FROM CO-DESIGN TO CONVIVIAL DESIGN

Insights from engaging users in a participatory clothing design process

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Summary

Research examines participatory design from the perspectives of clothing design, design activism and co-design through engaging users in a participatory clothing design process. Design for sustainability serves as a background paradigm and an ideological inspiration for this research. A questions of how to engage users in a clothing design process, is presented. What works, for whom and in what contexts is examined. Research is conducted as practice-based design research and a research strategy of applying multiple research methods of practice-based research, action research and realist evaluation is adopted. Through a literary review of the theoretical frameworks, a programme theory is constructed, illustrating preliminary understanding and serving as a model for the participatory design process. This programme theory is then followed up, tested and evaluated and revised in an abductive and cyclical design and research process. Multiple data collections methods are used as the research strategy allows and the researcher is taking many roles as a participant observer, researcher, designer and a facilitator. In addition to the continuous evaluation of the process, a thematic analysis is conducted to gain further insights. Data is analysed on three levels, tools and techniques, method and approaches. The multiple answers to the research questions present themselves during analysis. Main results are summarised and conclusions drawn through a concept of conviviality. To engage in any participatory activities, one needs to define the approach, context and the goal, engage the relevant people and find the suitable method, techniques and tools to reach that goal. Convivial engagement is informed, generative and scaffolding, disciplined, but creative. There is a sensitivity to levels of involvement and time invested. Building collective knowledge, practice and shared understanding is crucial.

Key words: co-design, participatory design, clothing design, participatory tools and techniques, design activism, convivial design

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Lapin yliopisto, taiteiden tiedekunta
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Tiivistelmä:

Tutkimuksen tarkoituksena on tutkia keinoja osallistaa käyttäjiä vaatesuunnitteluprosessiin. Keinoja ja työkaluja siihen mikä toimii, kenelle ja missä kontekstissa, tarkastellaan vaatetussuunnittelun, muotoiluaktivismin ja osallistavan suunnittelun näkökulmista ja tutkimuksessa toteutetun osallistavan vaatesuunnitteluprosessin kautta. Kestävä suunnittelu toimii tutkimuksen ideologisena inspiraationa ja taustaviitekehyksenä. Tämä käytäntölähtöinen, työkaluja ja prosesseja tutkiva muotoilun tutkimus hyödyntää käytäntölähtöisen tutkimuksen, toimintatutkimuksen ja realistisen evaluaation yhdistävää tutkimusstrategiaa ja hyödyntää moninaisia aineistonkeruumenetelmiä. Kirjallisuuskatsauksen ja teoreettisten viitekehysten tarkastelun kautta on muodostettu esiymmärrys osallistamisen keinoista ja mallinnettu ohjelmateoria osallistavaa muotoiluprosessia varten. Ohjelmateoriaa testataan, arvioidaan ja uudelleensuunnataan toimintatutkimuksellisten syklien kautta. Teema-analyysin avulla aineistoa lopuksi tarkastellaan kolmella tasolla: työkalujen ja tekniikoiden tasolla, sekä menetelmien, että lähestymistapojen tasolla. Kolmen eri lähestymistavan synteesistä oivalluksena noussut hyväntahtoisen, tai konviviaali suunnittelu käsitteenä kokoaa tutkimuksen tärkeimpiä havaintoja. Yksittäisten työkalujen ja metodin toimivuus eri konteksteissa todetaan jo analyysin kautta. Lähestymistapa, konteksti ja päämärät tulee aina määritellä osallistavan prosessin aluksi, jotta tiedetään ketä osallistetaan, miksi, ja missä vaiheessa prosessia. Tästä johdetaan soveltuvat menetelmät ja tekniikat. Konviviaali suunnittelu on tietoista, generatiivista ja yhteistä tietoa rakentavaa. Se on järjestelmällistä, mutta soveltavaa ja luovuutta tukevaa. Hyväntahtoisesti osallistamisen tasoja ja aikaa huomioivaa. Yhteisten suunnittelun käytäntöjen ja ymmärryksen rakentaminen on keskeistä.

Avainsanat: osallistava suunnittelu, osallistuva suunnittelu, vaatetussuunnittelu, osallistamisen työkalut ja menetelmät. muotoiluaktivismi, hyväntahtoinen suunnittelu

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1. Introduction

In my Bachelors thesis I was examining existing manifestations of user participation in the fashion industry. I identified many different ways and levels of participation. Businesses are engaging users with various forms of co-creation, crowd-sourcing and mass-customisation. Professional amateurs and user-innovators are testing products, providing user information or co-creating new product concepts. Do-It-Yourself (DIY) practices are not participatory per se, but I realised they can activate users concerning their own wardrobe and engage them in the field via different kinds of workshops and networks for example. I also voiced a question whether user participation is sustainable and by comparing these manifestations to the desired model of co-design provided by Fuad-Luke (2007), I found a huge gap. The worlds of sustainability and participation only seemed to come together in some recycling workshops, Pamoy´s collections and in hacktivist visions of Otto von Busch. I concluded on a view shared by many writers that designing slower and together it would possible to create well-being and sustainable practices, but realised I was only beginning the build the basis for this new question.[1]

1.1 Ideological inspiration

Faced with threatening climate change, depleting resources and unsustainable production and consumption systems, there is an immediate need for alternatives to our consumerist culture. Our economic system and industrialised world seem to be based on the ideas of unlimited growth and making profit by exploiting people and the planet. Fashion as an industry is no exception. The more I learn about the field I am educating myself into, more I realise how problematic fast fashion, mass-production, cheap labour and over-consumption are. Thus I am searching for change and luckily I am not alone. A range of approaches to sustainability are being discussed in the field, labour issues are improving as information is reaching designers and consumers alike and recycling systems are being developed. But is it enough, fast enough? There has been a realisation that sustainability is a cultural issue as it is this consumerist culture where the roots of our environmental problems lie, and what we should be profoundly changing to save human civilization[2].

Inspiration for this particular research comes from that very concern and question: How to change this consumerist culture of ours? How could designers contribute to behavioural changes or provide alternatives to our now unsustainable ways? I see an

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[1] Konola 2010.
[2] see for example State of the World 2010, Fuad-Luke 2009

important connection between participation, sustainability and design and it is a view fed by brilliant design thinkers of our times. Fuad-Luke (2007) for example argues that changing things for the better is also designing and he sees sustainability as a cooperative action to design overall well-being "*with, for and by the society*"[3]. Manzini (2010) also pinpoints the pivotal social dimension in sustainable transition as he calls for "*visions of sustainability*" to point the way forward from these unsustainable habits of ours[4]. This emerging view on designing our sustainable futures collectively will be elaborated further, but important here is to realize the intertwined nature of these issues. To me, participation is only a question a being active and interested, because everyone has the potential to imagine preferred futures and act upon them. What we need is more designers and everyday people questioning the current unsustainable situation and providing scenarios for change. We need people who encourage other people to participate, provide methods and tools for change, people who make things happen now and can act as social catalysts of collaborative sense of responsibility, but also creativity.[5]

1.2 Introduction into the research

This Master´s thesis is a new opportunity for me to return to the subject of participatory and sustainable clothing design and their relationship that continued to intrigue me. I am inspired by sustainable fashion pioneers like Kate Fletcher, who see vast potential in this participatory approach and a new model of action that would promote the change from "*wants to needs*", "*from global to local*", "*fast to slow*" and from "*consuming to making*"[6]. In my Bachelor´s thesis I also reviewed some participatory tools that came across, but was already left wondering how this participation actually happens. Thus I decided to explore how to engage users in a participatory clothing design process and conduct an actual design process with a group of people. Through a practice-based research, my aim is to shed some light on possible participatory practices concerning clothing design. As a designer and a researcher I am embarking on a design and research journey simultaneously to search for methods to engage users in a clothing design process. I am asking what kind of approaches, methods or tools work, for whom and in what context.

A very compact summary of the research before we start. First I have explicated

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[3] Fuad-Luke 2007, 37.
[4] Manzini 2010, 15.
[5] Inspired by the thoughts of Fuad-Luke 2009.
[6] Flecther 2008, 188.

my ideological reasons for this work, because my values and world view have for example dictated the theoretical perspectives I have chosen and coloured my designer and researcher lenses green. Next, the theoretical perspectives chosen to guide the path towards user engagement are introduced. Participation is a current topic in the society and embedded in many contexts and frameworks in the design field. Here I will approach user participation from the perspectives of clothing design, co-design and design activism. Contributions from different authors within these field are taken into consideration to increase understanding and provide novel insights into the subject at hand. Subsequently, research strategy and methods are introduced and I will position myself in to the field of design research. Both theoretical and methodological considerations build the foundation onto which I have built my programme theory, a preliminary understanding and a model for the participatory design process. This programme theory is then followed up, tested and evaluated and revised in an abductive and cyclical design and research process that is reconstructed in section 4. To gain further insight into this participatory design process, a thematic analysis is conducted. I have analysed the data on three levels, to which each section refers to: Plausible participatory tools and techniques, Managing the method and Approaching co-design. Main results of the study are finally presented under the heading: Finding convivial clothing design. Discussion on validity and further research directions will conclude the thesis.

2. Theoretical frameworks

In this section, a theoretical foundation is cast for this research. Because of my green researcher lenses, Design for Sustainability is briefly introduced as a background paradigm. User participation in a design process is first approached from the perspective of co-design and basic assumptions in the field are established. Next, design activism connects participation and sustainability and provides further inspiration for methods for engaging users in a design proces. Finally I will examine new directions for sustainable clothing, from which both co-design and design activism emerge as design strategies.

2.1 Design for Sustainability as a background paradigm

Design for Sustainability serves as an ideological background paradigm for my research and it is supported by a growing international community of designers who promote establishing sustainability as the new paradigm for design. Few examples of support for

this paradigm from the recent years have been for example the *Changing the Change* conference in Turin, Italy 2008, *Sustainability in Design: Now!* -conference in Bangalore, India 2010 and DEEDS -project that established a manifesto - *Design for Sustainability* in 2009. Not to mention all the individual designers, researchers, organisations and institutions that have realised the urgent need for change.[7]We are consuming beyond our resource capacity, 1,5 earths worth of resources – an average European Union nation 2,83[8]. Even though there can be a lot of debate about the role of design and designers in our society, I know where I want to stand – on the side of the planet and its people.

Since the Brundtland Commission´s widely accepted definition[9] the concept of sustainability has been contested, alternatives suggested and it seems that the definition depends on what subject matter sustainability is linked to. From a design point of view the concept of sustainability has developed from bilateral agenda of economic viability and ecological stability of eco-design to triple bottom line (TBL) agendas of people, profit and planet of sustainable design (SD). In 1992 when Agenda 21 framework of action in Earth Summit added an institutional dimension and ideas about participation and open government and thus a level of complexity to the sustainability prism. Fuad-Luke (2009) has summarised this agenda from a design point of view into the idea of Designing for Sustainability (DfS) where these different dimensions of sustainability are taken into consideration. This approach is adopted for the purposes of this research because it invites the ideas of participation, democracy and shared responsibility into this more holistic framework to be looking at design.[10] Concept of sustainable design (SD) can also suggest false dualism and opposites between proper sustainable design and all else that is unsustainable design -whereas the solutions are multiple[11].

The concept of design I will not be analysing much further anywhere else, so a few words about the changing concept of design. It is a commonly accepted fact that design is hard to define, because it encompasses so many aspects of contemporary and even what language you use influences the definition. Cross (2006) has concluded design

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[7] Changing the Change 2008, Sustainability in Design: Now! 2010; and see for example designers: Manzini 2004, Thackara 2005, 2011, Paloheimo 2011, Fuad-Luke 2009; Institutions: Creative Sustainability Master Programme at Aalto University, Organisations and Projects: LeNS -The Learning Network for Sustainability 2011, Attainable Utopias 2011, SEP 2011.
[8] Environment News Service 2011.
[9] "*Sustainable development is development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.*" World Commission on Environment and Development 2010.
[10] Fuad-Luke 2009, 24
[11] Chapman & Gant 2007, 5.

to encompass material culture, applying the arts of planning, inventing, making and doing, conception and realisation of new things as it´s central concerns[12]. For my purposes the most suitable and inspiring definition for design is provided by Herbert Simon (1969): "*Everyone designs who devises courses of action aimed at changing existing situations, into preferred ones.*"[13] This gives scope to design beyond the material culture and includes everyone, not just professional designers, into action. To borrow Fletcher´s (2008) view, -this definition also allows any actions or ideas facilitating change towards sustainability to count as design[14].

2.2 Co-design

The domain of participatory design or co-design is the field from which to start looking for answers on how to engage users in a participatory clothing design process. It is important to note that the phenomenon can take on many different manifestations depending on the mindset of the practitioners and the field of activity it is applied to[15]. By shortly outlining the evolution of participatory design, its manifestations and focuses, I will narrow down and explain the scope of my research. But to begin with, a broad definition of participatory design will provide some basis for discourse: "*Participatory design…refers to a large collection of attitudes and techniques predicated on the concept that people who ultimately will use a designed artifact are entitled to have a voice in determining how the artifact is designed.*"[16]

2.2.1 Evolution of participatory design

As a phenomenon participatory design can be traced back to 1970´s. Research projects emerged in Scandinavia where users and workers were engaged in systems development. A first conference under the heading "*Design Participation*" was held in England in 1971. At the same time user-centred design approach, where users were seen as valuable, yet rather passive subjects, grew in the US. In 1980´s and 90´s participatory design was mostly and successfully practiced in the fields of computer systems design, urban planning and informatics.[17] In the meantime user-centred design (UCD) was adopted into

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[12] Cross 2006, 17.
[13] Simon 1969 in Fuad-Luke 2009, 4.
[14] Fletcher 2008, xiv.
[15] Sanders & Stappers 2008, 4.
[16] Carroll 2006, 3
[17] Binder, Brandt & Gregory 2008, 2.

the main stream design practice and together with user-study methods, became an important research area[18]. Today UCD, a widely recognized and an international standard *ISO 13047: Human-centered design process*, serves as a guideline for practitioners[19]. Interesting is also to notice the shift from user-centred design to human-centred design. As the design community began to understand the importance of addressing needs beyond usability, Hanington (2003) for example was one arguing in favour of using the concept of human-centred design because he identified design as an activity essentially concerned with human needs, emotional factors and pleasurable interactions[20].

Before, user-centred design and participatory design could be distinguished from each other, but as the field of human-centred design is constantly evolving, the two approaches are influencing one another. Methods are borrowed and developed across disciplines. A caricature (Fig 1.) illustrates the fundamental differences of classical UCD when compared to the ideals of co-design. In UCD, user is the subject of user research,
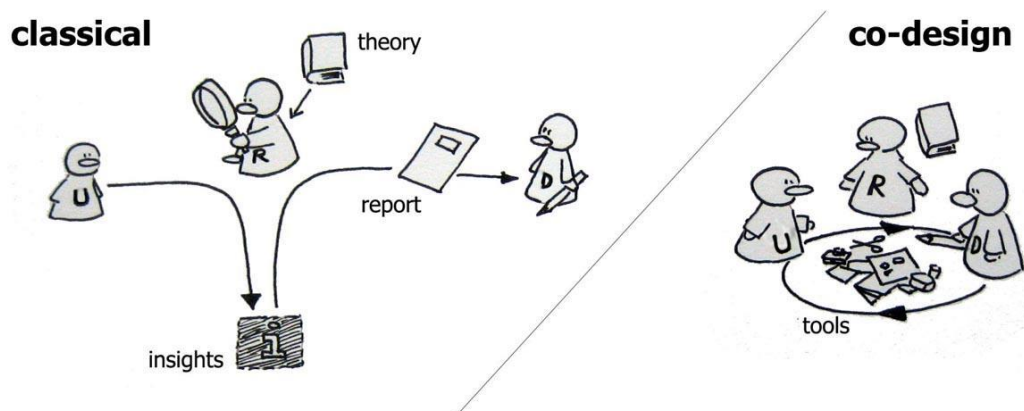
Fig 1. Presenting roles of users, researchers and designers in UCD and how they are merging in co-design. (Sanders & Stappers 2008, 11.)

conducted by an expert researcher that observes or interviews the user to acquire desired knowledge about use context or evaluative opinion on product or concept. Designer then is the rather passive recipient of this information, to which he adds his technological expertise and creativity. In co-design, everyday people are seen as experts of their own experiences, who take part many stages of a design process from knowledge gathering to idea generation and concept development. Researcher, who can also be a designer,

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[18] Uotila 2009.
[19] UXPA 2013 outlines the 5 stages of a typical UCD design: identifying need for human centred design, specifying the context of use, specifying requirements, creating design solutions and evaluating designs.
[20] Hanington 2003, 9-10.

supports the co-designing participant by providing tools for ideation and expression.[21] Now, lines are blurring and maybe even mindsets changing. Fuad-Luke (2009) describes UCD investigating and fulfilling user-needs where involvement of users in the design process can be described as a continuum from no involvement to some expression of co-design[22] Many possibilities of relationships between designers and users in UCD can be identified: user as designer, designer as user´s student, user as designers muse and so on[23].

   The development of research methods in human-centred design also demonstrates this shift taking place in user involvement. Hanington (2003) has compiled an impressive summary of research methods that are used in HCD (Fig 2.), in all relevant research areas like market research, usability, ergonomics, but also user research issues related to experiences, aesthetics and appropriateness. Some methods are later returned to, but here

Traditional	Adapted	Innovative
Market research	Observational research	Creative/Participatory
Focus groups	Participant observation	Design workshops
Surveys	Still, video documentation	Collage
Questionnaires	Ethnographic methods	Card sorting
Interviews	Video ethnography	Cognitive mapping
Unobtrusive measures	Beeper studies	Velcro modeling
Archival methods	Experiential sampling	Visual diaries
Trace measures	Cultural inventory	Camera studies
Experiments	Artifact analysis	Document annotations
	HCI	
	Thinkaloud protocol	
	Heuristic evaluation	
	Cognitive walkthrough	

Interpretation and analysis tends toward:

Counts	Content analysis
Statistics	Categories
Spreadsheets	Patterns, Themes
Graphing	Affinities, Clusters
Verbal + numerical information	Visual + verbal information

Fig 2. Research Methods for Human-Centered Design. (Hanington 2003, 13.)

I wish to point out the development of innovative methods that have participatory position. Innovative methods are creative, participatory and visual and have been identified to uncover preferences, feelings, needs and desires difficult to articulate using traditional methods, or even unknown to the user[24]. Good example of a method blurring this distinction between UCD and PD is probes, a method I will return to later on. Probes,

[21] Sanders & Stappers 2008, 11-12.
[22] Fuad-Luke 2009, 155.
[23] Keinonen & Jääskö 2004, 100.
[24] Hanington 2003, 15.

that usually take the form of tool-kits for self-documentation, emerged in 1990´s as cultural probes and have since been applied and developed in many projects and contexts, some of them utilizing means from participatory design[25].

