILE MATERIALS

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As a practitioner, as teacher and designer in textile material I have seen the value of exploring in the textile material for developing ideas and creating products.

That is why I introduce the students to different ways of starting their processes. They do some experiences in the textile material, and in that way they develop skills in sewing in a creative way. The last two years the students got a task to make new garments from readymade garments. I wanted to find out if they could learn the special terminology, pattern design and the skill in a short time and in another way than we mostly do. The students were encouraged to turn the garments up and down, working on a bust, to study what s coming up of opportunities for new designs. Some of them wrote in their reports that it was a very good way of working, because they could start their process in the material earlier than they used to do, and they got other and better ideas. Some of them told they learned pattern construction by studying readymade garments. They made interesting products by turning jeans or skirt upside-down into jackets, and they were able to see opportunities for continuation to other products.

This work will continue because it is interesting to get other experiences with the textiles materials and search for different ways to communicate skills to students.

At the Conference I want to display a visual presentation of exploration of the textile material and student works, because I often start a period in the class with a visual presentation. That s the way the textile material comes to its own.

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THE OPERATIONAL ARCHITECTURE OF FEEDBACK IN THE CREATIVE PROJECT

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This paper describes the vital role of feedback in the process of making, but feedback is reconstructed within an augmented structural frame. First, it is framed in terms of two generators: goal and process. Second, its operational structure is presented as a set of propositions situated within a transaction of referential, inferential, assimilative and consequential frames.

In order to establish an apt frame of reference for the discussion of feedback, we present a first postulate. (The postulate is not only a contextualizing postulate, but also a parametric one in that it describes an attribute and dispositional potential of the construct):

\*Vis-a-vis complexity, feedback is transposable--simultaneously sign and referent, simultaneously complex and sub-structuring complexity.

While feedback is an element of certain complex systems (e.g. making), feedback also exists as a systemically complex phenomenon--as shown below.

The current study has its origins in an earlier one in which the author made critical observations regarding final architectural physical models produced in a design studio. Following an overview of the semester's performance and behavioral histories, the author constructed some hypotheses entailing feedback based on the evidence and own experience. For instance:

\*An end goal can be a potent force. At least, it appears to become that at some point, its renewed recognition bearing with it influence that can alter quality of performance substantially.

\*An end goal might not be articulable at start. Consequently, it can have a coming-to point in time.

\*A coming-to embeds its own complexity. Even at time of its realization, its full import might not be grasped all at once.

Revelations of the first study instigated further exploration. Three case studies were initiated with three participants enlisted to work on a creative project. Upon completion, each respondent was engaged by the researcher in an extended interview. The current paper is a report of that second study.

More varied and complex data-supported theories emerged. Selected emergent theories are as follows:

\*It is possible to array makers along a continuum described by a combination of the clarity of image of a final goal and the clarity of process that will get the maker there.  
(Thus, clairvoyants, for instance, possess a clear vision of both end goal and formative process while riders reveal no strong conviction about either.)

\*Certainty and doubt co-exist within goals. For instance, a maker could have a firm picture of a target but doubt process.

\*Potential of realizing or accomplishing a grand goal carries enough potency to instigate a retrospective-corrective effect. It instigates going back to correct past faux pas.

\*Everytime feedback interpolates an idea, recomputation of the next set of actions takes place. It is evolutionary.

\*Feedback is not decoded in a detached/isolated context. This mechanism is particularly instrumental regarding negative feedback. It enables that feedback to be controlled in a form that does not debilitate the project.

It is hoped that the report of this study will be useful in illuminating certain ways in which feedback functions within the creative project and contributes to realization of the maker s end goal.

"THE BIRCH IN MY LIFEWORLD - METAMORPHOSIS" MATERIALITY - MAKING-  
PROCESSES - INSTALLATION-EXHIBITION AN EXHIBITION AND RESEARCH IN  
ART-PROCESSES

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Installation-exhibition

An abstract from a threefolded installation-exhibition titled

Rooms for memories from my childhood

Rooms for transformation

Rooms for entrance and way exit

shall be presented.

Rooms for memories from my childhood : Functional things in everyday use made from birch-material and children s playing in heaps of birch-leaves symbolize country life from my childhood. The presentation looks at handicraft, closeness to materiality and nature. Corresponding sensations are pre-objectivity and pre-reflexions to expressions and art.

Rooms for transformation : In a well-known piece of Norwegian poetry leaves are used as metaphors for human beings. In another the bark from birch symbolizes the human skin both outside and inside, and in my installation is combined with inner values and symbols as heart and love, square and thought.

Rooms for entrance and exit : It starts from perceiving birch-bunches and slatestone. Associating with the doormat at the kitchen door from my childhood: Going in and out and then to words from the burial ceremony . In the making-process the pattern of chessboard is associated with game, and from there further to the game of life. The consummation: Rooms for entrance and exit! A move from the material-impresion to the metaphor and symbolize back to materiality to form and ways of expression. A whole experience! (John Dewey).

Research in art-processes

The research-project is anchored in three conceptions: Installation as expression, the making/creativity and the materiality in arts. The problem is:

What characterizes material processes related to installation as a way of expression?