Today, user participation is expressed in varying degrees in many design approaches and new approaches keep emerging. Liz Sanders (2008) has been mapping the field of human-centred design (Fig 3.) a big part of which is composed by UCD and PD. Sanders points out how design research in a "*state of flux*" and the landscape is a "*jumble of approaches*" where ideas, tools, methods, and resources are shared between disciplines[26]. Various degrees and purposes of participation and collaborative techniques
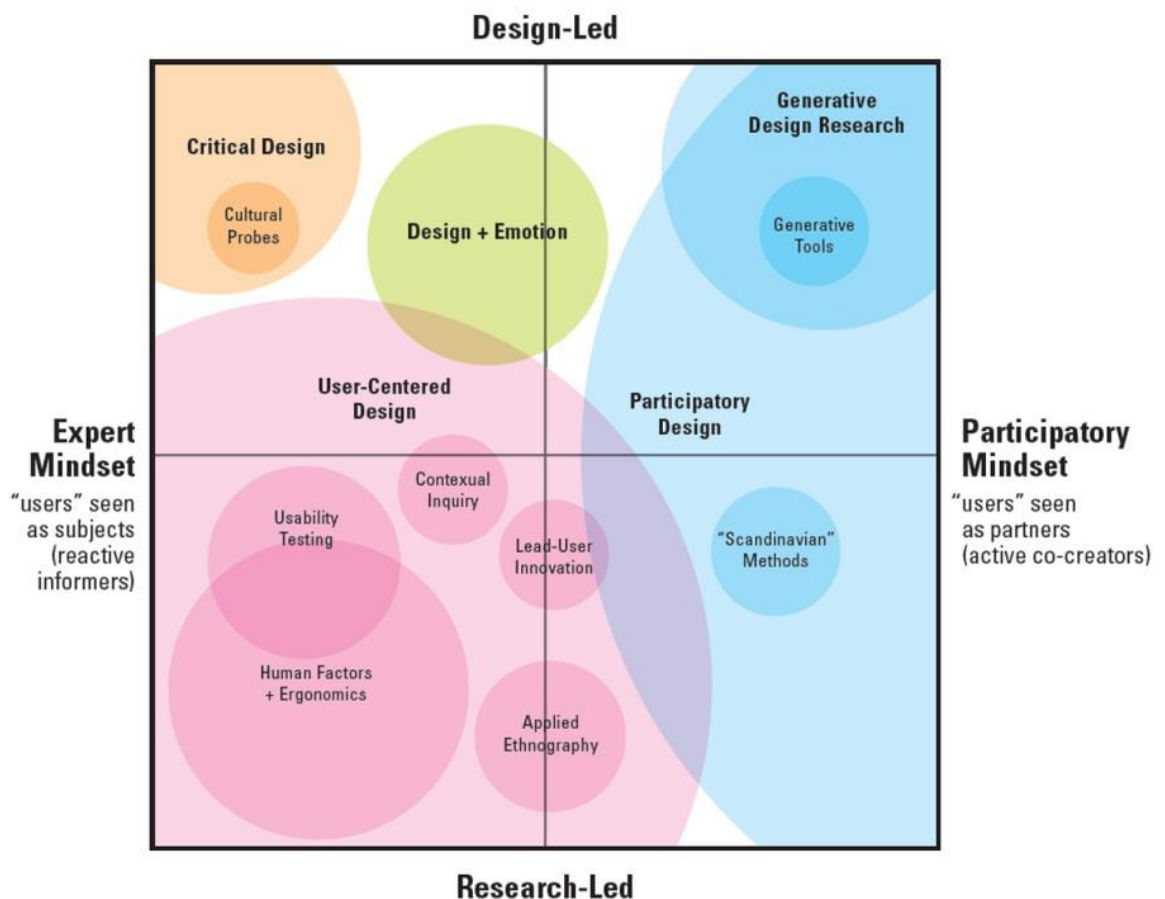
Fig. 3. An evolving map of design practice and research. (Sanders 2008, 14.)

are expressed in emerging design fields like social design, transformation design and service design. Service design for example utilises tools from both UCD and PD practices, such as user observation, probes and workshops.[27] To continue the list, many other design approaches that encourage participation can also be named, for example metadesign,

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[25] Mattelmäki 2006, 42, 48.
[26] Sanders 2008, 13.
[27] Mattelmäki & Sleeswijk Visser 2011, 6.

universal design, user-innovation design and slow design[28]. My point here is to illustrate the vast field of approaches inviting user involvement and the increasing amount of reasons and ways users are engaged in a design process. Sanders (2008) poses a question whether we should make separate research map for different design domains, like industrial design or architecture[29]. So why not clothing design? A useful map would combine mindsets, methods and relevant tools for future participatory clothing design researchers and practitioners to examine and develop.

2.2.2 Defining co-design

Attempting to define co-design today, demonstrates the continuing debate in the field. Many see PD and co-design as synonyms and this seems to be a Scandinavian tradition[30]. Sanders, Brandt and Binder (2010) place co-design as a hyponym of PD stating that "*Participatory Design (PD) today is an emerging design practice that involves different non-designers in various co-design activities throughout the design process.*"[31] For Fuad-Luke (2009) co-design is as "*catch all term*" that embraces all the various design approaches encouraging participation[32]. Co-design term is also used under UCD mindset. For example co-design has been part of the Department of Design's research agenda at Aalto University School of Art and Design about ten years and "*without exception, experiments in which users or other stakeholders are invited to contribute to the design process have been called co-design under the larger mindset of user-centred design (UCD).*"[33] Mattelmäki & Sleeswijk Visser (2011) provide an impressive account on interpretations of participatory design, co-design and co-creation and their relationships to UCD and PD traditions in their article *LOST IN CO-X: Interpretations on Co-design and Co-creation* and offer some directions. There seems to be as many definitions as there are schools of thought.

Bringing co-creation in to this discussion complicates it even further and this definition too depends on the context where it is used, whether design, business or marketing. However, it is an unavoidable discussion, since even journal dedicated to this subject filed is named *CoDesign: International Journal of CoCreation in Design and the Arts*. Co-creation in the design field is usually understood as hypernym to co-design, but

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[28] Fuad-Luke 2009, 146-157.
[29] Sanders 2008, 15.
[30] Mattelmäki & Sleeswijk Visser 2011, 2.
[31] Sanders, Brandt and Binder 2010, 1.
[32] Fuad-Luke 2009, 147.
[33] Mattelmäki & Sleeswijk Visser 2011, 1-2.

it too has many connotations and a large number of interpretations can be found from design literature. Sanders & Stappers (2008) for example explain the notions of co-design and co-creation stemming from participatory design field and see co-creation as a broader concept referring any act of collective creativity whereas co-design is the activity of "*designers and people not trained in design working together in the design development process*"[34]. Again to pose an opposing view, Mattelmäki & Sleeswijk Visser (2011) conclude co-creation to refer to either creative moment in a co-design event or a method in the co-design process[35].

Co-creation also has business connotations as a concept that I will only briefly address to illustrate I am aware of them. Prahalad & Ramaswamy (2004) were one of the first to propose co-creating with customers as a method for new value creation. For many, in the world of business and marketing co-creation is the latest trend and a tool for getting ones products in to the market.[36] The business perspective also involves topics such as mass-customisation and open innovation[37]. Frank Piller for example has written extensively about co-creating value between companies and customers in his blog Mass Customisation and Open Innovation News and edited a book on *Handbook of Research in Mass Customization and Personalization* where for example customization strategies, product design for mass customization and co-design toolkits are discussed. To distinguish this business approach on co-creation, Piller et al. (2011) use the term customer co-creation and defines it as follows: "*a product development approach where customers are actively involved and take part in the design of a new offering[38]*. Crowdsourcing, where some aspects of product development are outsourced to the customers to create unique value for both stakeholders, is also considered one form of (customer) co-creation[39]. Perhaps we can conclude and concur with Mattelmäki & Sleeswijk Visser (2011), that business and marketing use the term co-creation "*widely to address any stakeholder involvement and/or engagement in innovation processes*"[40].

It is easy to get lost in this vast field of user participation. To be clear, I will exclude customer co-creation and any business-related approaches from my research and focus on the design field. The evolving map of design practice and design research that

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[34] Sanders & Stappers 2008, 6.
[35] Mattelmäki & Sleeswijk Visser 2011, 4.
[36] Sanders & Stappers 2008, 8.
[37] Mattelmäki & Sleeswijk Visser 2011, 5.
[38] Piller, Vossen and Ihl 2011 refer to Wikstroem 1996; Piller 2004; Prahalad & Ramaswamy 2004.
[39] Aminoff, Hänninen, Kämäräinen & Loiske 2010.
[40] Mattelmäki & Sleeswijk Visser 2011, 5.

Sanders (2008) illustratively maps (Fig 3.) serves as a preliminary compass to those who are lost. She encourages to use it as a tool to understand the field, choose a mindset and explore new directions. As I wish to employ and examine a participatory mindset towards clothing design and see users as active partners, I will mentally side with participatory design (PD) for now. Because of this constantly evolving nature of the design field, approaches and methods, I rather use co-design as a catch-all term of approaches that encourage participation and aim to map what approaches, methods and tools could work, for whom and in what context. My goal is to explore where I should stand as a designer and a researcher and what could work best for in the clothing design context.

2.2.3 Methods for engaging users in a co-design process

This decision to focus on PD and call my activities co-design, suggest some basic assumptions about user participation that need to be present here, because they shape the user participation is approached in the process. Through these assumptions my mindset is tuned and they guide the selection of methods and tools to employ in the process. I will shortly introduce some established methods for user engagement from the co-design perspective, but also return to details and applications later, that is after considering other two frameworks and then formulating my programme theory. One of the main theorists of co-design from the participatory perspective is Elisabeth Sanders. She has been researching human-centred design field for the past 25 years and has introduced many of the tools, techniques and methods used todays in co-design and co-creation[41]. As my other well established guide to co-design, I will examine assumptions and methods of more user-centred and empathic approaches followed at Aalto University.

Assuming that all people are creative, places researchers and designers in a more facilitative position and guide to look for techniques supporting user creativity and expression. According to Sanders & Stappers (2008) all people are creative, but there are different levels to that creativity and all levels of creativity are expressed in different parts of peoples` lives[42]. Some might have a mundane job at the factory, but express their creativity as an amateur chef cooking on weekend and coming up with their own recipes. Sanders & William (2001) have discovered that people can be creative in part of a design process as well, if given appropriate tools. They have created a four step framework for harnessing people´s creativity and to support ideation and expression. This harnessing

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[41] Maketools 2012.
[42] Sanders & Stappers 2008, 12.

will take place through four steps of immersion, activation of feelings and memories, dreaming and bisociation and expression and will be accompanied with creativity-based research tools. These tools are numerous and include for example workbooks, diaries, collages, brainstorming, cognitive mapping and 3D velcro-modelling. They share common attributes of ambique visual nature that leaves for creativity and a make approach that allows more intuitive expression of experiences and ideas and additionally building blocks to create those new ideas.[43] When applying these tool and techniques, a researcher will become a facilitator that offers relevant tools to support and facilitate expressions of creativity at all levels[44].

As the field of participatory design is constantly evolving, there are a vast number of tools and techniques developed for user involvement. It is important for researcher to select the appropriate tools for each project and understand the reasoning behind them. Sanders, Brandt and Binder (2010) have constructed a framework for organizing and understanding participatory tools and techniques (Fig 4). They categorize techniques into three main forms in terms of what kind of action is taking place: making, telling or enacting. Probing, priming, understanding and generating are purposes for which the tools are used for. Participants can be for example primed with timeline collages to immerse them into the subject field in question or have them keep photo diaries to get a better understanding of their current experience on topic under development. Writers argue that is it "*possible to use each of the forms with any of the purposes*"[45].

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[43] Sanders & William 2001, 3-9.
[44] "*lead people who are in the doing level of creativity, guide those who are at the adapting level, provide scaffolds that support and serve people´s need for creative expression at the making level, and offer a clean slate for those at the creating level.*" (Sanders & Stappers 2008, 14).
[45] Sanders et al. 2010, 2.

TOOLS AND TECHNIQUES	PROBE	PRIME	UNDERSTAND	GENERATE
MAKING TANGIBLE THINGS				
2-D collages using visual and verbal triggers on backgrounds with timelines, circles, etc.	X	X	X	X
2-D mappings using visual and verbal components on patterned backgrounds		X	X	X
3-D mock-ups using e.g. foam, clay, Legos or Velcro-modeling			X	X
TALKING, TELLING AND EXPLAINING				
Diaries and daily logs through writing, drawing, blogs, photos, video, etc.	X	X	X	
Cards to organize, categorize and prioritize ideas. The cards may contain video snippets, incidents, signs, traces, moments, photos, domains, technologies, templates and *what if* provocations.			X	X
ACTING, ENACTING AND PLAYING				
Game boards and **game pieces** and **rules** for playing		X	X	X
Props and **black boxes**			X	X
Participatory envisioning and enactment by setting users in future situations				X
Improvisation				X
Acting out, skits and play acting			X	X

Fig. 4. The tools and techniques of participatory design organized by form and by purpose. (Sanders, Brandt and Binder 2010, 2-3.)

In this participatory approach developed by Sanders and others throughout the years, the idea of providing scaffolds, harnessing creativity and considering the whole process and the order in which tools are presented seems very important in planning the way users are engaged. In the four step framework by Sanders & William (2001), immersion is the first

step. This self-documentation of thoughts and ideas about the phenomena under investigation in a natural context is followed by a group meeting where next steps take place. Velcro-modelling is suggested as the last stage for easy idea expression as low-fidelity, 3D models allow "*people to actively embody their ideas in a hands-on manner*".[46] Sanders refers to scaffolds in many of her articles[47], but rather poses a question of what scaffolds are rather than try to define them. Scaffold can be something that help to move from consumptive mindset to creative one or climb the levels of everyday creativity[48]. Sanders, Brandt & Binder (2010) draw attention to the variety of participatory tools and techniques in the field, but very much emphasise the importance of thinking about the entire process participants are going to go through. They suggest that every activity should prime participants for the next one and envision an ideal user involvement plan where participants are engaged in all three types of activities, telling, enacting and making, in that particular order.[49]

To take a look at methods, from another, more UCD perspective, probes as a user exploration tools are good ones to start with. Design probes can considered a tools for user-centred design that explore user experiences and design opportunities for concept design, but a more participatory potential is also suggested that I wish to explore in my research. Tuuli Mattelmäki, who has studied probes extensively, characterises them as an approach of user-centred design exploring human phenomena and design opportunities, but also as a tool to engage different stakeholders to an exploratory and change-oriented mindset in a co-design process[50]. Sanders (2008) places cultural probes in critical, design-led and expert minded corner in her evolving map of HCD, but cultural probes are an older technique that researchers for example at Aalto university have developed into more empathic tool to study users in their own context and reach a more holistic understanding[51]. Later Sanders et al (2010) refer to probes as one of the forms of PD that different tools like collages and diaries can be applied to. Mattelmäki (2006) has defined three distinctive characters for probes: active user participation by self-documentation, emphasis on user´s personal context like perceptions, environments, needs and values and exploratory character that refers to experimental concept development approach and

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[46] Sanders & William 2001, 9.
[47] see for example Sanders 2000, Sanders 2006.
[48] Sanders 2006, 7-10.
[49] Sanders, Brandt & Binder 2010, 4.
[50] Mattelmäki 2006, 39; Mattelmäki 2007, 65.
[51] Mattelmäki 2003, 119-120.

relates probes to the wicked design problems. Open in their nature, probes are meant to support both the designers and the user in the interpretations and creativity as they give room for unexpected results. Probes usually manifest themselves in the form of probe kits that contain tools for self-documentation activities such as photographing writing diaries, answering open questions or making a collage. They can have various manifestations and applications. Mattelmäki has identified four reasons to use probes: inspiration, information, participation and dialogue (Fig. 5) and encourages to specify the use context for each of these purposes.[52]

UNDERSTAND AND SPECIFY THE CONTEXT OF USE

Inspiration	Information	Participation	Dialogue	
✶ Inspire designers	✶ Frame challenges	✶ Empower users to innovate	✶ Involve organizations into dialogue	Reason
✶ Exploratory perspectives ✶ Applying design skills ✶ Orienting towards design	✶ Focus on individuals' contexts ✶ Descriptive	✶ Predictive ✶ Field of design interest focused	✶ Subjective perspectives ✶ Orienting towards users' context	Scope
✶ Self-documenting to trigger new views and opportunities ✶ Designerly ideation	✶ Used together with other methods	✶ Prototypes and/or self-documenting to spark ideas and novel patterns of (interaction)	✶ Design team sessions for adjusting and sharing interpretations	Special
✶ Visual impressive material ✶ Concept design ideas	✶ New questions ✶ Focus to other approaches ✶ Outlines	✶ Expression of needs ✶ Design opportunities ✶ (Inter)action patterns	✶ User representations ✶ Design empathy ✶ Collaborative learning	Results

PRODUCE DESIGN SOLUTIONS

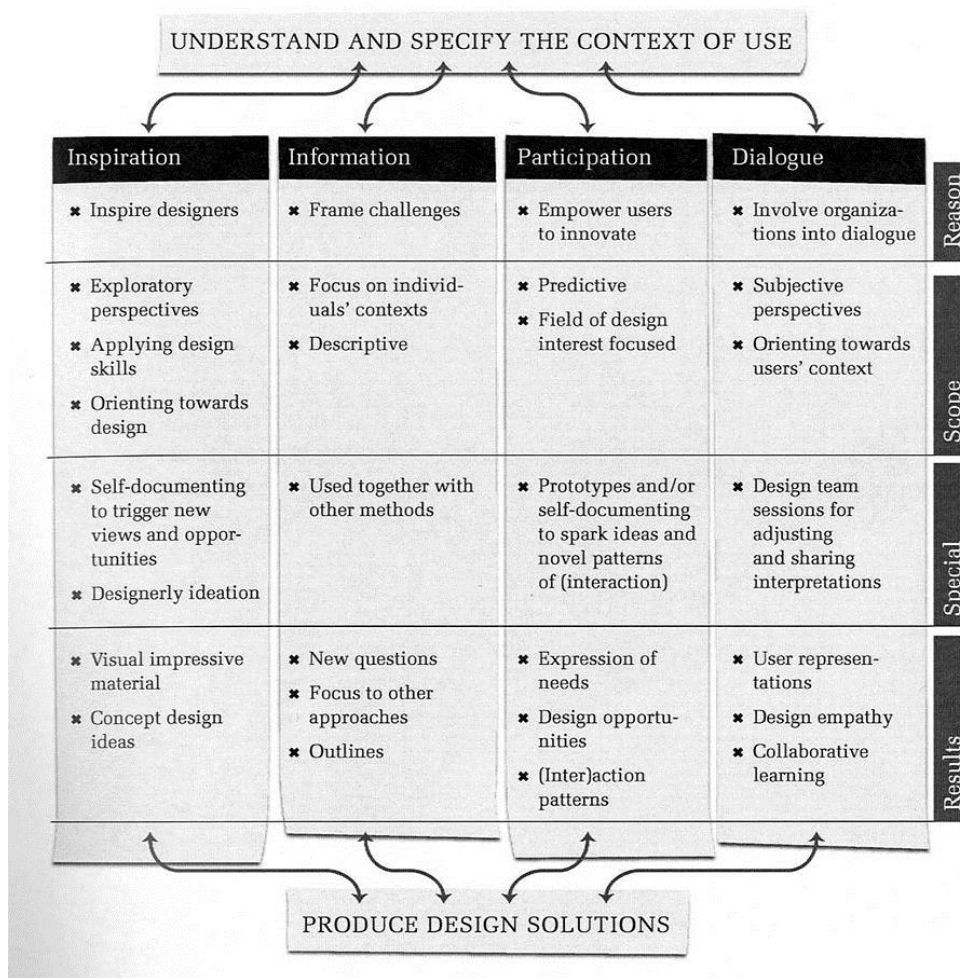Fig 5. The four purposes of probes in user-centred design. (Mattelmäki 2006, 63.)

2.3 Design activism

Design activism as an approach combining sustainability and participation was a natural choice for a theoretical framework and a source to look for participatory method. As a concept it has entered the consciousness of the design community in the last decade and

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[52] Mattelmäki 2006, 40, 42, 58.

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as I stumbled upon it during my Bachelor´s thesis, it immediately struck a chord. Alastair Fuad-Luke can be termed the farther of this concept, having written the book *Design Activism* (2009), but there are other authors also approaching the subject[53]. Design activism understands sustainability as a social learning process, moving from material well-being to overall well-being, and to facilitate this change, in combination with eco-efficiency, activism is needed. If and when sustainability is the meta-challenge and defined as a wicked problem, then, Fuad-Luke argues, participation in design is essential as a means to achieve "*transformative, socio-political change*"[54]. Fuad-Luke argues that one reason for this state of the world is that material world, products, services and surroundings have been pretty much conceived and designed by businesses and governments. People and the planet have had only limited say in current affairs and he sees that it is the role of design and designers in a special position influencing material flows between industry and consumers, to give voice to them; "*to take on a more activist role on behalf of society/societies and the environment.*"[55]

2.3.1. Short history of design activism

What I thought as a relatively new phenomenon, can be described to have history as long the history of design. Just as there have always been individuals catalysing change, advocating an issue or eliciting social, cultural or political transformations across the history of human kind there have been individuals like William Morris or Viktor Papanek of movements like Bauhaus or Anti- Design to challenge the existing status quo[56]. Fuad-Luke (2009) argues that various design approaches like universal design, green design or strategic design to name a few, are all activist in their attempts to address issues in the society[57]. Design activism can either target us over-consumers or the "*under-consumers*" of the developing countries and it is usually focused on the man-made (material) goods, cultural and symbolic capitals and themes concerning: consumption and use, production, end-of-life, technologies, energy use, communication and marketing[58].

A working definition of design activism is adopted from Fuad-Luke: "*Design activism is design thinking, imagination, and practice applied knowingly or unknowingly*

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[53] see for example Thorpe 2012.
[54] Fuad-Luke 2009, 86, 142, 190.
[55] Fuad-Luke 2009, 189.
[56] Fuad-Luke 2009, 6, 203-212.
[57] Fuad-Luke 2009, 20-22.
[58] Fuad-Luke 2009, 6-8, 16. For a broader scope on the vast activist landscape and the Five Capitals Framework see Fuad-Luke 2009, 6-16.

to create a counter-narrative aimed at generating and balancing positive social, institutional, environmental and/or economic change."[59] Thorpe (2012), who doesn't really define design activism per se, but rather examines its manifestations and frames design in social movement activism terms, characterizes activism as "*taking action that calls for change on behalf of a wronged, excluded or neglected group (or issue)*" and continues how it is typically collective action and operates through social movements. She discusses design activism in the frameworks of design, consumerism slash economics and social change slash activism.[60] Fuad-Luke is chosen as the main theorist here, because his account on the subject suggests concrete tools and methods for participation and engagement.

2.3.2. Design activism and co-design

Co-design understood from design activist perspective, has some basic premises that have to do with democracy, intention, variety of stakeholders and process. These are important to understand when applying such perspective. Co-design as a process is democratic and open, since participants in it have a voice that informs the design process. This process ideally allows stakeholders to "*collectively define the context and problem and in doing so improve the changes of a design outcome being effective*"[61]. Mattelmäki & Sleeswijk Visser (2011) also identify how co-design, especially with a PD mindset, has an empowering agenda on people who are affected by design, and even historically referring, a political stance[62]. In an activist framework, co-design can be initiated and led by professional designers, but also organized and facilitated by businesses, governmental or non-governmental organisations or communities. This approach stems from a history of community inspired or oriented co-design projects that provide a real life focus. Designing consumer products or services is more problematic and typically carried out in more design- and designer-led environment.[63] Since co-design is a multi-stakeholder process, the role of a designer is also changing. Fuad-Luke (2009) envisions many new roles for designers beyond just facilitators: quality producers, visionaries, promoters of new business models, happeners, catalysts of change and co-designers[64].

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[59] Fuad-Luke 2009, 27.
[60] Thorpe 2012, 3-4, 15.
[61] Fuad-Luke 2009, 147-148.
[62] Mattelmäki & Sleeswijk Visser 2011, 4.
[63] Fuad-Luke 2009, 148, 175-177.
[64] Fuad-Luke 2009, 189-190.

2.3.3. Engaging people in a design process

As co-design in a design activist context is understood as a catch-all term for participation, the ways for involving everyday people in the design process are also various. Fuad-Luke (2009) provides and extensive "*toolbox for the real world*" for those hoping to pursue a co-design process. I will present some important considerations here. A design activist agenda requires identifying ones purposes and goals, target audience and beneficiaries and thus selecting a co-design event accordingly. Planning, all the way to considering practicalities like location, timing and costs, is crucial. Appropriate techniques for participation need to be chosen for each phase of the co-design event and process.[65] Fuad-Luke (2009) has defined an ideal co-design process involving the following steps: initiation and planning, collective understanding and exploring, participatory design (PD) with design team and doing and learning. This he details and illustrates in the form of a graph (Fig. 6).
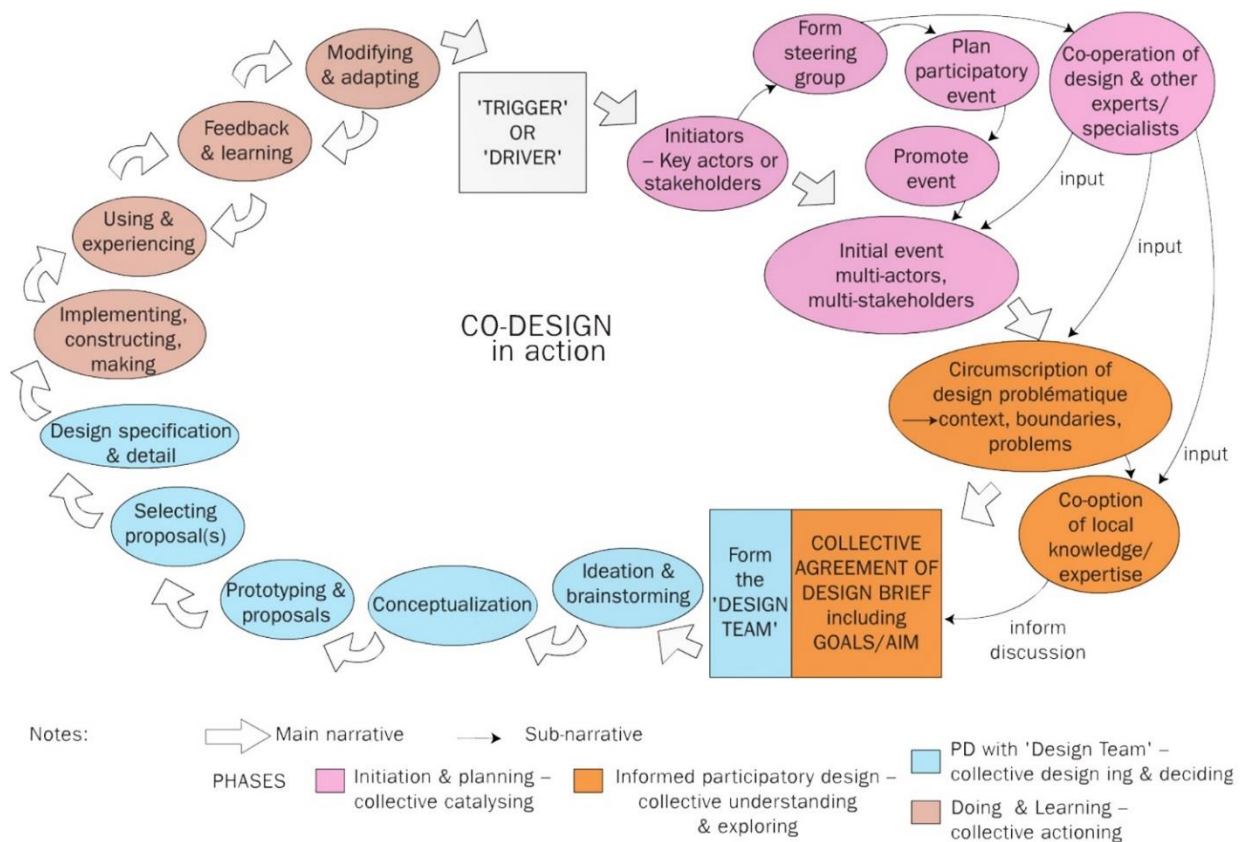

Fig.6. An idealized schematic for the co-design process. (Fuad-Luke 2009, 149.)

Design activist toolbox is vast, but also in this approach, some tools are especially suggested for particular purposes and a process phase. A selection of methods and tools

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[65] Fuad-Luke 2009, 177-182.

is offered in Fig.7. Some of the methods suggested are familiar to the design field and techniques like brainstorming, scenario development, actor role play and visualising for example, can be found from participatory design literature, but others are perhaps more familiar to social sciences or even developmental studies. Further info on card techniques or cause and effect mapping for example was found from MSP Portal where Fuad-Luke referred to. MSP Portal is a portal for methodologies for facilitating multi-stakeholder processes, upheld by Wageningen UR Centre for Development Innovation[66].
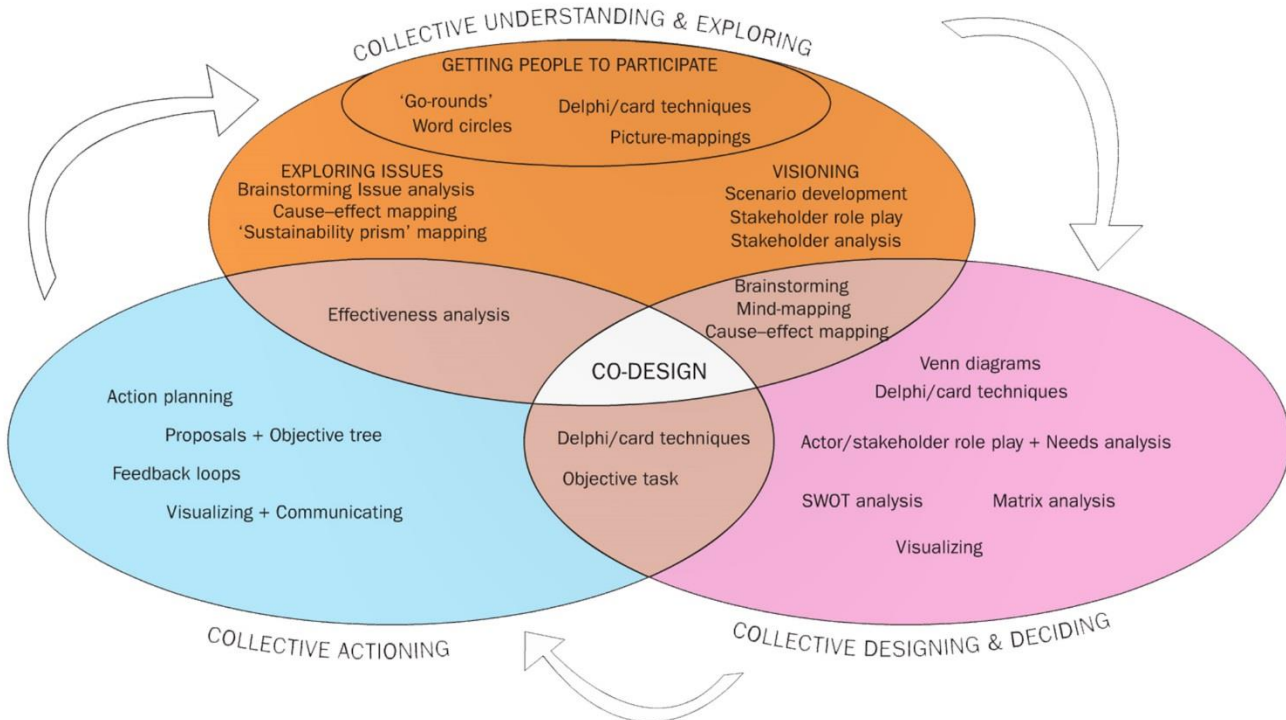
Fig 7. Methods and tools to help facilitate a co-design workshop. (Fuad-Luke 2009, 181)

2.4. Clothing design

As a clothing designer, I am compelled to approach this research as one. Defining fashion and clothing is as challenging as defining design since they have so many dimensions. I will not try to provide any one correct definitions, but rather guide towards my viewpoint. Much used way of distinguishing between fashion and clothing is to see fashion as communicative and symbolic and clothing as functional, technical and protective[67]. Fashion can also be seen as a style of products or the process by which styles are

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[66] MSP Portal 2009.
[67] von Busch 2008, 34 referring to Barthes 1983.

adopted[68]. The act of designing I prefer to call clothing design instead of fashion design, or more broadly to include accessories and such, apparel design and refer to designers as clothing designers. To me, this also places more emphasis on the actual process of designing a clothing collection, the concrete tasks and responsibilities related to it. Heikkilä-Rastas (2003) formulates my point quite well. We might occasionally produce fashion, but the main activity is designing clothes, whether unique garments or a mass-produced collection[69]. My research interest lies in the field of clothing design, more specifically in the design process and how it could be applied to co-designing. I will shortly go through some acknowledged practises of unique or craft-based and industrial clothing design and how they approach user involvement before examining new direction for sustainable and participatory clothing design.

2.4.1. User involvement in clothing design

End-user involvement in clothing design is rather ordinary occurrence, especially when designing custom-made or unique pieces. This is stating the obvious, but it needs to be stated. Every seamstress and designer know that starting points for custom made pieces is the customers whose needs and wants are surfaced in a variety of ways, usually through conversation and images. The end result is usually a negotiation between designer´s vision and customer´s desires. In her dissertation of Riitta Immonen, a Finnish designer and atelier, Koskennurmi-Sivonen (1998) characterises the designing and making-up process of unique dresses as an open-ended developmental project. Role of the designer is understood to focus on usability, aesthetics and construction methods, aiming at beauty, individuality and fulfilling wearer´s needs. From the users point of view, this process is characterised by close interaction with the designer, personal aesthetics, individuality, quality, discretion and comprehensive service.[70] One thesis example from this popular subject is for example Siivola (2002), who has examined communication methods ranging from questionnaries to colour selection tasks to facilitate understanding between designer and customer[71].

User participation in industrial clothing design is traditionally user-centered clothing design where users are providing user information and testing and evaluating prototypes. These activities are mostly considered in functional apparel design and

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[68] Koskennurmi-Sivonen 1998, 5 referring to Sproles & Burns 1995.
[69] Heikkilä-Rastas 2003, 22.
[70] Koskennurmi-Sivonen 1998, abstract.
[71] Siivola 2002.

concentrated in to the fields of work wear, sportswear or outdoor clothing. User-centered clothing design is practiced and taught at the University of Lapland, especially in the context of functional clothing, and this is also reflected in the research conducted[72]. In the most recent research project called Body Fit, concerned with applications of body scan technologies, winter clothing was designed for police with snowmobiles and for disabled teenagers. These design processes both started with in-depth user interviews to map out the use context and users´ needs and ended with users testing the prototypes in real field conditions.[73]

Commercial or industrial apparel design doesn't really concern itself with user involvement and is more concerned with market and trend research then user research. Commercial apparel design processes don't seem to include phases for user involvement. One example is a model depicted by Nuutinen (2004) for commercial or industrial clothing design, where design starts with designers own inspiration sources, zeitgeist and condenses from commercial, supplier and companies inside trends into new very own trend expressed through material, silhouette and colour selections. Design is finalised through applying technical-economic standards and finishing the patterns and construction details. Consumer is mentioned in the context of sales and consumer behaviour.[74] Armstrong & LeHew (2011) identify typical apparel design processes, examples of which they refer to Burns & Bryant (2002) and Regan (2008) that focus on delivering "*consumer wants amidst market constraints*"[75]. One could even argue that fashion design is more about creating needs than answering them.

2.4.2 New directions for sustainable clothing design

Fashion as it manifests itself today, does not yield very well to the idea of sustainability and participation for an average user seems to be limited to selecting style of season from a hanger. It is safe to say that fashion as an industry and clothing design as a design discipline have made some progress towards sustainable practices in the recent years. One can find a lot of companies working under some kind of sustainable ethos, approaches varying from Fair Trade to recycled and organic materials[76] and there are a number of

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[72] see for example Mäyrä, Matala & Falin 2005. Utilising End User Knowledge in the Designing of Intelligent Workwear.
[73] Vaatemuotoilu kehoskannauksen valossa 2011.
[74] Nuutinen 2004, 210. Process applied from Greenwod & Murphy 1978.
[75] Armstrong & LeHew 2011, 38.
[76] see for example People Tree, Globe Hope, Prana, Gossypium, Junky Styling, Howies, Patagonia, Nurmi…lists for more companies, see for example Vihreät vaatteet, Ethical Fashion Forum

organisations and initiatives promoting sustainability[77]. Design education has taken a leap forward with MA programmes focusing on sustainable fashion[78]. Research in the field is increasing and few publications have gathered some results so far[79]. Research on fashion and textile product sustainability, especially on the fibre, material and processing levels has a long history[80] and is now at the point *"What every designer should know"*[81]. More recent approach in the clothing field is to examine sustainable design strategies like slow fashion[82], zero waste[83] or consumer values and product attachment[84]. Gwilt (2011) has identified many sustainable strategies that a fashion designer can employ in haute couture type context. These include for example design for disassembly, design for waste minimization, for slower consumption or end of life strategies[85]. An overall systems and attitude change in designers and consumers is called upon many authors. It has been realised, that conventional apparel design and product development processes do not take into consideration ecological constraints or more multifaceted problems, like our meta-challenge at hand[86]. This can be summarised as a search for a new paradigm for fashion and my intention is to take part in that mission.

Current attempt in the field is to identify sustainable strategies and key points for intervention on all levels of the industry and the supply chain. This is done on the paradigm level, on industry-as-a-system level as well as design and product development levels where designers can have a say. Armstrong and LeHew (2011) are looking for a new social paradigm for apparel design by comparing design and product development processes to sustainable approaches from other fields. They see *"imperative the need to identify points at which apparel design and product development processes, may be enhanced, if not revolutionized"*[87] Flecther (2008) covers a lot of ground on system and design levels in her review on sustainable products and systems. She uses Donella Meadows *"places to intervene in a system"* tactics to account for changing current

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[77] see for example NICE, Ethical Fashion Forum, Fair Wear Foundation, Centre for Sustainable Fashion..
[78] see for example Fashion and Environment in the London College of Fashion and Fashion and Sustainability in ESMOD Berlin.
[79] see for example Flecther 2008, Sustainable Fashion: Why Now? 2008, Shaping Sustainable Fashion: Changing the way we make and use clothes 2011.
[80] see for example Suojanen 1995: Vihreät tekstiilit; Allwood, Laursen, Malvido de Rodriquez & Bocken 2006: Well Dressed?
[81] Seppälä 2011.
[82] see for example Clark 2008.
[83] see for example Rissanen 2011.
[84] see for example Niinimäki 2009, 2010.
[85] Gwilt 2011, 68.
[86] Armstrong and LeHew 2011, 36-38.
[87] Armstrong and Lehew 2011, 32.

practices on a system level (Fig 8). Both authors agree that it is the changing the paradigm for fashion that is pivotal for change, not merely application of individual design strategies in an old system. They agree that intervention on the paradigm level is the key and strategies for these higher level interventions are still the least understood.

Places to Intervene in a System
(in increasing order of effectiveness)

9. Constants, parameters, numbers (subsidies, taxes, standards)

8. Regulating negative feedback loops

7. Driving positive feedback loops

6. Material flows and nodes of material intersection

5. Information flows

4. The rules of the system (incentives, punishments, constraints)

3. The distribution of power over the rules of the system

2. The goals of the system

1. The mindset or paradigm out of which the system—its goals, power structure, rules, its culture—arises.
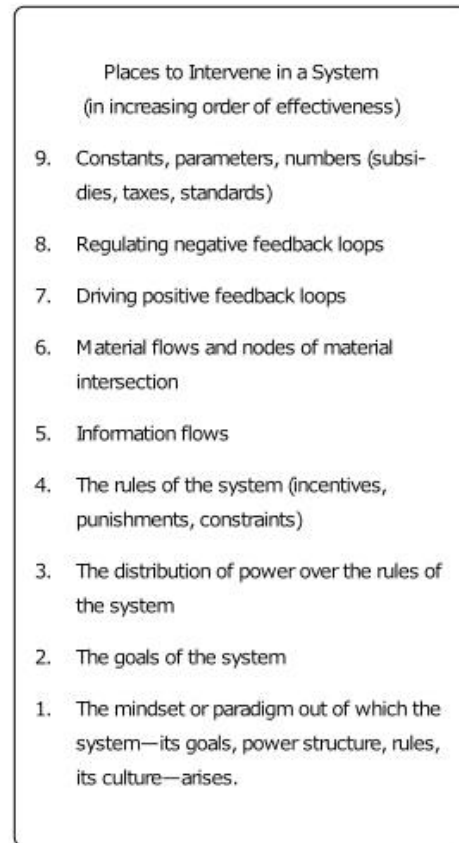
Fig. 8. Places to intervene in a system by Donella Meadows. (Fletcher 2008, 61.)