A phenomenological description of the making-process is analyzed inspired by Amedeo Giorgi s modell, (1985/2009). The progression of the process is broken down to units of meaning based on the five aspects; material, form, idea, culture and human interaction. The units of meaning are transformed to a condensed description and graphical representation, summed up and contextualized from different theoretical points of view. The superior character of the movement and change are described as interactionrelations and discussed in relation to Gregory Batesons use of the term and related words. The materiality is especially an important element when investigating aesthetic qualities and craft-working, processes of symbolization and creation of installations, and is related to late modernism and postmodernism in arts. According to a teaching situation it is my opinion that this sentence and its use in continuous changes/exchanges/interactions. The five aspects represent a special competence in making material expressions and meaning making, and in addition the principle is valuable in education, and in practical and creative way of life - with references to Maurice Merleau-Ponty, John Dewey and Mark Johnson.

WHAT CIRCUMSTANCES ARE REQUIRED TO ENABLE A SCULPTURAL PROJECT  
TO SUCCEED WITHIN A LEARNING ENVIRONMENT?

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What will in this instance be included in the term succeed ? It is an unambiguous term and there can be disagreement about what the circumstances for success are. The criteria to succeed in this relationship is not just to achieve or accomplish what was expected, (the desired result) but also that the results include a form for aesthetic perception and that the work produced something more, something unforeseen and unexpected - at a higher level than was anticipated. Success can also be reliant on conditions in such a way as to represent enjoyment, growth or development something that is of relevance in relationship to a creative context. As a starting point for my essay I have chosen three different sculpture projects from three different educational settings at Bachelor level from Telemark University College. Projects that have stood out and where creativity, material/medium and impulses from Fine Art have combined and exchanged with each other, where making, materiality and impulses from contemporary art connect. Because the results from the creative process the making from these projects were of such a high level, quality and character, it became interesting to examine some of the background and circumstances which may have contributed to their success. The circumstances are compounded and there are many different aspects that can have contributed to the results. Bearing this in mind I will briefly give some indication of this with a starting point and examples from the project: Endangered Species - working with recirculation- metal. The aspect of Fine Art was the predominant factor- whereupon to express one's self, freely, openly, concisely, unashamedly, three dimensionally and sculpturally with the use of visual means was the overriding criteria in relationship to the creative process in preference to technique, material and craft.

Dialogue, interaction and learning/teaching took place in a relatively intense manner. Which in some instances turned into a workshop/master student situation, - where the experienced master/sculptor freely imparted knowledge with great gusto, enthusiasm and gave technical references that were relevant in each individual case. The project was led by a practicing professional person with the highest of qualifications within the field, a sculptor that exhibits at an international level and highly qualified within the relevant creative field. The abundance of knowledge gained through this artistic practise was freely imparted. This idea based sculpture project with its given theme allowed the specific qualities held within the recirculated metal to become visible and spring out from within while in the process of being worked or alternatively interpreted more directly from the given theme Endangered Species , which in this case acted as an open inroad for interpretation.

This sculpture project touched on contemporary environmental issues on a number of levels - firstly through the use of materials, secondly through recycling and the main theme Endangered species which acted as a focal point for discussion. This kind of recycling is in itself a comment to our rich and abundant society a topic that engaged students and a problematic that has relevance for us all.

Art can make a difference. The use of recycled materials gave the sculptures an extra dimension and certain unforeseen qualities in relationship to texture and form. Some of the raw materials have partly been used as ready mades . So called Trash Art is an artistic form for expression. The majority of the works have been made in such a way as to give new life to scape metal through the creation of sculptures. Marks and signs from previous uses and the past are visible in a number of works and give character and heightened expression, colour and a rustic that gives indications towards their past, their

histories all coming together in new forms. It was about making and what making is about. Art can have an impact.



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TO INTERPRET AND SHAPE LEARNING THROUGH ARTEFACTS

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The purpose with this research project in sloyd education is to study learning processes and knowledge in purpose of reading out knowledge embodied in women s fashion dresses made during the tailor guilds period 1750-1870 in Vasa, Finland. My hypothesis is that learning taken place during the time in question corresponds to learning taken place today and therefore is it possible to use women s historical fashion dresses as an empirical material.

The research will focus on learning processes taken place during the making (construction, cutting out and sewing) of historical fashion dresses. Furthermore an analyze will be made on how the use of different fabrics and how the manufacturing changed as the appearance and the aesthetic expression developed according to current fashion. The learning will be analyzed from a sociocultural point of view with a social and culture-historical influence.

Changes in the expression of dress and contemporary technical development were essential for the ways of working when making fashion dresses. To analyze how the ways of working by making fashion dresses changed during the development of the society is here interesting and how creation of new materials demand new methods for construction, cutting out and sewing. Some ways of making were preferred by the makers during certain fashion periods, and tailors respective dressmakers used different ways of making and technical solutions.

In the empirical analysis I have planned to interview student-teachers in sloyd education about how they recognize learning processes and ways of making in preserved artefacts, in this case fashion dresses from the textile collection of the Ostrobothnian museum.

In the interwiev I will focus on learning processes, education, ways of making and how the dresses were used. By investigating the dresses the student-teachers are supposed to look at the dress entirety through material/fabric, fabric design, construction of dresses, ways of sewing and ornamentation and ways of making the upper part, the sleeve and the skirt with focus on learning processes.

This research will also include an investigation into tailors and dressmakers education and how the education was organized during tailor guilds period 1750-1870 in Vasa. The formal male education had a clearer formulation and different from the informal female education. I will investigate the conditions between how the ways of sewing are shaped and who is holding the needle, amateur or professional, woman or man.

THE STUDY OF UKRAINIAN AND FOREIGN PEDAGOGICAL EXPERIENCE OF TECHNOLOGY TEACHERS TRAINING AND ITS IMPLEMENTATION INTO PRACTICE

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The article analyses scientific-pedagogical approaches in the study and implementation of pedagogical experience in the process of training teachers of technology (handicraft). The technique of studying pedagogical experience in the education of future teachers in the higher pedagogical school is given in Ukraine using foreign pedagogical technologies.

It is well known that the process of training teachers of technology in any country of the world must integrate all the knowledge and skills which are acquired in the process of the general, psycho-pedagogical, methodical, special and practical preparation of future teachers. In the future it will professionally allow them to solve strategic, tactical tasks of the educational process in secondary education institution.

The teacher who is not enough prepared in a professional sphere does not have programming knowledge and skills of research work he will not be able to produce methodological concepts and will not be able to implement it. Knowledge which is received during the training in higher educational institutions becomes flexible and deep only in the school practice this optimizes the educational process in general. In the process of pedagogical work an experience is theorized and updated it is based on psycho-pedagogical science where scientists-teachers discover and study the experience of others they compare it with their own, develop methodology for its implementation in practice of the national system of education.

The pedagogical experience of the teachers is the basis and pedagogical skills increase on it. At the same time it is also a source for the development of pedagogical science. Practical pedagogical activity is built only in the half on rational technologies, the second half is art. Conceptually, it can look like this. If you ask a great artist how was he able to draw such a wonderful landscape? He will tell how he wrote the nature, what he was thinking and worried about, how he created sketches and mixed colors... Everything is clear. But the other artist will draw in a different way even if he does everything that the master. The same is in the teachers work: mechanically you can adopt nothing. But manufactured outstanding teachers techniques will help to find your own approaches to solve the same problem and achieve success. Pedagogical success is impossible without a search, art and torments of creativity. But one thing is when a future teacher study the necessary skills for himself taking into consideration his nature, experience; the other thing is if he proposed working methods or improved old ones in the way that they have high results and can be distributed and used.

In this context pedagogical experience should be considered as a set of knowledge, abilities and skills which were acquired by the student in the process of teaching and educational work. Upgrading of the pedagogical experience is caused by constant changes in the practical teaching and educational acquisitions of the future teachers of technology.

Implementation is the most important and least studied stage in the system of dissemination of the up-to-date practices. You can study well, generalize, promote successfully and in the order form force to accept it but the success won't be achieved. The implementation is difficult for the teacher, from the student it requires creative efforts, the capacity for transformation and the overcoming of difficulties,

desire and willpower, perseverance and ability to analyze mistakes and failures to achieve goal.

An important indicator of the gained experience is stability. It means that the effectiveness of training and education should be tested by time. The prospects of advanced pedagogical experience suggests "work" in the practical activities of other teachers, it can be distributed and embodied in life.

EXPERIENCING THE BEACH RETROSPECTIVE ANALYSIS OF ART EVENTS THAT  
EXPLORE THE RELATION BETWEEN BODILY PRESENCE AND PERCEPTION

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This paper will present a comparative analysis of two outdoor art directed events, exploring the connection between bodily presence and perception of a beach landscape. The project aims at conceptualizing and articulating the experiences gained.

The project Experiencing the Beach is a collaboration between a visual artist and a dancer/choreographer that began in 2009. The two met in a shared interest of exploring how we perceive nature. We registered that there is a connection between how we are present in our bodies and the way we become aware of the surrounding environment. Based on this observation, we have organized two experiments defined as artistically directed events that invited a group of people into simple routes of bodily actions in a beach landscape. In this paper, we wish to analyse these two events comparatively.

Contextually, the events place themselves in the artistic tradition of performance, land art and interactivity that goes back to the 1960s (Halprin 1995; Kwon 2004), in which both dancers and visual artists started to experiment outdoors, involving their audiences. Since then, a multitude of artistic and therapeutic practices have emerged. The events we have realized combine elements from the contemporary dance education and somatic practices (Rosh 1978 & 1981; Ludwig and Haag 2002; Feldenkrais 1972; Brooks 1986; Steinman 1995) with relational art (Bourriaud 2002) and ecological concerns (Cohen 2008). They may be regarded as practical somaesthetics or somatic self-improvement (Shusterman 2008: 29).

Methodologically, this paper will be one of reflective research carried out by practitioners in order to improve and predict future work. It will combine frame analysis and research on the process of reflection-in-action (Sch n 1983: 309 and 320). The two cases treated were carefully planned in advance and the first event is already described and analysed (Refsum and Rimestad 2012). The second event needs a retrospective reflection of its actualization and outcome. We will reflect upon the unpredictables in such work, due to the site and the participants, and our ability to handle what happens in the moment. Related to outdoor situations, we wish to shed light on the questions: How do we encourage and develop bodily trust and grounding? How can we become more aware of what we sense: feel, see, hear, smell, or even taste?