To achieve a cultural and a system level transformation, both on production and consumption side of the fashion cycle, interventions also require system level approaches. The higher intervention level tactics that Flecther reviews correlate with Armstrong & LeHew´s construction on 3rd and 4th level intervention strategies that could allow new paradigms for sustainable clothing design to arise from. The 3rd level intervention is characterised as inviting transformation of the consumer culture, requiring a deeper understanding of more sustainable principles, leading to more responsive and authentic designs and greater satisfaction. It takes into account resources of a particular place, designs with nature and invites the involvement of a community and participation of people.[88] This takes a broader look into textile and fashion systems and reflects the ideas of for example locality, bio mimicry, sharing, speed and durability that Flecther (2008) brings forth[89]. The fourth level of intervention is seen as the most challenging and least understood, thus requiring research. It is a level where designers lead consumers into sustainable patterns of consumption and where design is more than product design.[90]

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[88] Armstrong and LeHew 2011, 41-44.
[89] Flecther 2008, 138-140.
[90] Armstrong and LeHew 2011, 41.

Changing the paradigm and thus the goals and rules of the system is the biggest challenge of the fashion and textile sector, but according to Flecther, the most effective way of eliciting change[91]. Armstrong and LeHew have identified a few important approaches from the field of design that address design from the perspective of human needs and represent the highest level of this intervention continuum, namely emotionally durable design, slow design or design for well-being and design activism[92].

These insight from the fashion field correlate with previously presented perspectives of co-design and design activism that believe in the power of participation in creating more well-being societies. Of course this kind of level classifications can be a bit artificial, since the field of clothing and textiles is a highly networked system where a lot of factors influence each other and need to be taken into account. Slow design for example is identified as a 4th level strategy, but it can also be misused. Flecther (2010) for example strongly critiques the way the idea of slow fashion has been adopted in our growth fashion model as means to offer new marketing angles and legitimacy to for example existing classical or season-less products and traditional business models with a false sense of ethics[93]. On the other hand, operations modes like fast fashion and mass customisation that might be deemed only to contribute to more consumption, can include some aspects that may provide "*mechanisms for dematerialization and local strategies for apparel*"[94]. To me, these levels of intervention represent the level of attitude, will to change the system and the ability to create alternatives. To arrive at an action plan, I will candidly mix these approaches in examining what manifestations activist clothing design and participatory clothing design take on today and what kind of methods for people´s participation are offered for my co-clothing explorations.

2.4.3 Activist clothing design

In fashion theory and practice the idea of design activism has been discussed by a few, but implicated by many. Gwilt (2011) for example points out how neither fashion designers nor consumers are being exposed to or educated enough about sustainability and how encouraging behavioural change is the true challenge for designers[95]. Fletcher (2008) refers to design activism as way of loosening the tie of consumerism via

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[91] Flecther 2008, 71-72).
[92] Armstrong and LeHew 2011, 42-44.
[93] Fletcher 2010, 262.
[94] Armstrong and LeHew 2011, 56.
[95] Gwilt 2011, 67, 73.

approaches like slow fashion, design for needs and participatory design. She sees this kind of action as promoter of social change and of critical importance to sustainability[96]. I will introduce and examine few activist approaches from the clothing field sharing a participatory attitude, namely slow design and hactivist fashion. I will also examine what methods they suggest for user participation.

Slow fashion movement is a clear opposite and alternative to the current fast fashion system that seeks sustainable practices on many levels of production and consumption systems and values locality, craft and appropriateness. Slow fashion is a concept derived especially for the fashion field from slow movement. Slow design can be characterised as an approach that *"encourages a slower, more considerate and reflective process, with the goal of positive well-being for individuals, environments and economies"[97]*. Hazel Clark (2008) has provided a conceptual framework for slow fashion that follows three lines of reflection. Valuing local resources and distributed economies produce culturally distinctive artefacts and greater agency for producers. Secondly, transparent production systems favour small scale enterprises and collaboration between designers, producers and users. Thirdly, in this framework, slow fashion creates sustainable and sensorial products, but also experiences that lead to deeper understanding about products and possibly greater attachment[98]. Even though the concept of slow fashion can be falsely adopted to serve fast economic models and marketing strategies, it can also be the right path towards change and transformation[99].

Consumers play an important role in the slow fashion movement as co-producers who are encouraged to engage with their clothes on a deeper, more conscious level. Concrete measures for this engagement still seem to be lacking. Cataldi, Dickson & Grover (2010) for example have drafted principles for the slow fashion movement of which acknowledging human needs through co-creation is one. They describe how fashion designers can create relationships with co-producers as well as consumers and invite customers to be part of the creative process[100] – but don't explicate how. Authors acknowledge that the important question of consumer/co-producer and their engagement in the system needs further research, especially ways to encourage a new mindset and

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[96] Flecther 2008, 185-186.
[97] Fuad-Luke 2009, 22, originally 2004.
[98] Clark´s 2008, 440-441.
[99] Flecther 2008, 260-264.
[100] Cataldi, Dickson & Grover 2010, 46.

behavioural change[101]. Clark addresses the question of engagement through calling for design for experiences and sensoriality, which would create attachment and awaken creative possibilities. Sensoriality means understanding a piece of clothing *"through the knowledge of how it is made and of what materials"*.[102] Discussion on slow fashion today seem to remain more on an ideological level, than providing tools for engagement.

Deeper analysis on systems change and direct activism in the fashion field, including more active tools for change is provided by Otto von Busch in his dissertation on *Hacktivism and Engaged Fashion Design* (2008). He has examined new roles for fashion designers and users in the field of social activism and this social design practice he calls hacktivism of fashion. Hacktivism is a concept through which different ways of engaging with the fashion world are examined. He suggests that hierarchical structures of fashion can be changed and currents disrupted through collaborative actions, creative resistance and DIY practices that empower users, create new action spaces and new forms or participation in to the fashion field[103]. Action spaces is the key concept in von Busch´s research and expanding them one of his main goals. By action spaces he refers to as a field of possibilities and potentiality *"related to our abilities to interact with the world[104]"*. Action spaces are always emergent and conceptual, but at the same time very physical, as we inhabit them and they involve particles like energies, materials, tools, not to mention skills, practices and norms. To von Busch tools are essential in this interaction, they can open an action space or limit them. He has divided these to two categories: executables like IKEA shelfs that are meant to produce identical results and instructables like cook books that teach you how to navigate in an action space. From a hacktivist viewpoint, breaking free from passive consumerism is a question of skills, tools and action spaces. Many are doing this themselves, but designers can also adopt this hacktivist attitude and start promoting and designing tools for engagement and participation for empowerment.[105] Von Busch also shows examples how.

Engaging and empowering Every(wo)man for von Busch is based on the idea of creating new actions spaces, expanding old ones and providing tools for doing this. His thesis is an extensive account on various projects, explorations, ideas and techniques aiming at change, either facilitated by him or examples from the field. I will briefly

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[101] Cataldi, Dickson and Grover 2010, 58.
[102] Clark 2008, 440-441.
[103] von Busch 2008, 22.
[104] von Busch 2008, 41.
[105] von Busch 2008, 42-45, 48.

summarise those especially relevant to designers. A protocol can be a method, product or a tool that has been designed to enable participation. Examples of protocols for von Busch are for example Creative Commons license, *Read/Write* -jewelry (including a pin, piece of wire and a story) and a model for a shoe factory that enable creative participation of the workers in the production phase. Workshops are a fruitful platform to host many kind of activist activities and agendas. Giana Gonzales has been hacking codes of couture brands with people in her Hacking-Couture workshops, where these revealed visual, structural or expressive codes are then used to create unique styles by the participants.[106] Hackers and Haute Couture Heretics was a six-week long open workshop event where hacktivism was explored by various designers from their perspectives of reverse engineering, shopdropping, DIY and craftivism, to name a few.[107] *Swap-O-Rama* is workshop protocol, a concept that can be executed by anyone willing to host an event where people bring their unwanted clothes and rework, upcycle or repair any piece they want, aided by experts like seamstresses or designers[108].

Designers can open up design or production systems with hacking projects or create manuals and kits for DIY practices that decrease the threshold for participation. Von Busch has published a manual, *Recyclopedia*, for updating dated clothes. It is intended for raising awareness and skills and making people participate. *Abstract Accessories* are an interventionist collection of DIY-kits for users to try out. For example *Textile Punctum* offers users a needle, some thread and an essay on embroidery of memory to encourage embroidery on personal experiences.[109] In RE_TALLiation project von Busch facilitated an alternative design and production system where a group of makers from a textile studio at *Merimetsa* rehabilitation centre became co-designers and producers of a small shirt collection. Two students designed a shirt model that could be altered through production in *Merimetsa*.[110] Dale Sko hack is also an example of an altered production system where producers, workers at the factory in this case, create their unique mark on the products by a random punch method[111].

2.4.4. Participatory clothing design

Previously research on participation on the clothing field has been more focused on the

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[106] von Busch 2008, 85.
[107] von Busch 2008, 218-222.
[108] von Busch 2008, 189-199.
[109] von Busch 2008, 92-97.
[110] von Busch 2008, 137-138.
[111] von Busch 2008, 207-2010.

possibilities of mass-production and ICT environments. Mass-customisation is studied in many levels of fashion: design involvement on the internet[112] supply chain[113] and even infrastructure[114]. Peterson (2009) presents a mass-customisation co-design tool for customised knitwear that in closer examination appears to be a multiple-choice-system where customers make material, colours and detail choices from pre-programmed selection[115]. Lahti (2008) has researched collaborative design in a virtual learning environment[116]. Now there has been some advances in researching co-design, or user involvement more broadly and some have also combined it with sustainability. Jen Ballie, a textile designer and a researcher is currently working on her PhD about co-design for fashion and textiles and focusing on co-design, sustainability and web 2.0 environments[117]. Laura Seppälä is working on her PhD for University of Salford on "*user involvement in research, design and development of functional outdoor clothing for older people*"[118]. Emilia Eriksson (2008) has used probing as a user research method for her *Utuma tuntus* clothing concept based on different emotions[119]. Mitrunen (2010) has involved a group of school children in to a design process of textile prints for children[120]. Open-source and open design movements are also a growing part of collaborative practices and current co-design research landscape[121] but excluded from this research.

Potential of participation in creating new kind of fashion, whether it be more sustainable, emotionally durable, reflective or empathic is suggested by many authors in the field. Fletcher (2008) for example advocates making design and production processes more transparent as this would increase users´ understanding of the system. Her assumption is that the act of infusing a product with the user´s touch and thus giving it richer meaning, would lead to reduction in consumption and waste.[122] Empathic design is discussed in the field of textile and clothing as a sustainable approach and it also addresses user participation in the design process. Kirsi Niinimäki (2011) has studied "*the complex interplay between design and consumption of textiles and clothing*" in her

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[112] see for example Choy & Loker 2004.
[113] see for example Pan & Holland 2006.
[114] see for example I-fashion Technology Center 2007.
[115] Peterson 2009.
[116] Lahti 2008.
[117] Ballie 2011a. Working title: "*E-co-Textile Design: How can a textile design practice sustainably influence an emerging digital consumer culture?*"
[118] Seppälä 2011.
[119] Eriksson 2011.
[120] Mitrunen 2010.
[121] see for example Ballie 2011b, Openwear 2011.
[122] Fletcher 2008, 188, 194.

dissertation. One of the topics of her theoretical discussions are design strategies that deepen person-product attachment and increase product satisfaction and would thus enable a longer lifespan.[123] Niinimäki & Koskinen (2011) argue that consumer centric design methods focusing on styles, material choices, quality aspects and functionality considerations can only produce sustainable designs to the extent of quality products. Producing deeper dimensions in product relationships, they continue, such as emotional values and future experiences, require new design methods.[124] Co-design, personalisation and DIY practices are suggested by them as empathic design approaches to embed product attachment elements and satisfaction dimensions into the design process and outcome. Co-design, where people are given an active role in the design process, is seen as a design strategy where designers can form proactive partnerships with users and thus better understand their individual needs.[125]

Discussions on emotionally durable designs also promote consideration on human needs and call for user involvement, either in design or customisation phases. Research seems to focus on identifying attachment characteristics that could then be embedded into the product by a designer rather than participatory methods. Chapman (2005) characterizes emotional durable design as a "*genre that takes into deeper consideration human needs and resource productivity by creating interactive experiences and emotionally durable objects with a longer lifespan*"[126]. As part of her research, Niinimäki (2010c) has identified product attachment attributes that create attachments to textiles and clothing. These include easily designable attributes like classical style and timeless design, quality, functionality and well-aging material, but also more personal more abstract attributes like personal and emotional values and promises of present or future experiences.[127] Niinimäki and Hassi (2011) argue that emotionally durable design aims at building a deeper understanding on needs and values leading to deeper product attachments. Aim is to design meaningful products and this requires a "*unique design process or co-creation with the user*". Design strategies such as customization, halfway products, modular structures, co-creation and open source design are examined in this context, in their potential to result in emotionally satisfying garments.[128] These discussed

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[123] Niinimäki 2011.
[124] Niinimäki & Koskinen 2011, 167.
[125] Niinimäki & Koskinen 2011, 176-177 (referring to Rizzo 2009), 183.
[126] Chapman 2005, 24.
[127] Niinimäki 2010c, 210.
[128] Niinimäki & Hassi 2011, 282-283.

approaches do advocate participation, but offer only suggestions on where to turn for advice on participatory techniques.

Some suggestions, guidance and actual techniques for user involvement in a clothing design process can be found when digging into the research conducted. Niinimäki and Koskinen (2011) characterise empathic design approaches as an activity where researchers observe, probe and listen to what is relevant and meaningful to people[129]. Probing is suggested as an empathic technique. Mitrunen (2010) and Eriksson (2008) have both used probing in their design process. Data from her diary type of probe kits Eriksson used as an inspiration to develop her concept, but process for Mitrunen with children was a bit more co-designerly. Children filled out the probe kit including several tasks like moodboard of their dream room and selecting favourite colours. They also evaluated the resulting designs made by Mitrunen.[130] Ballie (2011) has involved people in a series of projects or workshops in her explorations of co-design concepts and collaborative practices. She has for example engaged people in doing fashion illustrations via paperdoll templates and collage technique (Fig. 9) and during co-design workshops in manipulating some form of simple patterns (Fig 10).[131]
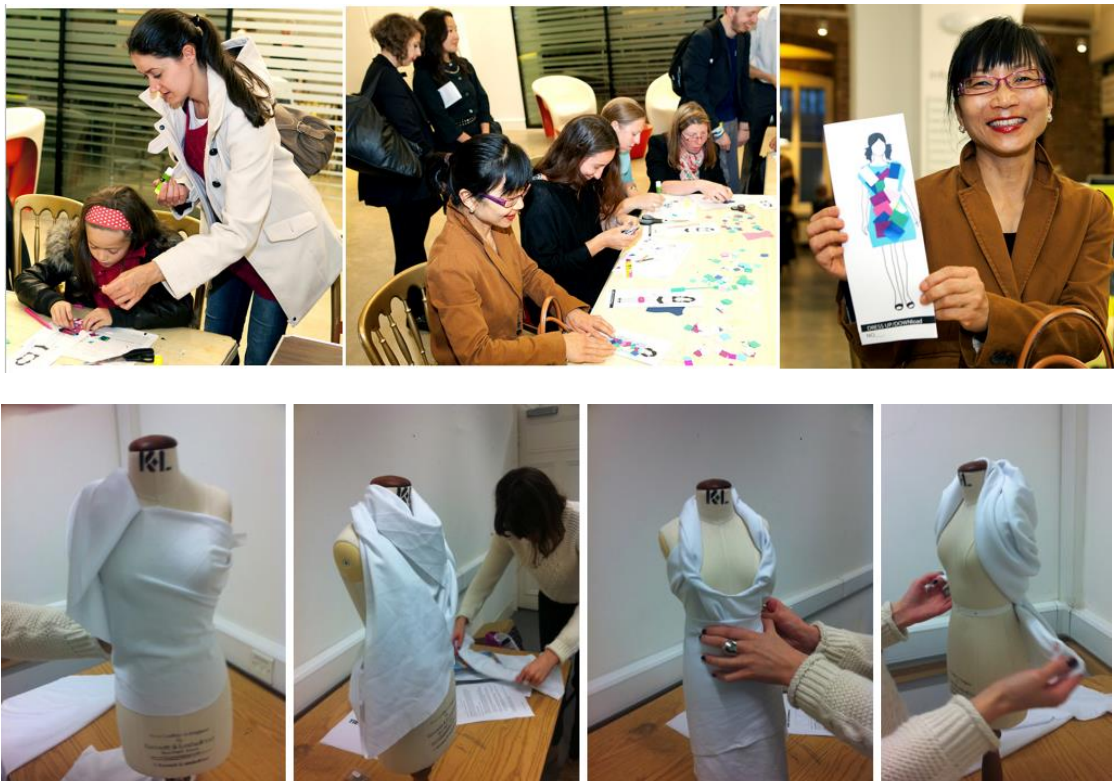

Fig 9. Creating fashion illustrations. (Ballie 2011c.) Fig. 10. Dress UP/DOWNload. (Ballie 2011c).

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[129] Niinimäki & Koskinen 2011, 176.
[130] Eriksson 2008; Mitrunen 2010.
[131] see Ballie 2011a, 2011c.

Flecther (2008) states that the ground between fashion and participatory design processes is little explored, but will probably be an important part of sustainable activity in the future. It is a complex field in which to affect change and thus an important issue to research.[132] I will focus on the actual interactive participatory clothing design process between users and the designer. Goal is to apply techniques and methods found from this literature reviewed and construct an actual co-design process where tools are developed and tested. These frameworks, examples and previous studies have provided me with a preliminary understanding to construct my process on. Before turning to the actual research process, I will provide a comprehensive account on my research design.

3. Research design for my design research

As my aim is to study participatory clothing design process and the appropriate methods and tools to facilitate that process, I am conducting design research. Design research is building its own body of knowledge about people, products and processes and the ways of knowing, practices and processes concerned with these three sources of knowledge. The development and application of new design methods and techniques is also researched.[133] Design reasoning as the third culture of human knowledge is described as abductive, productive and pragmatic and it is more concerned with "*appropriateness than the ultimate truth*".[134] As sustainability is one of my background frameworks, I could more particularly talk about design research for sustainability. Design Research for Sustainability aims at understanding the challenges of designer community in the transition towards a more sustainable society. In the spirit of this LeNS 2010 conference theme division, my research situates at the level of discussing new approaches, methods and tools for product design for sustainability[135].

To help position myself as a researcher and a designer and clarify my approach to this research project, I have place myself into the field of research. In his triangle of practice, studies and exploration (Fig. 11) Fallman (2008) encourages the interplay of designer-researcher roles illustrated by the design practise and design studies dimension, but also calls for a societal and critical role for design research, namely exploration, that could challenge the current paradigms. This exploration I interpret as a role for a design

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[132] Flecther 2008, 194-195.
[133] Cross 2006, 123-126.
[134] Cross 2006, 18, 38.
[135] Sustainability in Design: NOW! 2010, 4-5.

activist. Exploration is often driven by theory or ideals and seeks to test them, ask what if, but also criticize and experiment to reveal alternatives to accepted paradigms. The typical client in design exploration, as is my case as well, is the researcher´s own research agenda and projects are often self-initiated.[136]
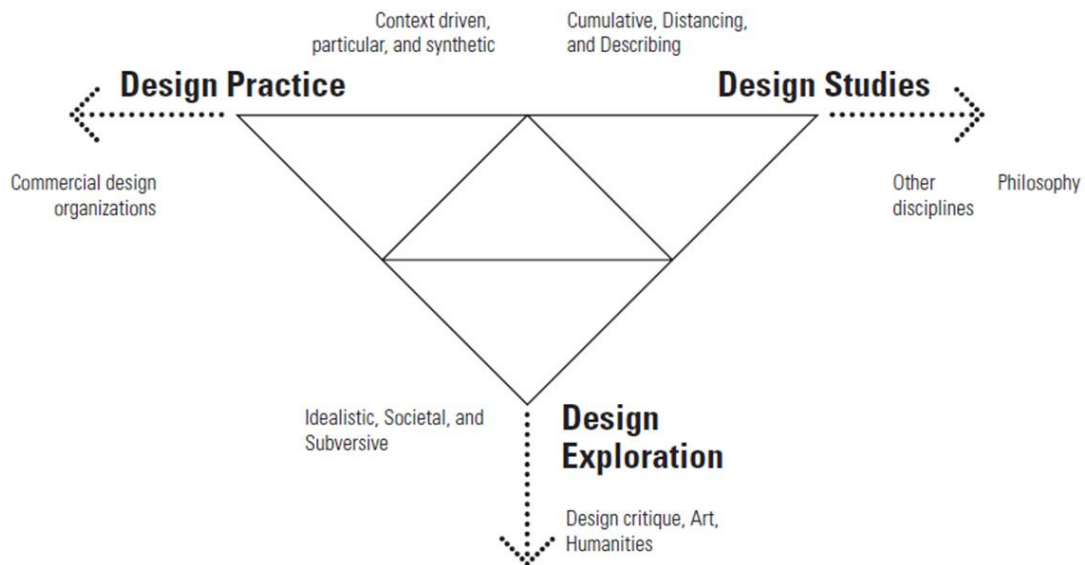

Fig 11. Triangle of design practice, studies and explorations. (Fallman 2008, 5.)