The paper will:

- 1) analyze the various parameters at play:
  - a) the given environment
  - b) the activity potential on the spot
  - c) possible sensory challenges
  - d) expected participants
- 2) comparatively discuss what happened during the realization of the events
- 3) propose concepts and terms for speaking about the experiences gained

In the analytic work the late German Elsa Gindler (1885-1961) is central. Gindler hardly left texts, but a living tradition of practice. Her work aims at re-educating our senses and to rediscover our instincts.

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The outcome, will extend our personal theory and knowledge (Jarvis 1999: 49 and 134; Refsum 2007), and contribute in the articulation of dance artistic, experiential knowledge (keson 1998; Lilja 2003; Eriksen 2009).

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## MAKING DESIGN REPRESENTATIVES AS CATALYSTS FOR RESEARCH THROUGH DESIGN

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In this paper, we discuss an approach emphasizing the importance of making as part of a design research process. This may seem self-evident in a design context. However, in developing an educational design research course at the Media, Arts & Design faculty (Genk, Belgium) we experienced that when design and research are intertwined, students tend to lose their focus on making. Therefore, we explore a reflective design process wherein making is central throughout the process.

Keeping in mind the designerly ways of knowing (Cross, 2006), we look into the use of visual design representations in design research processes (i.e. visualizations and tactilizations of research data and interpretations). Creating these representations allows students to focus on making. Based on literature (Muller (2002), Raijmakers (2007), Sleeswijk Visser (2007) and others), we concluded that this type of making via design representations allows two things: it communicates the research data among peers (1) and it adds a different, unfamiliar view to the research (2).

(1) Design representations have a communicative value: this way of sharing the design process with peers can deliver valuable, new interpretations in the collaborative process. However, these should not be mere factual representations of research data, since it is our goal to imagine possible future scenarios. (2) Therefore, during our course at the Media, Arts & Design faculty, we found that design representations should also add an element of defamiliarization to the design research process. We use defamiliarization methods to help inexperienced designers - such as students - to let go of the urge to design a finalized end-product or solution. These design representations helped to broaden the design space and trigger a design dialogue.

To illustrate these two aspects, this paper presents a theoretical and empirical exploration of design representations as a method to support design reflection among design students. Furthermore, to build further on how students applied it during our course and to explore future possibilities, we use our presentation time during the conference to do a workshop in which making design representations as part of a collaborative design research process is explored.

The workshop is inspired by the Surrealist technique *exquisite corpse*. This game format supports collaborative writing and (later) drawing: a player writes a phrase on a sheet of paper, folds the paper to conceal parts of it and passes it on to the next player for his/her contribution. These games usually produce interesting results because they combine the communicative value with a defamiliarizing value. We translate this game format to the idea of creating and sharing design representations.

Participants of the workshop are asked to visualize and tactilize research data extracted from a research project we will present. The workshop facilitates a process of collaboration wherein skills, expertise, ideas and interpretations are shared, while passing on the created representation to each other. In this way, the communicative and defamiliarizing value of making via design representations in producing knowledge in a design research process is explored collaboratively by the workshop participants.

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COMPARISON OF LEARNERS ATTITUDES TOWARD CRAFT EDUCATION IN JAPANESE AND FINNISH COMPULSORY EDUCATION - ANALYSIS OF ATTITUDES OF SIXTH- AND NINTH-YEAR STUDENTS -

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This study aimed to clarify school children's attitudes toward craft education in compulsory education in Japan and Finland. Craft education is organized quite differently in these countries. In Japan craft education is carried out in the subjects of art and handicraft (first-sixth grade) and home economics (fifth-sixth grade) in elementary school, as well as art and technology and home economics in junior high school. These subjects are compulsory for both males and females. In Finland craft as a school-subject consists of textile work and technical work. Generally, in Finland, the first years of basic education the whole age-group is learning both textile work and technical work. Later the students will usually choose either of these subjects, or continue studying both subjects. Attitudes of craft education concerning favorability, learning achievements, interest, and usefulness were surveyed. Altogether 2733 sixth- and ninth-year students from both countries participated to the study.

The results revealed that the attitudes concerning favorability, learning achievements, interest, and usefulness although they were commonly relatively high in both countries, were generally higher in Japan than in Finland, regardless of gender. In Finland, the attitudes concerning favorability, learning achievements, and interest were higher among students who studied both textile work and technical work to the end of 7th grade compared to those who studied only technical or textile work since 4th, 5th or 6th grade. The curriculum of craft education in Japan has been common for boys and girls since 1947 in Japanese elementary school, and since 1989 in junior high school, whereby a compulsory two-field system is institutionalized. The outcomes that attitudes concerning favorability of craft education were generally high in Japan may result from students access to various craft materials throughout their school life.

Attitudes about learning achievements of cultural interest were higher in Japan. The course of study concerning related subjects in elementary and junior high schools emphasize Japanese culture. Therefore Japanese children might show higher attitude. In Finland the common conception of learning emphasizes students ability to critical thinking. This kind of school culture that is open to student's opinion does not give very good ground for attitudes testing.

The differences between Japan and Finland are discussed from some perspectives such as the system, actual state of education, and cultural differences in both countries, in association with these results.



PRODUCING KNOWLEDGE IN RHYTHMICAL MOVEMENTS

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A gymnastic performer intertwined, prolonged, enhanced and counterweighted by gymnastic bands, straps and clubs: what kind of knowledge does his/her body in motion produce?

In my presentation I will discuss the theory of embodied knowledge and the making of knowledge by and in moving material bodies from a historical perspective.

I will trace and analyze the practices and discourses of the rhythmical movement encompassing both the foundation of rhythmical gymnastics and the beginning of modern dance with prominent figures such as Isadora Duncan, Rudolf von Laban, Hinrich Medau and Mary Wigman. My time frame is the beginning of the 19th Century until World War II.

Practitioners and theorists of both modern dance and rhythmical gymnastics have expressed their belief that a body in rhythmical movement, sometimes enhanced and perfected with gymnastic tools, produce a kind of knowledge that is fundamentally different from the existing forms of producing knowledge production on the body. The moving body, such is the claim, could not be understood in the language of physiology, anatomy, psychology or any existing academic discipline alone. To understand movements, to understand what kind of experience and knowledge movements produce, a new research approach had to be developed: a hermeneutics of movements; a new interdisciplinary field of investigation that was opposed to the sciences and a positivistic research paradigm.

In my presentation I will show pictures and discuss accounts of rhythmical gymnastics and dance in order to describe different movement practices inside the rhythmical movement. As a next step, I will present the discourses emerging from these movement practices. I will give accounts of both performers and gymnastic leaders. Moreover, I will analyze the close interrelation of gymnastic practices with life philosophy, the science of physiology and theories on modernity. The knowledge that was produced in rhythmical movements of material bodies contested and changed existing academic knowledge. Crucial ideas and concepts inside philosophy and the sciences, such is my claim, were literally made in the gymnastic hall by a gymnastic squad and the individual gymnast, moving their bodies rhythmically.

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EXPRESSIONS OF LEARNING IN SLOYD PRACTITICES

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Within the master s studies in sloyd education at the Faculty of Education, Abo Akademi University, a research project focusing on learning in sloyd activities in different areas of society has been initiated. The project is called Expressions of learning in sloyd practitices and is carried through during 2011-2013. The project is led by a working group of research leader PeD Mia Porko-Hudd, associate professor Ph.D. Marlène Johansson and lecturer PeD Barbro Sjoberg.

The aim of the project Expressions of learning in sloyd practitices is to scientifically collect, analyze and report on how learning is expressed in sloyd activities in various areas such as day care centers, preschools and schools and as vocational, recreational and therapeutic activities. Also sloyd activities performed by various stakeholders such as students, teachers, parents, hobby crafts people and professional craftsmen are involved in the project. The project originated in a perceived need to, on the one hand, broaden the themes of research subjects within the scientific discipline of sloyd education and on the other hand to facilitate the student s choice of theme and advancement in their master s theses.

In the initial phase of the project (autumn 2011) a group of master students in sloyd education gathered an extensive empirical data material from sloyd practitices in various fields using video observations and audio recordings. The collected data is used only for scientific purposes, primarily for the students master s theses. The collected data material should also be made available to graduate students and postdoctoral researchers in order to write articles and reports. In addition, an aim of the project is to analyze the conclusions of the master theses on a meta level to obtain an idea of how learning has been expressed in the researched sloyd practitices.

THE MAKING OF EDUCATION CHOOSING CONTENT AND METHODS IN  
TEACHER TRAINING IN ARTS AND CRAFT.

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This paper presents a study on how educators in teacher training in Arts and Craft choose content and methods when planning and executing lectures. Their selection can be understood as based on own professional expertise and prior beliefs on the one hand, and curricular- and institutional requirements on the other hand. As such, this is a process of negotiating and adjusting potentially contradictory understandings and positions. More knowledge is needed on what teachers consider to be possible options and accessible options.

This knowledge is necessary because it will provide insight into what is considered to be essential content and methods within teacher training in Arts and Craft and the mechanisms that underlie these considerations. There is a need for practice based research and methodological training of researches and teaches in teacher education.

Relevant questions are therefore: How do teachers choose content and methods? How do they reflect on their choices? How do they justify these choices within their community of practice?

This study is primarily based on teacher education theory and theory on how teachers develop their skills and professionalism (Hjardem I; Gudem; Shulman, Gudmundsdottir, Dreyfus & Dreyfus; Sch n).

This is discussed in light of the actor pawn perspective (Nygaard) and intuition rationality perspective (Kahneman) on the one hand and system theory (Luhman) on the other hand.

Focus group interviews of teacher educators are the main method of the study. A focus group is established among each of the teacher teams at the two colleges that offer teacher training in Arts and Craft. Each group involves four participants and two researchers. A total of three interviews will be conducted with each group. Each interview lasts up to two hours. Audio recordings of the interviews are transcribed and analyzed.

Focus group interview is considered a suitable approach for exploration of this field of knowledge. This research method opens up for discussions around specific topics, underlying norms, preferences and values. Such a research method could also provide an opportunity for change and development of education in teacher training in Arts and Craft (Gulliksen & Hjardem I; Steward & Shamdasani, Parker & Tritten).

We have so far conducted two interviews with each of the groups. All collected material is transcribed and the analysis is in progress. The last interview is scheduled prior to the conference in September.