Fuad-Luke (2009) places design activism in the category of design explorations, but also argues that design research should be able to create experiments outside the economic boundaries or too restrictive traditional academic criteria, especially "*actively seeking to extend the role of design studies in examining the transition towards sustainability*".[137]

I have combined frames from Anttila (2007) and Fallman, and placed this triangle in research paradigm field for Research & Development (R&D) -projects devised by Anttila (2007)[138]. I find that my research mostly situates somewhere between in the critical-realist and interpretive-experiental paradigms (Fig 12). I examine a design process and suitable practices for that process. Research is practice-led, aimed at developing practices, processing information, but also empowering self and others. I am observing and reflecting upon actions, but also evaluating their meaning and effectiveness. It is qualitative research employing a multiple research strategies. This multiple strategy approach I find especially suitable for moving in between design studies, practice, and exploration. Thus theoretical and methodological triangulation is

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[136] Fallman 2008, 7-8.
[137] Fuad-Luke 2009, 84-85.
[138] Anttila 2007, 36.

chosen as an approach that utilizes many perspectives for the investigation of the problem at hand.[139] Above mentioned attributes have directed my choice of research methods, but intervention as one of my imperative thought patterns here, has been the key in constructing my research strategy based on practice-led research, realist evaluation and action research. Hermeneutic paradigm, that my triangle also reaches, represents the analysis I will conduct in the end. Process will be evaluated continuously, but for the final analysis, data is interpreted again, from a more theoretical perspective.
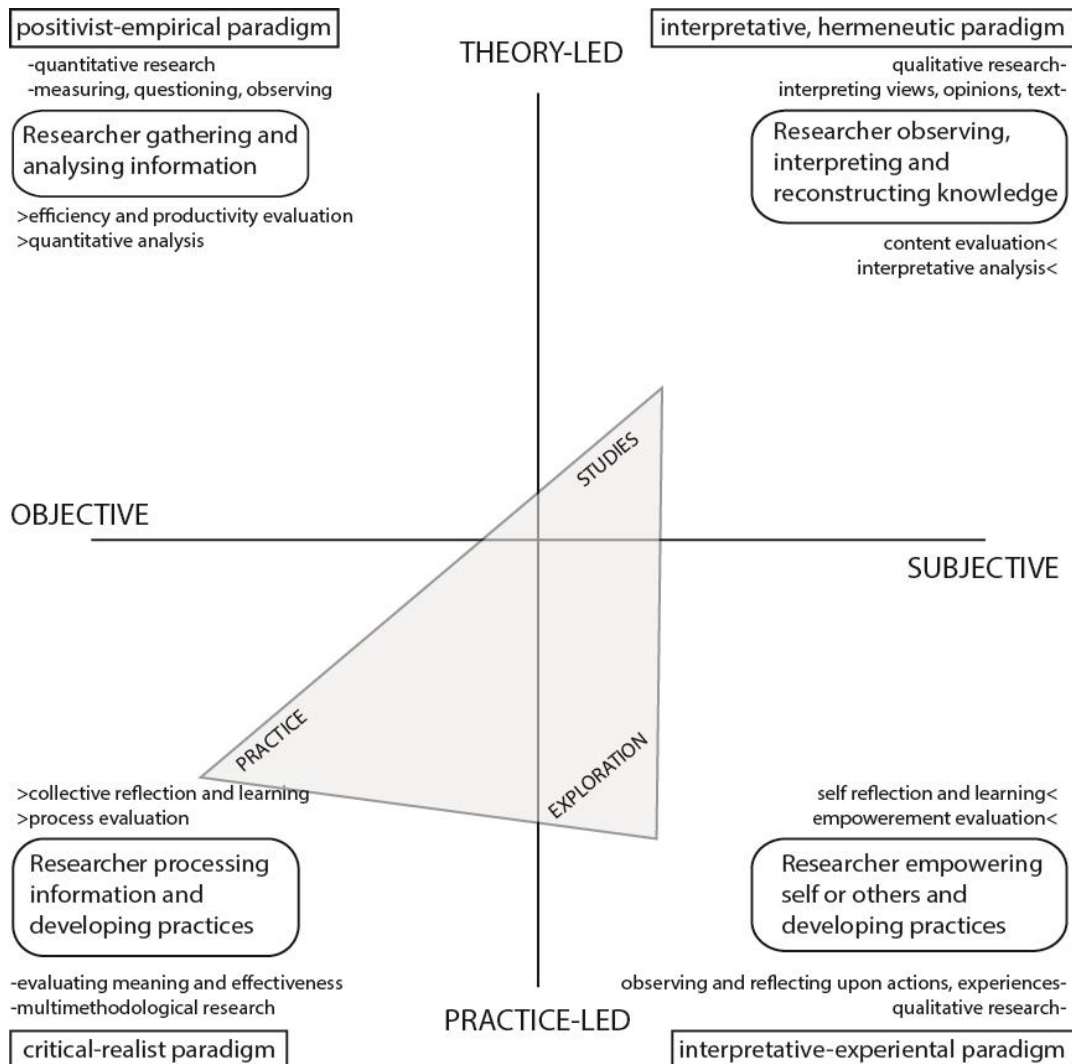

Fig.12. Situating research in the field of research paradigms. (Konola 2011, based on Anttila 2007 and Fallman 2008.)

3.1 Research strategy

Practice-led research, realist evaluation and action research are all pragmatic approaches that allow the use of multiple research strategies and are thus very suitable to combine.

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[139] Anttila 2005, 469.

In practice-led research there is no preference for any particular method, but the suitability of chosen methods is evaluated on the basis of whether the connection between the question and answer is convincing.[140] One just needs to be critical in choosing and justifying research and analysis methods that could provide the answers for research questions[141]. Many characteristics of a co-design process also reflect the characteristics of these three approaches. Co-design is situation driven, iterative, interactive, action-based research, simulating the real world, useful for complex problems and satisfying pluralistic outcomes[142]. I have constructed a model that illustrates my research strategy (Fig. 13) and each research method is further elaborated below.
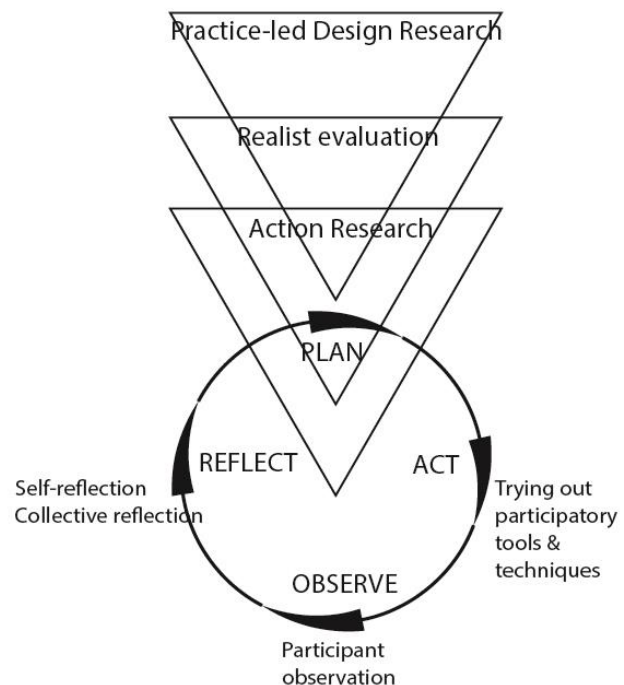

Fig 13. Research strategies. (Konola 2011.)

3.1.1. Practice-led research

Practice led-research, also termed 'research through design', is a mode of enquiry in which design practice is used to create an evidence base for something and it includes a design project subservient to stated research aims and objectives[143]. To distinguish practice-led research from practice-based research Candy (2006) defines that "*Practice-led Research is concerned with the nature of practice and leads to new knowledge that has operational significance for that practice*", whereas in practice-based research

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[140] Mäkelä ja Routarinne 2006, 16.
[141] Anttila 2007, 103 about realist evaluation.
[142] Fuad-Luke 2009, 147.
[143] Pedgley 2007,463.

"*creative artefact is the basis of the contribution to knowledge*"[144]. Debate over the academic credibility and even the definition of practice-led research still exists, but there is a consensus in the design community that design practice in itself cannot be regarded as research. Identification of research questions, reflection, contribution to knowledge and understanding through analysing and theorising on one´s design activities and communication of results are for example called for.[145] Pedgley (2007) has modelled three kinds of design projects especially suitable for academic research where "*the inclusion of a design project constitutes an empirical enquiry from which designing (as an activity) and designs (as outcomes) are sources of research data*"[146]. In this research it is the design process as activity producing research data. Artefacts also have the potential of becoming research data, since the aim of further developing and trying out participatory strategies and tools for clothing design can´t be fulfilled without the process of actually designing artefacts.

3.1.2. Realist evaluation

Realist evaluation as a research strategy provides me with tools to construct this research into coherent steps and formulate a practical research question. It is based on the paradigm of scientific realism and has mostly been used in the development of social work practices and health care, but has now also been applied to research and development projects in design. Scientific realism and thus respectively realist evaluation focus on what works, for whom and in what contexts[147]. This corresponded with my intention to examine suitable user engagement methods in the context of clothing design practice and see how they work and or for whom. Anttila (2006) has established a connection between designerly thinking and realist evaluation and developed the model of realist effectiveness cycle further into and cyclical and iterative process model that is perhaps better suitable to depict the process of design or product development[148]. It was originally known as a craft process model and adapted for example in the research of clothing design.[149] There is a relevant history to my field and the new revised model serves the purpose of realist, critical evaluation of a design process.

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[144] Candy 2006, 1.

[145] Mäkelä ja Routarinne 2006, 12 referring to Rust 2006; Cross 2006, 126; Pedgey 2007, 464 referring to Frayling 1997, Friedman 1997, Cross 1998.

[146] Pedgley 2007, 464.

[147] Anttila 2006, 451, 455.

[148] Anttila 2006, 462-463. Realist effectiveness cycle by Pawson and Tilley 1997 & Kazi 1998.

[149] Anttila 2007, 87 referring to Anttila 1992. Koskennurmi-Sivonen 1998 has used the model.

Realist evaluation is considered suitable projects in design since it is not only examining results, but the operations and mechanisms with what results are achieved, the contexts of processes and contents of interventions. This evaluative approach is based on abductive logic alternating between theory and practice and aims for the affirmation of results, not confirmation.[150] Most appropriate ways of intervention are sought, their effects on the whole and relationships of the components involved analysed. Realist evaluation is not really interested in cause and effect or empirical testing of a theory. It seeks to apply programme theories, ideas, solutions or product ideas that can be instantiated in multiple ways, to new contexts and then evaluate the effects, efficiency and consequences of those interventions. Realist evaluation is much focused on self-evaluation and empowerment. Information is gathered on what works and not, what can be influenced and how and what are the effects for participants and the end-users of the final results of the process.[151] Realist evaluation needs multiple methodological solutions and data collection methods to be effective. One can apply a variety of methods, but careful consideration of researchers´ position and knowledge interests is important. Data needs to be collected and analysis performed on the basis that they would produce relevant results for the research, the meaning and effect of which one could evaluate critically.[152]

3.1.3. Action Research

Action research I have chosen as the third component to my research strategy because of its useful action and reflection spiral and correlating ideologies with participatory design and design activism. Action research has traditionally been used in the context of organisational and educational reform, but it has found its way into design research once its suitability was discovered[153]. Similar characteristics between action research and design research have been identified. Both are proactive in trying to improve something, change-oriented, iterative, pragmatic and practise-led and cyclical as a process[154]. Anttila (2007) identifies the procedural and cyclical action research very similar to realist evaluation, especially the critical and reflective action research, but distinguishes them clearly. Action research is most suitable for projects where change in group or community

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[150] Anttila 2007, 37.
[151] Anttila 2007, 64-72.
[152] Anttila 2007, 103-105.
[153] Ruohonen 2009, 9.
[154] see for example Cole, Purao, Rossi & Sein 2005 and Ruohonen 2009.

is collaboratively processed and evaluated. Realist evaluation is more suitable for a process that develops concrete products, physical artefacts or services.[155] Since I am examining participatory design process and methods, as well as producing artefacts, I am applying both strategies. Collaboration is also characteristic of action research and in my case other stakeholders are a group representative of end-users acting as co-designers. The basis of action research process is a reflective spiral of planning, acting, observing and reflecting[156] that is then repeated in iterative cycles to reach the goal (Fig. 14).
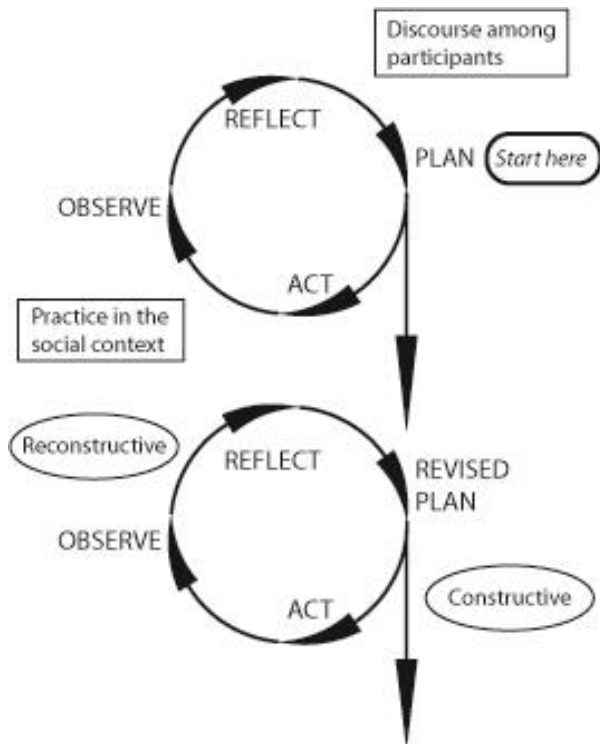

Fig. 14. The process of action research. (Konola 2011, adapted from self-reflective spiral originally by Carr & Kemmis 1986, 186 and further Anttila 2006, 442.)

Critical knowledge and emancipatory interest is considered most suitable for action research in a design process and also ideologically connects it with the fields of participation and design activism. Similarities between action research and participatory design have been noticed in the design research field. For example Foth & Axup (2006) suggest that an action research study facing design tasks can well employ participatory design methods in the action phase and reciprocally participatory user study can benefit from the critical perspective of action research in evaluating a range of issues[157]. Emancipatory action research is activist in a sense that researchers adopt an activist role in aiming to transform the present practices and understandings to produce a different

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[155] Anttila 2007, 137.
[156] Carr & Kemmis 1986
[157] Foth & Axup 2006, 4.

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future and engages participants in taking action on the basis of their critical reflection.[158] Carr and Kemmis (1986) argue that ideology is created and sustained through practices of work, decision-making and communication and by changing these practices or situations, one is in a small way, changing the world[159]. Design activism is similar kind of redirective practice, transforming goals, thoughts and perceptions and thus the dominant social paradigm, of design[160]. One of the aims of this research is to intervene in the habitual consumption practices of random consumer and engage them in reflective process of designing and at the same time let them intervene in my design process and see what comes out.

3.2 Data collection methods

As inferred, this research strategy of practice-led research applying realist evaluation and action research, allows for multiple data collection methods. The self-reflective spiral in itself seems to suggest few methods for data collection, namely observation and reflection. Carefully observing what happens with using participatory tools is important to be able to evaluate how they work in engaging users in the design process. Pedgley (2007) recommends participant observation as a data collection tools for capturing design activity and characterizes it as designer observing and taking notes on dynamics of social situations, behaviours and activities[161]. In action research the researcher is physically present, active and uses many methods to gather data. Researcher interviews, participates in the action, observes oneself and others, collects documents, uses video, photos, notes. In realist evaluation one can lean on the programme theory (that assumes something is going to happen) to structure and classify observations. The researcher needs to be able to define their own role and effect on the situation and report on it to be able to evaluate validity of the research.[162]

Reflection as a data collection method is directed towards all the participants to provide a more comprehensive understanding of the proceedings. An important outcome of action research is the changed understanding of practice and understanding how this change has happened. Thus it is important to systematically collect data to be able to pinpoint where the evaluation of or reflection on action has led to new insights about

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[158] Carr & Kemmis 1986, 205.
[159] Carr and Kemmis 1986,193.
[160] Fuad-Luke 2009, 87.
[161] Pedgley 2007, 470.
[162] Anttila 2007, 128-129.

practice, where learning has taken place[163]. To get participants and myself actively reflecting on the process and at the same time documenting it, I have devised reflection leaflets[164] (Appendix 1. REFLECTION LEAFLETS). Documenting reflections of all the participants is important, but to fully understand the co-design process and to be able to analyse it, it needs to be actively documented. For these purposes I have arranged process portfolios (Appendix 2. PROCESS PORTFOLIO) for everyone. The idea of a process portfolio and reflection leaflets combine principles of action research and multiple data collection methods on de Freitas´ (2002) views on reflective practice and its active documentation. De Freitas favours process portfolio as one of the methods of practice-led research, because process of inference is documented and can be later edited to communicate significant aspects of the process[165]. Package given to participants includes reflection leaflets, different kinds of papers and a series of pictures of a girl, that I have drawn, that can be used as a drawing platform. Participants can use the materials as they wish - for sketching or writing down notes and ideas for example and later it will be collected.

To record the effects and implications of this co-design process on my work and role as the designer, I am keeping a record of the design and research processes at the same time. Data from action-reflection cycles, all the way from planning the cycles and meetings with the participants, to deciding on which participatory tool is used an why and reflecting on how things worked, is documented on Course of Action –report. The original data for the report consists of PowerPoint presentations constructed to plan for the meetings with participants, participatory observation notes written in the situation and reflection leaflets filled out after each meeting by me and the participants. Participant observation during meetings is conducted by me, and recorded in various ways such as notes, photographs and observations on the reflection leaflet. I have my own process portfolio for design work –Design Notebook (Appendix 3. DESIGN NOTEBOOK), where I document my sources of inspiration and ideas. Original data for the research consists from everything that is produced during the project (Table A).

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[163] Lomax, McNiff & Whitehead 2002, 21.
[164] based on Boud, Keogh and Walker 1985, 26-31. To come up with questions to my reflection leaflets I used these reflection levels as quidelines:
1) Consciously reflecting on the experience by recalling or detailing events.
2) Affective reflection about ones feelings
3) Evaluative reflection on the experience
[165] De Freitas 2002.

Data	Details
COURSE OF ACTION -REPORT	documents planning, acting, observing and reflecting phases from my point of view
POWERPOINT PRESENTATIONS (ACTION 1- ACTION 8)	prepared for each action phase with the participants
PARTICIPATORY OBSERVATION NOTES	written by me during collaborative actions
REFLECTION LEAFLETS	written by me and by each participant after each collaborative action
PHOTOGRAPHS of action	taken by me from collaborative actions and the results of those actions
PHOTOGRAPHS of my own designs	taken by me from documenting my own design process (sketches and prototypes)
PHOTOGRAPHS of quick prototypes	taken by the participants from their quick prototypes
PROCESS PORTFOLIOS	filled out by the participants
DESIGN NOTEBOOK	my creative notebook as a designer
VIDEO RECORDINGS	during quick prototyping workshops
ALL VISUAL/TEXTUAL DOCUMENTS	produced by me or the participants during the process

Table A. List of data collected for the research. Konola 2012.