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REDESIGN IN PERSPECTIVE OF SUSTAINABLE AWARENESS

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The Norwegian society has developed into a commercial consumer society, where what's important is what we own, and what we can buy. Clothes are cheap and the commercials often approach youth directly through their tailored expression and slogans, the affect it has is unquestionable (Vetlesen, 2009). The production of clothing is executed in ways that allow the prices to be low, and it is sometimes today cheaper to buy a new sweater rather than repairing it. What if students had the opportunity to learn basic sewing techniques in school? Then they could sew in a new zipper or button, instead of replacing the garment. A proper introduction to material knowledge and design would perhaps make students more motivated and encouraged to rethink their consumer behavior. These ideologies were highly valued in subjects as sl yd and textile craft earlier, and have been brought back in order to, for instance, change students view on how we handle products and guide them into choosing products that last longer and will benefit the environment. To achieve global sustainability, it takes a qualified consumer, and this is where education has the responsibility to bring these new perspectives to the students (Digranes, Fauske, 2010).

Sustainability is central in the National Curriculum and in contemporary design education (Cumulus, 2008). One way of practicing sustainable design is Redesign which leads me to my research question; how can students be motivated to practice redesign, and will this encourage a more reflective consumer behavior? I want to discuss methods for teachers in Art and Crafts that contribute to a more sustainable education, and furthermore motivate students to engage in the situation we find ourselves in at this point.

By redesigning clothes and apply different manipulating techniques I intend to make them interesting, unique and timeless. Hopefully also with a certain quality which can compete against cheap, store bought clothing, where quality often is poor and aesthetics changes for each season.

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WHO WILL MAKE THAT UGLY STUFF?

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In recent years we have seen an increased interest in needlework in the Nordic countries. People knit, crochet and embroider when watching TV, sitting in buses and trains and there are organized knitting- and embroidery cafés where you meet and create together.

So what do they make? I have made a closer look on the embroideries. Embroidery has well-known cultural sources as well as local ones, characteristic patterns decorating tablecloths, clothing, accessories etc. Today, however, the interest for free embroidery dominates, and individual expressions and narrative motifs are in focus. The pictures are built up with varied stitches, supplementary materials and do not rely on ready-made patterns or templates. Communication is important in these designs. The embroidery is also used in new ways and new contexts, for example as embroidered fabric business cards possible to swap for others. Embroideries may also be anonymously attached to objects in public domains. Thus today embroidery focuses the individual, free creations and abandons certain named stitches and patterns.

Parallel to this artistic form of embroidery, there are companies that produce embroidery-kit with traditional patterns of traditional materials and techniques. When studying their catalogs, however, it can be observed that they also develop new untraditional motifs. They sell embroidery-kits with Disney motifs, caravan holidays and horses in sunset. The present study set out from two mail-order companies in Sweden that in various ways have developed their embroidery pattern kits towards this kind of motifs. Corporate annual published catalogs are analysed, and interviews with management, designers and customers are carried out. The basic question is: Who prefers to make embroideries with these kitschy designs - and why? Results will be discussed in relation to development of creativity of individuals that is in focus when teaching art and craft at all levels from elementary school to college.

AFFORDANCES, SURPRISES AND SENSE-MAKING IN CRAFT MANUFACTURING  
PROCESS

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In a craft process both external and internal factors are combined into a productive entity. The psychological concept of affordance refers to those meaningful the ambient conditions which also conduct human actions in the setting in question. Additionally the product manufacturing sequence offers both surprising incidents as well as planned movements which need conscious judgements by the actor. The surprising events might link either with making activities of the actor or with the attributes of the product to be made. Due to the intervening incidents and intentional reassessment the making is commonly directed by the actor into another manufacturing phase with second choices relating to materials, details, production techniques or such. Referring to sense-making theory problem solving and innovation in the activity starts when the actor advances up to such a state in the strategic plan, which requires the ability to make decisions how to proceed. To continue the production the actor restructures the prior know-how and gathers information for new solutions in order to prepare the decision-making.

This study was planned to test the above described introductory framework of the affordances, surprises and sense making in craft making. Later the study will proceed to a more descriptive-analytic research based on a broader craft process database. Also more specific data acquisition methods like interviews or protocol analysis will be introduced. Eventually the interest is in the creative and innovative control and process management of the making e.g. how to be released of the habitual and foreseeable choices and divert the progress of the making into a second level.

The study is a tentative exploratory survey. A sample (N=35) of written study assignments on craft process by teacher students were analysed to map the detectable turns that headed the making into a certain direction.

Pedagogically the results show that if the product design assignment is strict and sole, the students tend to simply accomplish the task and are not able to see the affordances rising out of the manufacturing domain. Tasks controlled strongly by the teacher seem to make students dependent on guidance and try to suppress student initiated creativity and shifts; a narrow sphere with restrictive instructions is also likely to decrease student engagement.

The experienced turns and incidents during the craft process seem highly individual and task specific. If the knowledge and command of craft is relatively light the actor is not able to exploit the affordances from the environment. On the other hand the opportunities afforded might be passed with no regard during action they might be perceived often only when backtracked which is belated for the bygone process development. Spotting the offered affordances afterwards will surely affect future projects. Autonomous craft processes take place in elective environments. For comparative use it is essential to collect data for further study designs with a view to clarify self-governing craft productions though pedagogical speculation is also needed for curriculum development.

CO-DESIGN IN TEXTILE PROJECTS. - A METHOD FOR INTEGRATION OF WOMEN  
WITH A MINORITY LANGUAGE BACKGROUND

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The Textile Design Studio is a language training-center for women with minority language background. This center is situated in a part of Oslo with a significant number of people of minority language. Through practical work in textile materials the women are trained in the Norwegian language. They design and make clothes under guidance from teachers that are trained in textile design. All the products they produce are sold in external sales exhibitions or in the centers own market.

For four weeks I was a trainee at this Textile Design Studio. My experiences from these weeks formed the basis for my master thesis. It was challenging to teach in textile and sewing for non-native speakers since I myself had no experience in language teaching. I also faced challenges in working inside a textile project in a team and help pushing the project forward. The intention has been to show the methods employed by the teachers at The Textile Design Studio when working with design development with their language students and how they jointly push the design processes forward. My aim has been to examine why they have chosen to combine language training with textile design and sewing.

The Textile Design Studio employs intuitive and experimental work methods in the co-design processes (Sanders & Stappers 2008). These methods are practical when engaging in discussions in order to speak Norwegian. I have seen that block printing on yard goods or processing machine-knitted yard goods for felting are among the appropriate techniques in this connection. The participants often work two or three together in a team and they have to talk together in order to discuss what goes together and what does not. These women s practice has much in common with Etienne Wenger s social theory of learning; communities of practice (Wenger 1998). Their co-design is a point of departure for a discussion on communities of practice in textile studio work.

The practical work that I will present together with my paper is based on a workshop I had with some of the students at The Textile Design Studio. The objective of the workshop was to familiarize myself with the challenges that teachers face in a co-design process, which would facilitate the written communication and discussions regarding the reflections in this master thesis. Reitan (2007) experienced the same challenge in her own research when documenting a vernacular clothing design process with I upiaq women of Kaktovik. She found out that she needed to participate in a design process to uncover what is characteristic for the process.

The workshop production I had together with the women in The Textile Design Studio formed the basis for my own design, which is shown as part of my master thesis.

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FOREST-THEMED LEARNING GAMES IN CRAFT EDUCATION

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The presentation describes a learning by designing project that was implemented in primary school teacher education. The purpose is to depict how the framework of learning by designing and creating a forest-themed learning game can be implemented in craft education and to describe which kind of learning games would be produced in this kind of project. The data for this descriptive case study consists of a description of the project: the implementation of the craft education course as learning by designing project and the board games produced in this project (36 games). The students learning task was to design and produce a textile-based and forest-themed learning game for primary school. The contextualization with learning by designing, forest, and crafts was an integrative theme to construct a multi-disciplinary learning challenge offering team work and student-centered learning and teaching activities. The activities placed students in a situation that required them to design, plan, reflect, evaluate, and modify their skills, knowledges and attitudes. The implementation of the project shifted the focus away from individualistic and skill-based learning expanding it to a collaborative learning process. The project changed both the learners and teachers practices. It positioned the teacher as course designer and coach and the student as active learner, discovering the subject of the course. It is an example of learning by designing project that may broke the traditional concepts of curriculum units, disciplines, knowledge-based and teacher-centered instructional strategies. Including new instructional strategies within an existing curriculum and course is challenging. A teacher can, however, use different kinds of pedagogical applications that are appropriate to the context. The produced board games are examples of crafted items that may be produced also in crafts in primary school.

Key words: board game, crafts, craft education, forest, learning by designing, learning game



MAKING ARTEFACTS IN AN EDUCATIONAL PERSPECTIVE GOVERNING MODELS  
OR CREATIVE AND EXPRESSIVE WORK?

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Creative and innovative thinking is one of today's mantras related to education, but at the same time there seems to be a focus towards a learning paradigm reflecting transferring of knowledge and implementing specific skills through goal- and criteria based curriculums. The two approaches are in many ways contradictory and reflect an educational tension between perceptions of learning and creativity. Within discourses specifically related to the Norwegian school-subject Kunst og hndverk such a tension can be related to a rivalry between an art-pedagogical regime and a craft-tradition residing within the traditions of the subject (Br nne, 2011; Digranes, 2009). The tension is claimed to be a result of merging the arts- and crafts-related subjects in 1960, but it is also claimed that after 40 years of rivalry, the two aspects now in fact complement each other (Nielsen, 2008). In this presentation I will adopt a classroom-perspective upon the issue and discuss how aspects concerning learning and creativity emerge and how they tentatively is resolved in local-classroom praxis.

In my ongoing PhD-project concerning the concrete making of material artifacts in upper-primary school, I find complex problems concerning on the one hand the different and often explicit use of models and on the other a struggle to facilitate creative and expressive spaces within the educational situation. The study shows how relations between teachers, students and subject matter construct situations revealing not only different ways of handling tensions mentioned above, but also different perceptions related to ideas of creativity on the one hand and the learning of specific skills on the other. Such knowledge will contribute to the ongoing discussion concerning the educational perspective within arts- and design related education and provide empirically based knowledge on the issue.

Within a framework based on Henri Lefebvres geographical theory The production of space the making process will be discussed as a process in between structuring aspects of knowledge, everyday praxis and individual spaces within the educational process (Lefebvre, 1991/ 1974).