Reflection leaflets and Course of Action -report are the main source of answer to my research question. Through these documents, planning, acting, observing and reflecting phases of the action cycles are all recorded. Successfulness of methods used is evaluated already during the course of action, by me and the participants. I am using active documentation to identify and capture the evolution of a work process, articulate phases of work and provide a record necessary for the abstraction of research issues and analysis. In accordance with action research principles, process is continuously critically reflected and re-examined and procedures and research directions changed if so evaluated.

4. Research process

This section presents my programme theory for engaging users in the design process and then reconstructs what actually happened. Programme theory is summarized as a graph and explained verbally. The course of events is organized into tables according to action cycles. Between the action cycle summary tables I have included short descriptions of unfolding the events between the action cycles.

4.1 A programme theory of participatory fashion

Based on my theoretical frameworks and literature review, I have constructed a programme theory, a working hypothesis on how to engage users in a clothing design process. It is a preliminary understanding, working hypothesis or a theoretical orientation. It presents arguments and background for future actions as well as argued conception about how and why interventions work. Theory is then followed up, tested and revised in an abductive and cyclical process that interventions take forward.[166] Interventions are purposeful actions, planned beforehand, directed at change and improvement, of which effect is evaluated and alternatives compared[167]. Here, action cycles where participants are engaged in the design process, represent interventions. As I have formulated my programme theory and intervention model (Fig 15), I have outlined the objects of my study, recorded my preconceptions and guesses about possible solutions. Based on these deliberation, design process is carried forward, interventions planned and methods for user engagement are constructed. The co-design activities are carried out in the action research cycles together with the participants. My programme theory is based on combining identified user engagement methods from the fields of co-design, design activism and clothing design and applying them to suit my purposes.

The process is planned and modelled combining a few relevant process models. This cyclical, iterative programme theory builds on scaffolds for creativity[168] and follows along the lines of a clothing design process, or craft process model[169]. Diagram of the programme theory represents both the research and design processes and how they interact, but the research focus is on action cycles, the participatory techniques that are applied during those cycles and the outcomes they produce. First participants are primed in to the subject field with probing and intention is to slowly move towards more engaging techniques and generative tools. When it comes to the action cycle model adopted from action research, planning and observing is done mostly be me, the researcher, but designing as a participatory action and reflections on the process are conducted collectively. Each action cycle also represents a co-design event. Inside the event, tools and themes for the action cycle are named. Planned action cycles are shortly explained here, but more detailed account will be on the tables of the following section.

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[166] Anttila 2007, 70, 92-93.
[167] Anttila 2007, 47.
[168] referring to Sanders & William 2001, Sanders & Stapper 2008
[169] referring to Anttila 1992.

Programme theory

Sourcing materials

Looking for sponsors

Grant applications

ACTIVIST, REFLECTIVE & PARTICIPATORY FASHION

co-design

design activism

emotionally durable & empathic design

slow design

Searching for co-designers

The research process

Theoretical discourse

Practice in the design context

Designing the collection

Participatory clothing design process

Trend and market research

Preliminary ideas on colours, materials, mood

Programme theory related research continues
= Intervention **Plan**

Designing the participatory method and actualising the tools

Action

Information probe

NEEDS, CONSUMPTION & SUSTAINABILITY

Observation

Reflection

Programme theory related research continues
= Intervention **Plan**

Designing the participatory method and actualising the tools

tuning-in & ideation

concept design

Action

Inspiration probe

SLOW FASHION

Reflection

Programme theory related research continues
= Intervention **Plan**

Designing the participatory method and actualising the tools

sketching

more ideation

Action

Inspiration & participation

EMPATHIC & EMOTIONALLY DURABLE DESIGN

Reflection

Programme theory related research continues
= Intervention **Plan**

Designing the participatory method and actualising the tools

experimenting

finalising the concept

Action

Participatory workshops & generative tools

ACTIVE & REFLECTIVE USER MAKERS

Reflection

choices

Prototypes

Final decisions

Manufacturing the collection

Exhibition/ Workshops

Feedback

PROCESS Results PRODUCT

SUMMATIVE EVALUATION + ANALYSIS
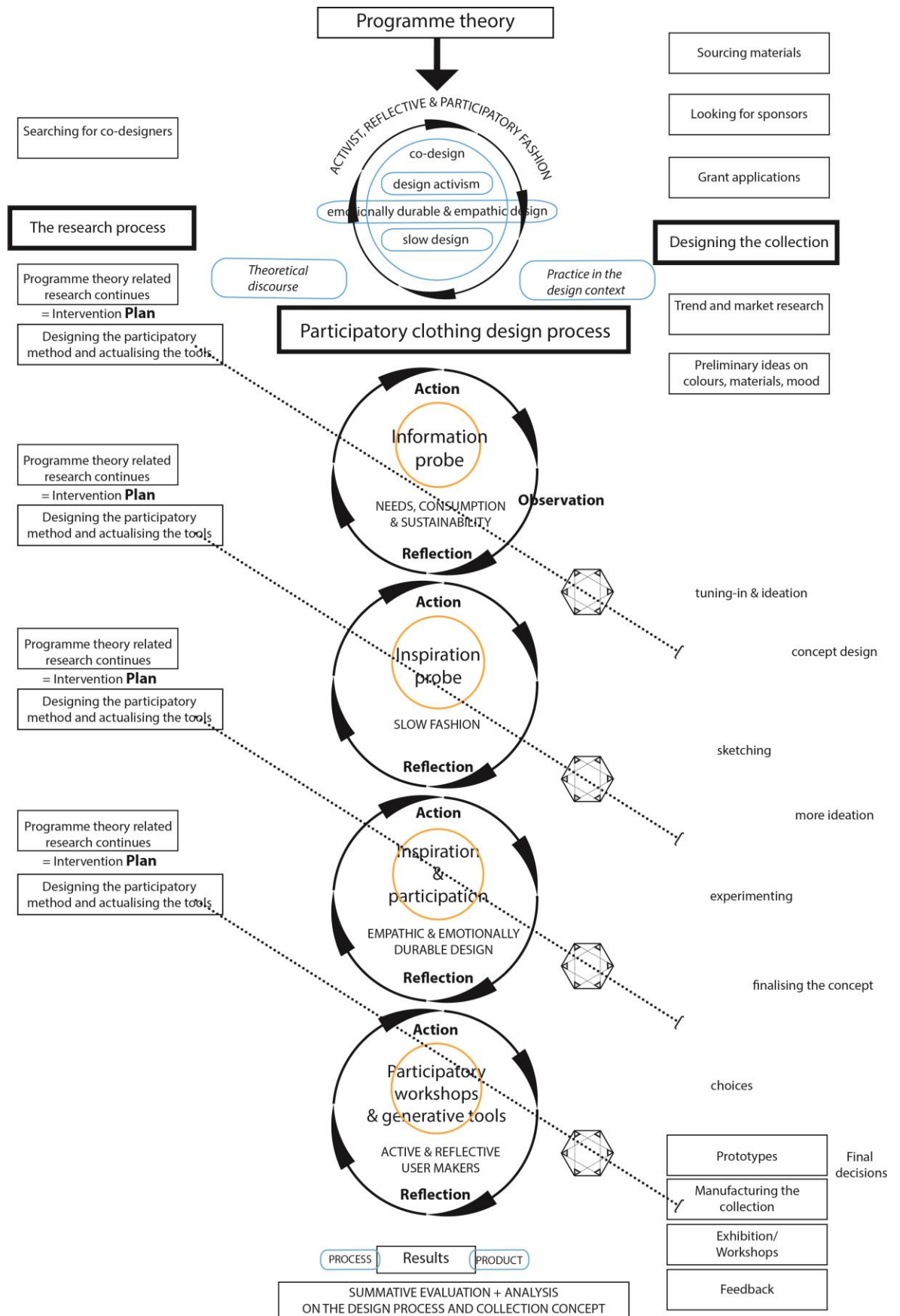ON THE DESIGN PROCESS AND COLLECTION CONCEPT

Fig 15. Programme theory for participatory clothing design. (Konola 2011.)

First action cycle utilises probes as a participatory technique and addresses the themes of needs, identity and consumption. Framing the challenge, focusing on individuals contexts and gathering information are the aims of my *Wardrope* -probe[170]. Probe kits are not commercially available and there is no ready-made pattern for designing them, thus they need to be designed according to the issues interested. One needs to consider for example nature of the probe objects and properties and purposes of various tasks[171]. The first probe is designed based on the assumption voiced by Flecther (2008) that getting end-users reflecting on their own wants and needs, relationship with fashion and sustainability issues could raise awareness on sustainable fashion, consumption habits and engage users in participatory activities on a deeper level[172].

The purpose of the second cycle is to explore collage making as an easy participatory technique for awakening reflection and creativity and at the same time address the concept of slow fashion. Third cycle is planned on the assumption that applying empathic design methods into the design process could facilitate participation and deeper product engagement[173]. Intention is to probe on these wishes, values and emotions and find out how they could offer new perspectives or more meaningful base to build the collection on. I am planning to utilise probe kits based on self-documentation, into which I can include different kinds of exercises. Purpose of these probe kits is inspiration and participation[174] and expected results are visual material, even concept ideas and expressions of needs and design opportunities from the participants. Last steps on the scaffolds are planned to be taken as an activist designer and fashionable user maker. Hopefully a desired level of co-design is reached, concept is finalised and prototypes built. Generative tools support participants is expressing their creativity and producing prototypes[175]. In addition to generative tools, methods like half-way prototypes[176], protocols[177] and workshops can be used to encourage participation and idea development. Based on previous action-reflection cycles information is gathered to design appropriate methods and tools for this stage where focus is on collectively exploring with materials, techniques and prototypes. It is possible that more than one workshop session is arranged.

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[170] referring to Mattelmäki 2000, 63 and her views on the purposes of an Information probe.
[171] Mattelmäki 2006, 71-72.
[172] Flecther 2008.
[173] referring to Flecther 2008 and Niinimäki 2011.
[174] referring to the 4 purposes of probes by Mattelmäki 2006, 63.
[175] see for example Sanders 2000, Sanders et al 2010.
[176] referring to Fuad-Luke 2009.
[177] referring to von Busch 2009.

4.2 Reconstructing the co-design process

This section is dedicated to explicating the process that was undertaken in the context of this research. Process is explained as it happened and in chronological order. Realist evaluation and action research as approaches are both based on evaluation or analysis conducted throughout the process. Through this continuous reflection actions have been developed and next steps planned. This here is a summary on the course of actions to present an overview of the participatory actions. Action reflection cycles are presented as tables, but reflections in between are summaries of the original Course of Action –report.

The co-design process undertaken has been quite long and eventually only partially followed the plan formulated in the programme theory. It has stretched from the beginning of November 2011 until the end of May 2012. With my long term participant group there were 8 interventions, or action cycles that consisted of probes, face to face meetings with shorter tasks and workshops utilizing different participatory tools and methods. As I was presented an opportunity to have an exhibition at Hirvitalo, Center of Contemporary Art Pispala in Tampere, I decided to include that in to the research process as well and try out another approach to user engagement. Unfolding of the events have been summarised in a similar diagram as the model for programme theory presented earlier. This diagram presents all the action cycles that finally occurred and the techniques and outcomes accordingly (Fig 16).

Participants for the research were reached through an e-mail and poster campaign within the University of Lapland and Rovaniemi University of Applied Sciences. I was looking for females between the ages 18-35 that would be interested in participating in a collaborative clothing design process within a sustainable context. Within the set time frame I received 5 contacts and decided that can be enough. My maximum limit for participants would have been 10[178]. In this case, I was looking for people that would be interested in participating in a clothing design process. My only criteria for the participants were age and gender, since I am assuming women to be more interested in their clothes and this age group represents young women for whom to design a collection for. Only those studying textile or clothing design were ruled out, because one objective is to examine the roles of a designer and participants without any experience in clothing design.

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[178] Mattelmäki 2006, 69 suggests 5-10 people as an adequate size for a probing target group, because of the time consuming nature of making and interpreting probe kits and the qualitative, describing nature of probing. If one is studying a particular lifestyle, a phenomenon, a hobby or a group of people, then of course one needs a target group representative of that group in regards to sex, age, life-style, skills etc.
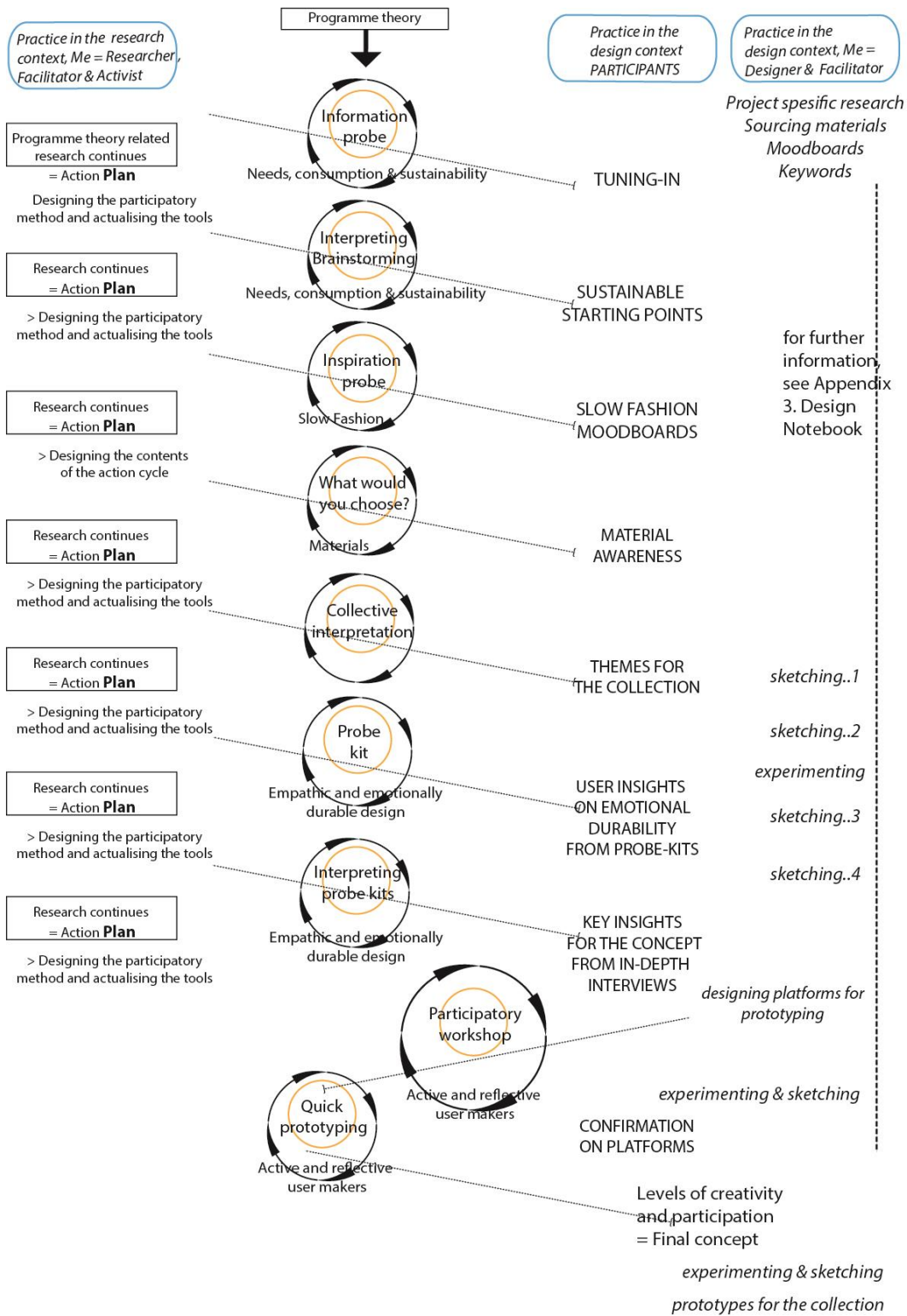
Programme theory

Practice in the research context, Me = Researcher, Facilitator & Activist

Practice in the design context PARTICIPANTS

Practice in the design context, Me = Designer & Facilitator

Programme theory related research continues = Action **Plan**

Designing the participatory method and actualising the tools

Research continues = Action **Plan**

> Designing the participatory method and actualising the tools

Research continues = Action **Plan**

> Designing the contents of the action cycle

Research continues = Action **Plan**

> Designing the participatory method and actualising the tools

Research continues = Action **Plan**

> Designing the participatory method and actualising the tools

Research continues = Action **Plan**

> Designing the participatory method and actualising the tools

Research continues = Action **Plan**

> Designing the participatory method and actualising the tools

Information probe

Needs, consumption & sustainability

Interpreting Brainstorming

Needs, consumption & sustainability

Inspiration probe

Slow Fashion

What would you choose?

Materials

Collective interpretation

Probe kit

Empathic and emotionally durable design

Interpreting probe kits

Empathic and emotionally durable design

Participatory workshop

Active and reflective user makers

Quick prototyping

Active and reflective user makers

TUNING-IN

SUSTAINABLE STARTING POINTS

SLOW FASHION MOODBOARDS

MATERIAL AWARENESS

THEMES FOR THE COLLECTION

USER INSIGHTS ON EMOTIONAL DURABILITY FROM PROBE-KITS

KEY INSIGHTS FOR THE CONCEPT FROM IN-DEPTH INTERVIEWS

CONFIRMATION ON PLATFORMS

Levels of creativity and participation = Final concept

Project spesific research Sourcing materials Moodboards Keywords

for further information, see Appendix 3. Design Notebook

sketching..1

sketching..2

experimenting

sketching..3

sketching..4

designing platforms for prototyping

experimenting & sketching

experimenting & sketching

prototypes for the collection

Fig 16. Engaging users into a participatory clothing design process – as it happened. (Konola 2014.)

4.2.1 Introductory meeting as the 1st action cycle

As the issues of needs, consumption and identity seem to be so intertwined, I decided to have participants explore these concepts in the first probe task. A *Wardrobe* -probe (Fig 17.) was designed for this purpose, with open questions to explore these issues in relation to fashion and dress and from the participants own perspective and experience. They were also meant as means to map interests of the participants, find out what kind of questions arise and what kind of starting points these could provide for a collection. This probe is also constructed for a dialogue purpose in a sense that it builds interaction between designer and users and can facilitate communication[179] .

Fig. 17. Inner pages of the Wardrobe -probe. (Konola 2011.)

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[179] Mattelmäki 2006, 61.

ACTION 1		
PLAN		
	Purpose of the intervention	Start the design & research process, introductions, informed consent, state out objectives and planned schedule
	Participatory technique	Wardrobe-probe (see fig. 17) Process portfolio (see Appendix 2)
	Why this technique?	Probe as a facilitative tool to engage participants in an exploratory co-design process, improving social dynamics and dialogue and gather information in issues of needs, consumption and identity. Process portfolio as a method for active process documentation.
	Theories referred	Probes: Mattelmäki 2006, 2007 Portfolio & active documentation: De Freitas 2002
ACTION		
	Location	Faculty of Art and Design, University of Lapland
	Date & Duration	8.11.2011 / 1 hour
	Number of participants	3 out of 5
	Materials / Supplies	ACTION_1 PP-presentation, Process Portfolio for participants, Wardrobe-probe, Consent for research contract
	Techniques used in session	Brainstorming
	Actions undertaken in a chronological order	Introducing research and design objectives and questions, explaining concept of sustainability, brainstorming on participatory design, research methods and preliminary schedule, handing out portfolio & the probe and briefing purpose
OBSERVATION		
	Reactions from the participants	Probe elicited interest Brainstorming not active, participants a bit lost
	Interesting details	After the meeting good conversation with A-L*
	Outcomes from the tasks	Wardrobe-probe (see summary Fig 18) Brainstorming: co-design seen as something where end-users´ expectations and needs taken into consideration
REFLECTION		
	What worked?	Probe was received well
	What didn´t work`	Brainstorming
	What could be done better?	Inspiring and activating for brainstorming and placing it better in the context of the session
	Reflections from the participants	Interest in what is about to come, but also confusion. General feeling anticipatory and excited, responsibility assumed to me. Concepts like participatory design, probes and action research were new to most of the participants. Probe received positively. Elicited reflection on consumption habits, relationship with clothes and guilt upon consumption habits.