Key-words: Arts- and design related education, learning, creativity, the making of artefacts, educational spaces

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GOOD ENOUGH TO EAT: EXPERIENTIAL DESIGN OF CHOCOLATE THROUGH  
MAKING AND FAKING

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This account relates to Mars (UK), the large FMCG corporation, and how their work with Masters students resulted in a new and happy union of artisan craftsmanship and industrial design approaches to new product development.

A prototype is an exemplary artefact that is intelligibly familiar and recognisably new, and whose significance is not given in advance but discovered (Suchman et al, 2002). High-fidelity prototypes enable exploration of the finest details and nuances of a product, but have not previously been used in food product development by Mars (UK).

To develop and innovate new products in its famous confectionery division, Mars (UK) employs expert chocolatiers, whose hand-made creations inform the subsequent mass-produced versions. The skill and flair of the chefs in their test kitchens are essential for exploring and experimenting with flavour, texture, appearance and form. But the hand-made versions cannot fully or accurately reflect all dimensions of the end product as the consumer experiences it. Enabling the evaluation of this experience is a vital role of prototypes. The flaws and imperfections of hand-made chocolates reduce their fidelity as prototypes of the mass-produced, near-identical units that will come off the production line. This is in two apparently contradictory ways: the irregularities of the hand-made are in one sense flaws, imperfections that render them inferior to the mass-produced; yet these flaws are also signals of value, since they reflect the artisan production that is preferred by many over mass production.

At Northumbria University the development of making skills is regarded as essential to the curriculum for design students. This is not so that they may become master craftspeople (though some do), but so they may practice making as a knowledge-generating process, and better understand materiality itself. However, they are also adept at digital design methods, using CAD and rapid prototyping to produce precise and visually convincing mock-ups. In this project, digital prototyping provided a means of exploring and conveying experiential qualities not easily captured by the hand-crafted prototypes: high-fidelity in terms of visual appearance, but also how a product might feel to hold, to unwrap, or to break though not to eat. Having been demonstrated through this student project, the value of such an approach has been recognised and reflected in new practice in Mars (UK), which now uses digital prototyping methods to complement its hand-made food.

This account presents as its data, images of models created in the the engagement by the students, and extracts of discussions with industry clients in Mars Galaxy, with academic staff, and with Masters students of Multi-disciplinary Design Innovation (MDI) at Northumbria University, UK.

This study is part of a larger research investigation into engagements between design students and industry partners on live brief projects, and benefits arising for either party.

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SIGRUN BERG AND THE NORWEGIAN WILD-SHEEP (SPÆLSAU)

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A presentation of the on-going fieldwork into Sigrun Berg, a forgotten textile artist, designer and entrepreneur.

Sigrun Berg played an active role in Norwegian textile art and design from the 1930 s to the 1980 s through her strong social and political engagement. Through her social work in local communities she created an economic livelihood for families in several rural districts in Norway.

At the same time she was in the forefront of Norwegian and Scandinavian art and design. Her life and work was driven by social engagement and a desire to create a better life for many through their own work and experience with the materials. She promoted better health through natural fabric and textiles. Preserving the Norwegian heritage was connected with entrepreneurship and innovation. She encouraged cooperation with industry and the development of new technical equipment. Her social, political and educational work can be divided into three main categories.

- 1) The social projects for creating jobs and paid work for families, through textile design and production, from 1928 to 1984 in Trysil and Odalen.
- 2) Dissemination of textile and material knowledge through instruction in Sigrun Bergs weaving studio from 1952 to 1994. She brought in weaving graduates from the school of arts and crafts and gave them work in her own studio. She encouraged them in their own creative work and the production of their own designs. Weavers were given great artistic freedom in the manufacture of products from Sigrun Berg s weaving studio.
- 3) Art projects as knowledge and competence raising measures. From the protection of tradition and heritage through the production of wild sheep s wool to the artistic decoration of the H kon s Hall in Bergen from 1956 to 1958. Here she set in motion a large-scale production of traditional wall hangings and table covers, wool yarn from spinning, dyeing to produce their own artistic decoration. The training of wool spinners was a goal for Sigrun Berg in this project.

In the presentation I will give a brief overview of the three main work categories of her career and the three design and art projects she started. I will show the social and economic effects on the local community of her knowledge dissemination and finally discuss what we can learn from her life and work

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## CONFIRMED EXHIBITIONS AND WORKSHOPS

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ANNEKE VAN DER FEHR, FINN HJARDEMAAL, PRIKKEN VINDING: OH LORD  
JESUS, MAY FORCE AND STRENGTH FLOW UPON ME. A CRUDE  
INTERPRETATION OF FEYERABEND

JADWIGA PODOWSKA: THE SCIENCE OF CONFUSION

STUART FROST: THE MYSTERY OF NATURAL OBJECTS

ASTRID HUS/STUDENTS: IN DIALOGUE WITH TEXTILE MATERIALS

ELLA MELBYE: BIRCH IN MY LIFEWORLD - METAMORPHOSIS

MITZI VERNON, AKSHAY SHARMA, MARTHA SULLIVAN: FORM STUDIO

KATHLEEN SCHMALZ: EXPLORING THE ROOTS OF CREATIVITY

JANET BOWMAN: MAPPING THOUGHTS IN MAKING

OTHER TEACHERS/ARTISTS FROM TUC

STUDENTS FROM TUC

MAKING BLOOMERY IRON - WORKSHOP

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