EVALUATION	
	The first probe is received positively and it succeeded in exploring users perspectives. Participants were happy to reflect upon their clothes, styles and consumption habits, because this was something they also think about to some extent in their daily lives. Main concerns and points to consider for the next cycle, that arouse from this session are how to get participants really think about and innovate starting points for this collection and how to activate them better.

4.2.2 Searching for starting points on the 2nd action cycle

Purpose of the second meeting is to collective examine the results of the *Wardrope* -probe and to reflect upon what kind of starting points their thoughts and observations could pose for a sustainable clothing collection. Probes were returned to me before the next meeting and I had time to collect participants´ answers on a single probe where they are easily observed (Fig 18). This facilitative exercise also functioned as a tool for a quick interpretation on the information gathered from the probes. Probe material providing information can be simply organised into summaries and outlines describing the phenomenon in question[180]. This information led me to come up with some questions to facilitate collective reflection in the next meeting and also plan further the context of this second meeting. For example many participants were pondering upon the production chain of the clothing industry and the process of designing clothes and this led to the decision to inform the participants more on these matters.

Muodissa ja pukeutumisessa rakastan!

-kaikkea
-lämpöä, kodikkuutta
-itseilmaisun mahdollisuutta
-minua miellyttäviä värejä
-(itsensä) koristelua
-leikkiä, huumoria, hämmentämistä

Vaatetusalalla mielestäni ongelmallista on...

-se miten koko alalla tällä hetkellä toimitaan
-yritysten vastuuttomuus
-halpa, perusvaatteiden massatuotanto
-lapsityövoima
-kemikaalit, terveydelle haitallinen tuotanto
-mallien laihuus
-eettisten valintojen kalleus

Vaatteiden tuotannon eettisiin ja ekologisiin kysymyksiin liittyen pohdin...

-kaikkea
-jatkuvia alennuskampanjoita
-kuinka tekstiilijätteen määrää voisi vähentää
-koko tuotantoketjua
-kierrätystä ja uusiokäyttöä

Vaatteiden suunnittelussa minua mietityttää..

-miten suunnitellaan, prosessi
-mistä idet tulevat, luovuus
-koulutetaanko suunnittelijoita ottamaan huomioon kestävän kehityksen mukaisia ratkaisuja
-miten yhdistää eettisyys, kestävyys ja kulut

Haluaisin vaikuttaa...

-vaatetusalan muuttumiseen eettisesti ja ekologisesti kestävämmäksi
-ihmisten kulutuskäyttäytymiseen
-enemmän omiin vaatteisiini

Fig. 18. Outer pages of the Wardrobe –probe where answers from the participants are collected. (Konola 2011.)

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[180] Mattelmäki 2006, 98.

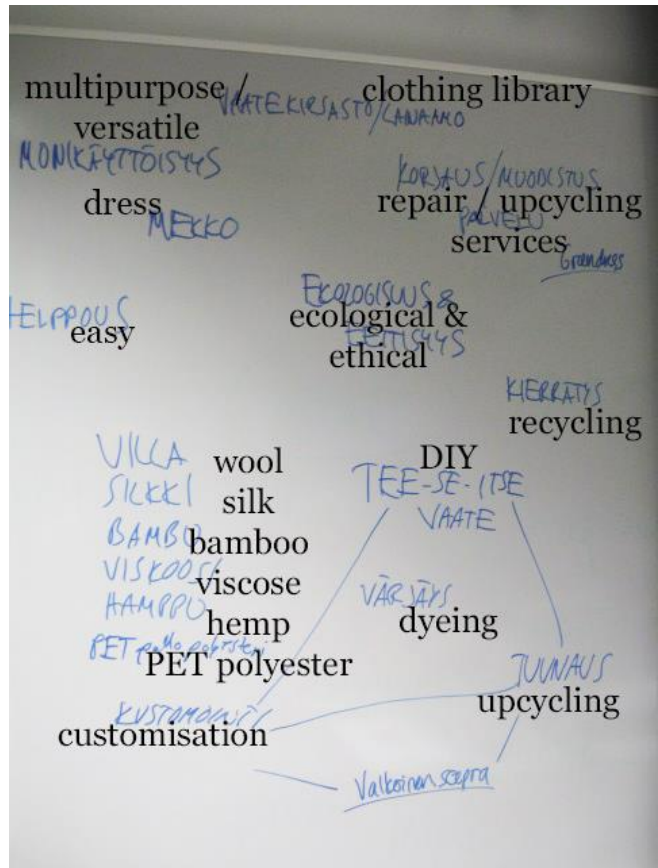| ACTION 2			
PLAN			
		Purpose of the intervention	Collectively examine the results of the Wardrobe-probe and to reflect upon what kind of starting points these will pose for a sustainable clothing collection. Increase the awareness of the participants on the problems of the clothing industry today and explain why we are trying this kind of participatory approach.
		Participatory technique	Collective interpretation and reflection Brainstorming Activating exercises: Fashion cycle
		Why this technique?	To engage participants in interpreting the results of the probes and thus creating dialogue. Brainstorming for sustainable starting points.
		Theories referred	On probe interpretation: Mattelmäki 2006, 2007
ACTION			
		Location	Faculty of Art and Design, University of Lapland
		Date & Duration	16.11.2011 / 2 hours
		Number of participants	4 out of 5
		Materials / Supplies	ACTION_2 PP-presentation, Wardrobe-probe with summarized results
		Techniques used in session	Collective reflection on probe results Brainstorming sustainable starting points for the collection
		Actions undertaken in a chronological order	Collectively constructing a fashion cycle, Introducing the fashion cycle (by Jenkyn-Jones 2011) and industrial clothing design process models and clothing design tools by Nuutinen 2004). Collective reflection on the probe results, brainstorming sustainable starting points for clothing design, introducing Max-Neef`s theory on needs. Question on the design brief, homework.
OBSERVATION			
		Reactions from the participants	Fashion cycle exercise activated and sparked conversation. Collective reflection on the probe results was successful and everyone participated actively on brainstorming. No conversation on needs, just silence. Design brief was not formulated at the end.
		Interesting details	A blog to record the advances of the project was discussed on my initiative, decided to put into action
		Outcomes from the tasks	Brainstorming sustainable starting points (see Fig 19.)
REFLECTION			
		What worked?	Activating exercise in the beginning and brainstorming following the collective reflection.
		What didn´t work`	Lecturing on clothing industry, design and needs.
		What could be done better?	Plan activities around issues or questions that need addressing. Design brief consideration was unsuccessful because there was no exercise following the question.
		Reflections from the participants	As a result of collective reflection, some reflected more on their relationship with ecological and ethical clothing and others clothing as an expression of the self. Multipurpose dress mentioned in some probes caught attention of a few participants and one started to innovate further on the idea: *"A reversable dress? A detachable lining?"* There was new information on the aspects of the global production chain for all the participants. For future actions, one participant expressed a wish to know more about natural fibres.

Fig 19. Sustainable starting points for clothing brainstormed by the participants. (Photo Konola 2011.)

4.2.3 Slowing down on the 3rd action cycle

Third action cycle explores collage making as a method to facilitate creative expression. Brief brainstorming was conducted with the team before starting the collage. Questions of what is slow (life, food or for example design) was presented to the group. After associative words were recorder on the board (Fig 20.), participants were asked to make up a collage of what slow fashion could be and what it means to them.
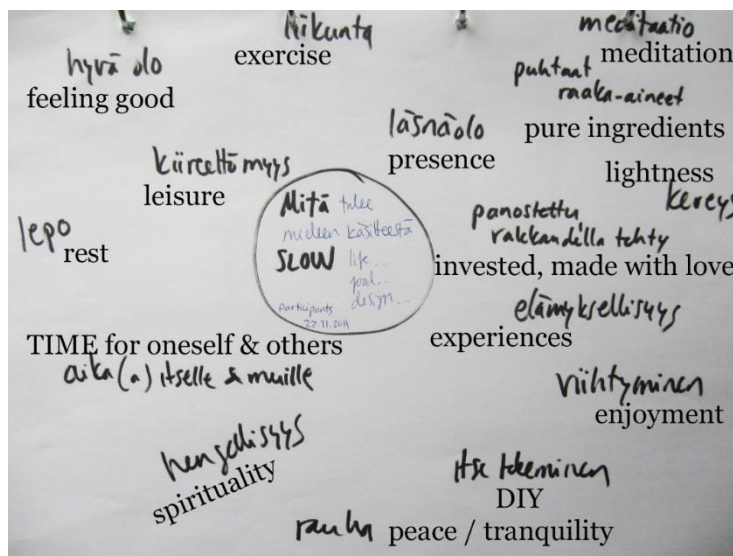
Fig 20. Attributes of SLOW, brainstormed by the participants. (Photo Konola 2011)

ACTION 3			
PLAN			
		Purpose of the intervention	Explore collage making as a method to facilitate creative expression and the concept of slow fashion
		Participatory technique	Collage making
		Why this technique?	A popular probing tool to collect visual material for inspiration and an exercise that helps to reveal preferences and feelings. Enable storytelling and allow people to articulate experiences, feelings and memories. Also a common visual research tools for clothing designers in the form of moodboards or concept boards.
		Theories referred	On collage making as probing: Mattelmäki 2006 On collage making enabling storytelling: Sanders & Williams 2001 Research tool for clothing designers: Gaimster 2011 On slow fashion: Fletcher 2008, 2010
ACTION			
		Location	Faculty of Art and Design, University of Lapland
		Date & Duration	22.11.2011 / 2,5 hours
		Number of participants	3 out of 5
		Materials / Supplies	ACTION_3 PP-presentation & Material for collages: A2 cardboard, magazines, journals, fabric scraps, threads, buttons and beads, scissors and glue
		Techniques used	Brainstorming Collage making (see Fig 21.) Activating exercise: Inspiration source & market research
		Actions undertaken in a chronological order	Participants presenting their homework: inspiration sources and piece of sustainable clothing. Brainstorming on slow (life, food, design, anything). Collage making on slow fashion and narratives after
OBSERVATION			
		Reactions from the participants	Happy to present their inspirations sources. Sparked activity and conversation, which continued well into the brainstorming exercise. Good concentration on collage work. Narratives on moodboards were elaborative and there was a keen interest in listening to others. Discussion followed.
		Interesting details	Inspiration sources: skating, fashion magazines and biking (or bike chains).Only 1 participant used fabric scraps & buttons in collage.
		Outcomes from the tasks	Brainstorming SLOW (see Fig 20.) Moodboards (see Fig 22.)
REFLECTION			
		What worked?	All techniques worked, since level of participation and reflection were good throughout the session.
		What didn´t work`	-
		What could be done better?	I could have also presented my sources of inspiration, since I asked the participants tell about theirs.
		Reflections from the participants	Reflections on the discussions, results of the moodboards and a bit on the collage method as well. One participant worked from the perspective of her own thoughts and feelings. Other one was thinking more concretely what qualities slow clothing should have, whereas the third participants had more symbolic meanings behind the pictures. Inspired by the session, 1 participant thought about sketching a party dress.

Fig. 21. Participants making slow fashion moodboards. (Photo Konola 2011.)

Fig 22. Compilation of the 3 finished slow fashion moodboards. (Originals by the participants, compilation by Konola 2011.)

After the third action cycle already a lot has happened concerning the management of the process. My initial plan was to collect the reflection leaflets from participants after the whole process is over and reflect collectively during the process. I soon realised there is no time for such activities of reflecting and planning together and thus after the second action cycle asked the participants to return the leaflets to me after each session. After reading the returned reflection leaflets I revised it to include more questions to get more feedback on the process, suggestions and hopes for further actions[181]. One participant has dropped out of the project. She has not been able to attend any of the meetings. The *Wardrobe* -probe and the Reflection leaflet related to it, she did fill out and return. Also one other participant has been absent a lot, but she has always informed me if she is unable to come and she has expressed her interest to continue.

4.2.4 Minding materials on the 4th action cycle

Purpose of the fourth meeting is to discuss materials. In the second meeting it was discovered that participants have some idea of what sustainable clothing materials are, but some expressed the wish to know more about them. I also wish to educate the participants a bit about most common materials and then see what they consider appropriate for slow and sustainable collection. As a designer I have already sourced possible sustainable and domestic materials from my own starting points and ordered some samples. It is conventionally up to the designer to choose the materials for a collection, but it is ultimately the consumers that make the purchasing choices. So shouldn't they be aware of what they are actually choosing?

ACTION 4		
PLAN		
	Purpose of the intervention	Discuss materials and increase awareness.
	Participatory technique	-
	-Why?	Participants own interest and questions on materials expressed in the Reflection leaflets led to this session. Didn't really have time to plan and apply a specific participatory technique.
	Theories referred	-
ACTION		
	Location	Faculty of Art and Design, University of Lapland
	Date & Duration	9.12.2011 / 2 hours
	Number of participants	3 out of 4
	Materials / Supplies	ACTION_4 PP-presentation, fabric samples, empty cards
	Techniques used in session	Activating exercises: What are you wearing? What would you choose? (see Fig 23.)

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[181] additional questions for reflection: *How have you experiences your own role in the process so far? Have you been influencing concept ideation or progress of the process? How would you like to proceed with the process/ and or contribute to it? What would you like to do or design?*

		Actions undertaken in a chronological order	What are you wearing right now? –exercise. PP-presentation on the environmental effects of textile production, sustainable materials and eco-labels. Presenting material samples with info. Then participants were asked to choose and write down on a card 3-5 materials to use for a collection, argue why and provide an example where to use it. Decisions were presented to others. At the very end I presented my inspiration sources from the design workbook.
OBSERVATION			
		Reactions from the participants	Silence during the PP-presentation. When examining the actual samples, interest was awakened again and some comments and question arouse. Choices mostly made based on individual preferences and current needs. My workbook presentation aroused discussion on the design process at the end.
		Interesting details	Criteria for the material selections were mostly feel, colour, appearance and qualities of the sample. Ecological aspect was only mentioned once.
		Outcomes from the tasks	Only two materials got more than one vote: domestic linen and bamboo jersey.
REFLECTION			
		What worked?	Considering the materials and showing my inspiration sources initiated discussion on the design process.
		What didn´t work`	As much as I tried to emphasize ecological and ethical aspects of sample materials, the choices were made on other grounds. Either this is taken as granted, since I already put so much thought into them or then participants are leaving all responsibility to me, and can only see things from their perspective.
		What could be done better?	Planning a participatory tool to further the design process.
	Reflections from the participants	Reflections on material choices. Some new info on textile production for everyone. No role seen in the process yet or generation of ideas. One is interested in knowing how designs turn into patterns and one would like to see my old work, or new sketches. Only one participant expressed an interest in designing something and drew some sketches on the reflection leaflet, from the materials we had been discussing.	

Fig. 23. Participants selecting materials. Photo Konola 2011.

Christmas holidays gave me time to go through the data collected so far, evaluate what has happened and device further courses of action. I read the Reflection leaflets from myself and from participants again and the Course of Action –report written so far and critically assessed the effectiveness of my approach, tools and methods used, because: "*Feedback is essential to readjust the evolving participatory design process...*"[182]. Important themes, concerning the research question, already presenting themselves, namely roles and actions of myself and participants and modes and levels of participation. Here I have also returned to the literature and theories once more to reflect upon my actions and readjust them accordingly. Meetings so far have upheld the traditional settings of the designer (or researcher) and users. I am questioning my facilitative abilities and when returning to Fuad-Luke´s (2009) identified principles for the work of a facilitator, I realize I have been missing some important points. Disseminating information during the event, summing up and pointing to the next step and keeping things simple enough to focus on the big idea are main principles for a facilitator.[183]

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[182] Fuad-Luke 2009, 183.
[183] Fuad-Luke 2009, 179, 182.

I am also concerned whether the fundamental premises about co-design and action research like communication, democratic decision making and equal participation in planning, acting, observing and reflecting are actualised. I also notice how collective agreement on the design brief or goals of the process has not happened yet and this is decided as the next big step in the process. Realization occurs that we are really just at the beginning of the scaffolds in the level of participation or intervention and in addressing and engaging participants from consumers to users or participants, not to mention co-designers. I have arrived at an observation that probing is not enough and the mindset in user-centered probing is not participatory enough. At this point I am also thinking about the upcoming probe kit I want to try out and its role in the design process as a source of inspiration for the design team consisting of me and the user. The truly participatory activities are hoped to begin when we start collectively interpreting the probe material and engage in generative activities.

4.2.5. Collective interpretation on the 5th action cycle

Collaborative interpretation of materials gathered so far is concerned with developing understanding and structuring ideas, but also about increasing the level of participation and dialogue between the participants. Even though it is interpretation, it is also reflection towards ones actions, a base for evaluating ideas and creating new ones. To continue from identifying themes to formulation of a design brief through expression of participants own thoughts and ideas, a narrative technique is utilised. If it is supposed that everyone can tell stories I will test the assumption with this task. Visioning through stories or scenario development is a typical technique for further explorations once the key issues have been identified[184]. Participants will create a story where they utilise observations and themes arising from the interpretation.

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[184] Fuad-Luke 2009, 182.

ACTION 5			
PLAN			
		Purpose of the intervention	Collectively interpret the inspirational material collected so far and come up with design brief or themes for collection. Remind about participatory process and introduce generative design space.
		Participatory technique	Collective interpretation in terms of material = grouping according to association by content OR Card technique Narrative technique Activating exercise: Associative drawing
		Why this technique?	Associative drawing to include slow fashion keywords from literature in to the process. Collective interpreting to express and develop bisociations in thought processes, develop understanding and structure ideas in dialogue. Card technique helps in organizing. Narrative technique utilized to continue from interpretation to formulation of a design brief through expression of participants own thoughts and ideas.
		Theories referred	On interpretation: Mattelmäki 2006 referring to Keinonen & Jääskö 2003 On card technique: Fuad-Luke 2009; MSP Portal 2011 On narratives: Fuad-Luke 2009; Sanders & William 2001 Harnessing people´s creativity: Sanders & William 2001 On generative design space: Sanders 2010
ACTION			
		Location	University of Lapland
		Date & Duration	31.1.2012 / 2 hours
		Number of participants	3 out of 4 (one came late)
		Materials / Supplies	ACTION_5 PP-presentation, Material collected so far: Summary of Wardrobe-probe, 3 slow fashion collages, brainstorming words, keywords from sustainable & slow fashion, the pictures from associative drawing exercise + 5 empty A2 boards on the wall,
		Techniques used	see below.
		Actions undertaken in a chronological order	Explaining fuzzy front end in design and the idea of generative design space. Associative drawing from 10 slow fashion keywords. Collective interpretation and naming the emerging groups for themes. Telling a Story –narrative exercise as home assignment.
OBSERVATION			
		Reactions from the participants	Some groups formulated easily, but there was not much discussion. Struggling with the themes and I ended up facilitating the conversation.
		Interesting details	Not many choices were questioned or explained.
		Outcomes from the tasks	Themes: Together, In the Nature, In Personas, Within oneself & In the Form/In the Maker (see Fig. ….)
REFLECTION			
		What worked?	Participants were well engaged in action, even though interpretation was experienced challenging.
		What didn´t work`	As time ran out, I forgot to summarise the session. Narratives, that I later received, didn't add much to a design brief, because I didn't specify the task to concern clothes.
		What could be done better?	Stating clearly intentions and purpose of activities.
		Points to consider for the next cycle	How could this longing for simple, easy, care-free well-being, noticeable in the narratives, be connected to emotionally durable and sustainable clothing?
		Reflections from the participants	Associative drawing and Telling a Story –task were remarked as fun. Interpretation was found difficult, groups dynamics "fumbling" and coming up with themes more challenging than the actual grouping.

Fig 24. Participants collectively searching for themes for the collection. Photo Konola 2012.
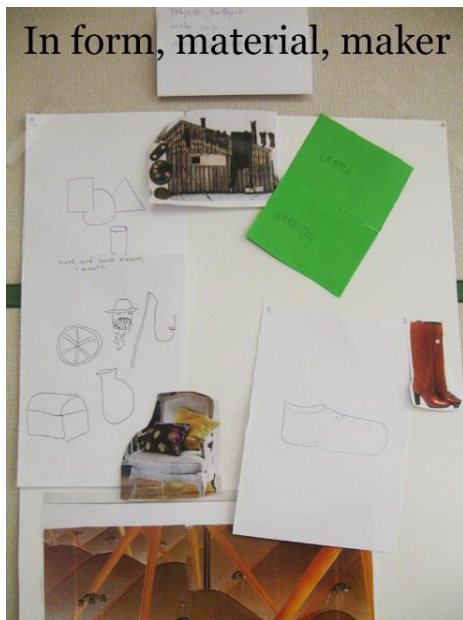

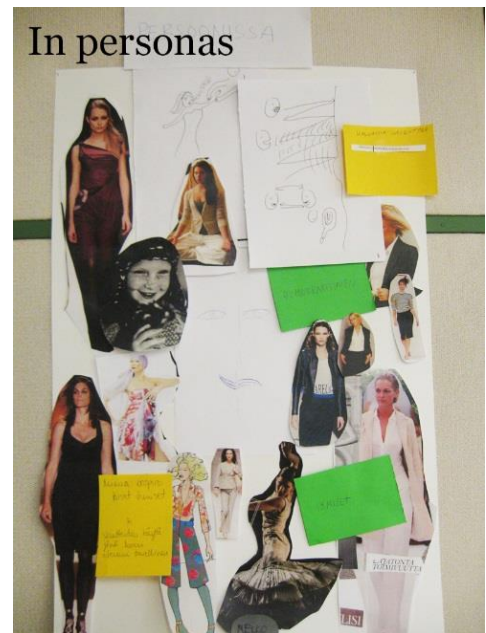Fig. 25 Themeboard: In form, material & maker   Fig 26. Themeboard; In personas

Fig. 27. Themeboard: Within self, in inner world. Fig 28. Themeboard: In nature. Fig 29. Themeboard: Together. Fig 25-29. Finished themeboards compiled by participants. Photo and added text Konola 2012.

4.2.6. Probing for emotional durability

ACTION 6			
PLAN			
	Purpose of the intervention		Probing for emotional durability, engaging participants designing further and to approach empathic design
	Participatory techniques		Probe kit (see Fig. 30)
	Why this technique?		Immersing participants into emotional durability, probing for person-product attachment and experiences, characteristics, emotions, needs and aesthetics relevant to emotionally durable design. Explore whether probes could work both ways; in engaging users and providing the designer with an empathic attitude. Results of the probes intended as a source of inspiration for further design process.
			Inspiration for the probe tasks is found from my own design workbook, reviewing characteristics of emotional durability from literature and 3 levels of product experience, but the reasoning behind each task is provided in Attachment 7.
	Theories referred		On probe kits: Mattelmäki 2007
			On emotional durability: Chapman 2009
			On emotional durability. clothing and empathic design: Niinimäki 2011
			On product attachment: Norman 2005; Chapman 2009
ACTION			
	Location		-
	Date & Duration		16.2-26.2.2012
	Number of participants		4/4
	Materials / Supplies		EMOOTIOI/EMPATIOI-probe kit, pack of colouring pencils, disposable camera
	Techniques used		Probe kit
	Actions undertaken in a chronological order		Participants given 10 days to fill the probe with diary pages for 6 days and 8 separate exercises.

Pirta - word/photo association

Wear Something...

Body - Drawing platform

My Favourite...

Dress - Drawing platform

Quotes -reflect & comment

Grid - Drawing platform

Style Stories -timeline

Dearest Probe - diary pages
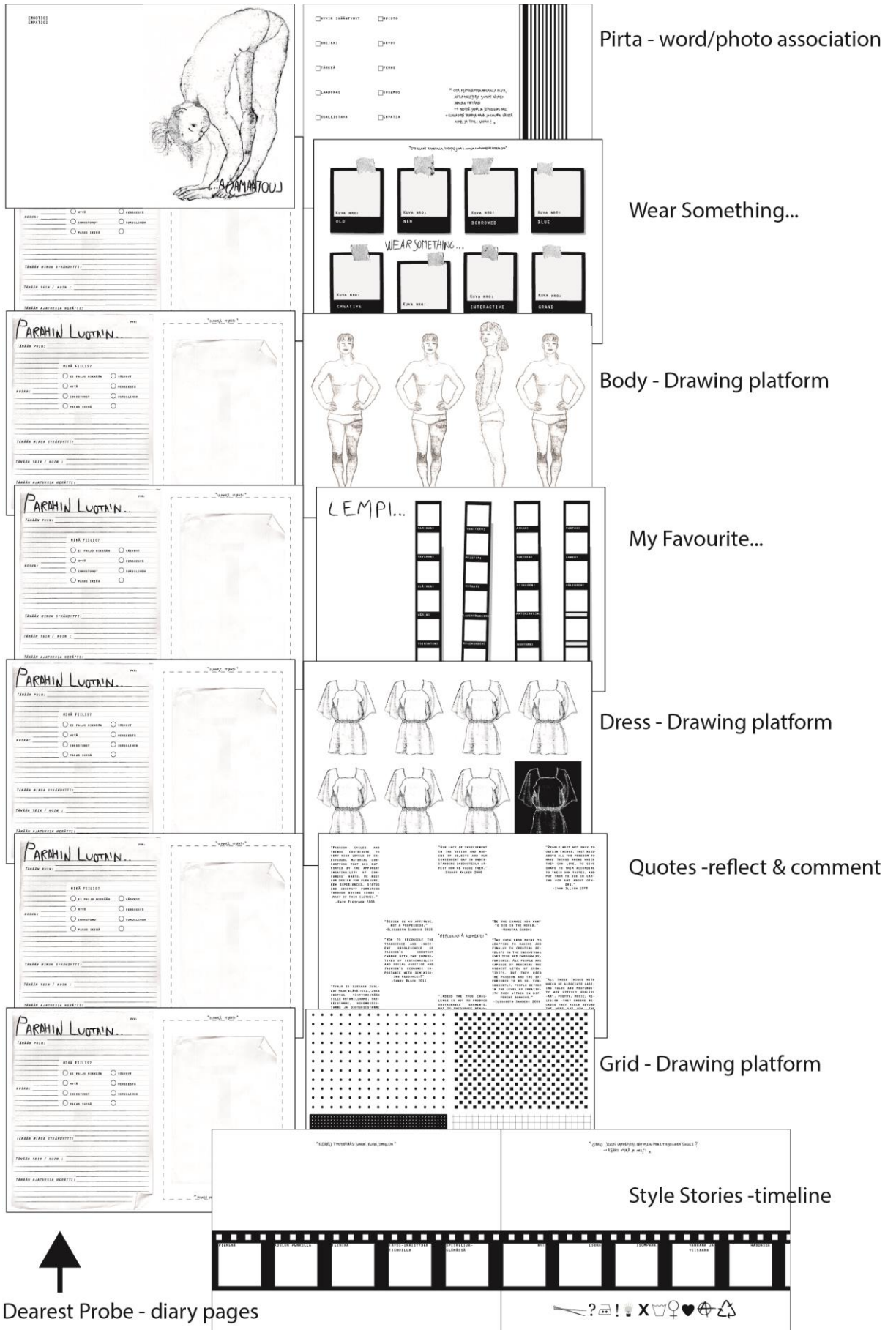
Fig 30. Pages of an empty EMOOTIOI/EMPATIOI –probe kits. Konola 2012.

While participants are filling out their probe kits, I have had time to reflect upon some practicalities, but also emerging design ideas. The blog I have set up has not functioned as a communicating tool outside the session. But at least results from each session are summarized there for the participants to see. Time is constantly an issue, as lack of time partially results to lack of participation. I have also found this process really time consuming for myself, with the double roles as a researcher and a designer. I am also starting to question how much literature read beforehand for the purposes of conducting research, is actually influencing my creative streams as well. Influence of the user participation in the design process are multiple, but difficult to pinpoint. Ideas on customization, DIY and multipurpose dress for sustainable design, moodboards and themes so far are concrete directions for the design work from the participants. Ideas from literature like hybrid designs, or unfinished pieces have contributed to the formulation of a platform concept now bubbling under and convivial tools[185] has also inspired me to think about convivial clothing – something that would invite participation, inspire creativity and be open to touch and change.

By this point, I have found out that I have been accepted to have an exhibition at the *Pispala Center of Contemporary Art*, Hirvitalo. Theme of the spring exhibition series was Participation and my project was selected to take part. My initial plan, as I was applying in the fall, was to exhibit the ready collection, whatever that would have been, but now as I was given an earlier exhibition time and my process is also taking longer than expected, I decided to this as a part of my project. Since I have observed that this kind of long-term participation is difficult to arrange and arduous for the participants, I decided to try short-term participation. Workshops with the participants are in my programme theory, and I am still doing that with my group, but this Hirvitalo exhibition is an opportunity for me to try and condense all that I have learned so far and see if the methods and tools can be used effectively in the course of one day workshop.

ACTION 6		
OBSERVATION		
	General observations about the returned probes	Level of activity in filling out the tasks varied greatly, but also active persons had some not so active days. Everyone filled out all the Dearest probe…-diary pages. Wear Something -task was misunderstood. Two of the participants actually wore something and took pictures of them, but only one commented, which would have been the purpose. Body and Dress platforms were popular drawing exercises. Quotes- not popular at all.

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[185] concept by Ivan Illich 1975, that I discovered from Sanders 2006.

REFLECTION		
	What worked?	As a whole the probe worked in probing for person-product experiences. Tasks also engaged users and some provided a platform for expressing their creativity.
	What didn´t work`	Just by reading the probes through and looking at pictures I didn't get much out of the material. Wear Something -task was a bit unsuccessful and that was the one I was expecting good reflections on what would be e.g. creative or interactive and how did it feel to wear something like that. And I didn't get any.
	What could be done better?	Participants could be given more time to fill out the probe. Thus answers might be more elaborative.
	Reflections from the participants	Generally positive feedback: fun, excited, interesting. Reflections on effects of the probe in thinking about what one is wearing. Drawing and taking photographs were remarked as fun, even though challenging. Participants seeing their role in the process now as inspiration, informant and a dresser. Concern for the lack of interaction between the participants was mentioned.
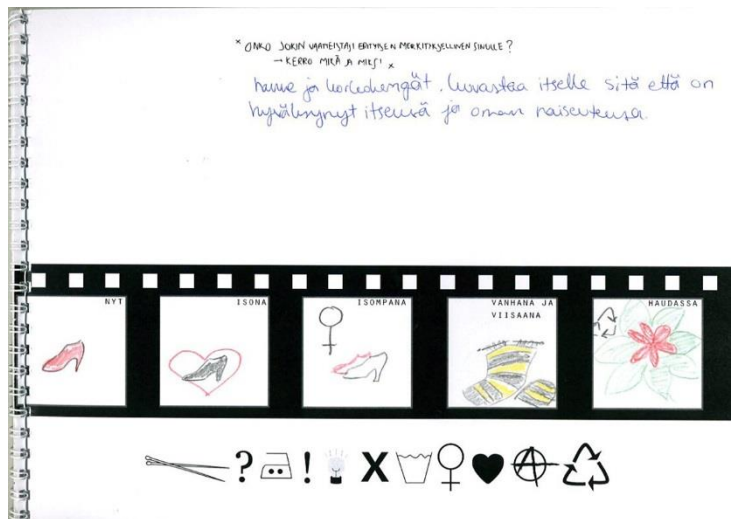
Fig. 31 & 32. Examples of filled probe pages from two different participants.

4.2.7. Interpreting the probe kits on the 7th cycle

After collecting the probes, it became clear that we were not able to arrange a date for collective interpretation session for the whole group. Thus everyone was met individually. Material from all the probes kits was grouped the walls of my temporary studio according to each task. Participants were asked to examine the material task by task and wonder and ponder what kind of observations arise. A drawing exercise was planned based on the interpretation of the material and themes rising from the discussions. Participants also commented on sketches from the first round. At the end, a questions of needs, intention, function or the meaning of the collection was again returned to. What do they think about emotional durability in the light of this material and your own clothing experiences? What are we going to design and why? What is the problem we are trying to address and what kind of clothing could be the possible answer?

Fig 33. Probe material organised on the walls of a studio for collective interpretation. (Photo Konola 2012.)

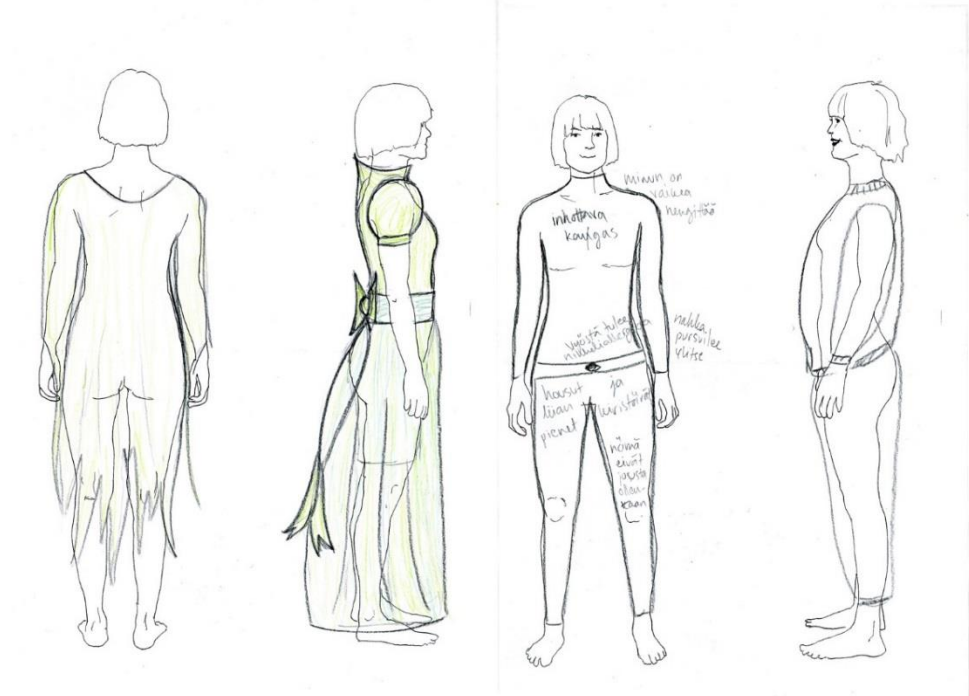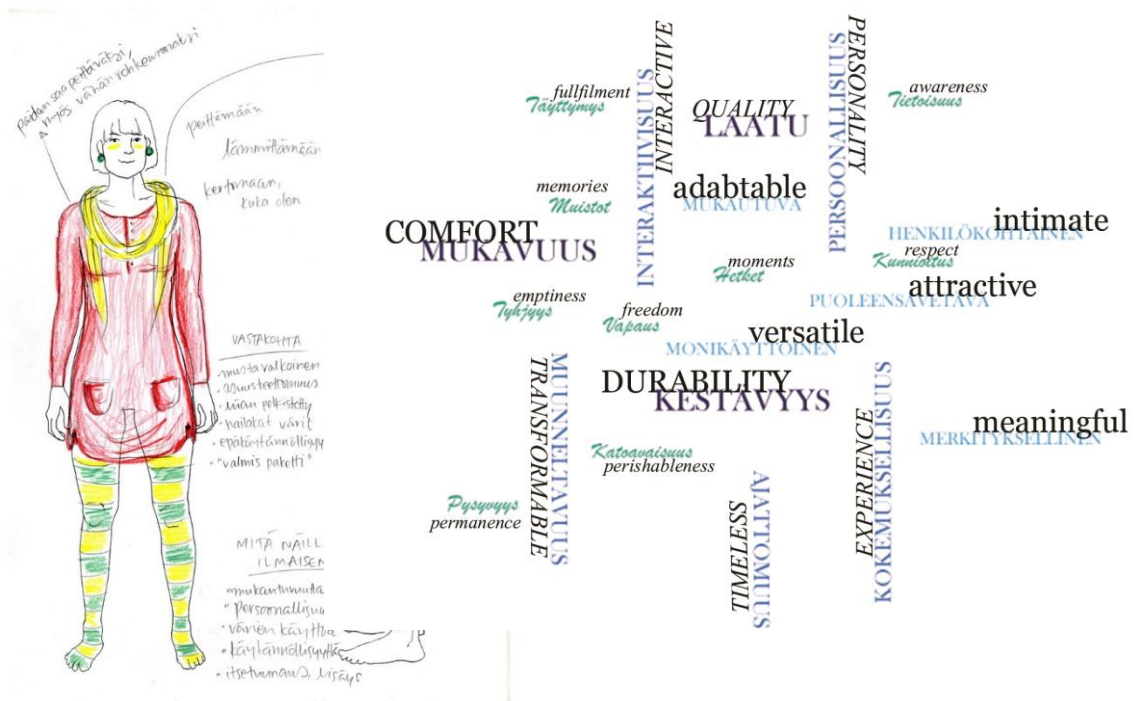| ACTION 7			
PLAN			
	Purpose of the intervention	Engage participants in collective interpretation and reflection of the probe results and further, emotional durability	
	Participatory technique	Collective interpretation and reflection Drawing exercise for bisocation and expression	
	Why this technique?	Working as a design team to collectively interpret the probing results is productive, offer a chance for dialogue, interaction, structuring ideas and drawing exercise maybe even expressions of design ideas.	
	Theories referred	On collective interpretation: Mattelmäki 2006 On bisociation and expression: Sanders & William 2001	
ACTION			
	Location	my temporary studio at Rovaniemi	
	Date & Duration	week 9 / 2012	
	Number of participants	4/4, but each came individually on different times	
	Materials / Supplies	ACTION_7 PP-presentation, Probe kit pages copied and grouped on the wall according to each task, Figure platform, pencils and colour pens for drawing exercise	
	Techniques used	Interpretation, me facilitating the reflection and discussion, bisociative drawing exercise	
	Actions undertaken in a chronological order	Participants met individually. The basic structure of meetings was the same, but the order of probe task interpretations varied. Discussions on emotional durability after interpretation, then drawing exercise, discussions on purpose of the collection and finally commenting on the sketches.	
OBSERVATION			
	Reactions from the participants	Elaborated on stories behind photographs and comparing own "answers" to other people's views. Tendency to interpret themselves and others as personas through the material produced. Drawing exercise was welcomed immediately. Sketches participants were happy to see.	
	Interesting details	Not so obvious photos attracted more interest. "*No meanings, memories or experiences are born in a clothing store*."	
	Outcomes from the tasks	We would like to create personal clothing, meaningful and comfortable pieces that would take you through the day, pick you up when you are down. We would like to create something warm for the body and heart, something pleasing the eye as well as mind. Suggested attributes, see Keywords (Fig. 34) Drawings (see Fig 35)	
REFLECTION			
	What worked?	Individual meetings created genuine encounters, good discussion and for me, empathy. By digging deeper I got answers that will steer the design process.	
	What didn´t work`	Collective action; no time for one meeting found. Bisociative drawing & expression –exercise was well received, but maybe half understood ; the usefulness of outcomes is debatable.	
	What could be done better?	Create possibility for group interaction, brief exercises clearly	
	Reflections from the participants	Only 2 returned! Session seen in good light even though the point of drawing exercise missed and participants feel there isn't much progress. Looking forward to the results and reflections on what the collection should be.	

QUALITY
LAATU

INTERAKTIIVISUUS
INTERACTIVE

PERSONALITY
PERSOONALLISUUS

fullfilment
Täyttymys

awareness
Tietoisuus

adabtable

memories
Muistot

MUKAUTUVA

intimate

HENKILÖKOHTAINEN

COMFORT
MUKAVUUS

respect
Kunnioitus

moments
Hetket

attractive

emptiness
Tyhjyys

freedom
Vapaus

PUOLEENSAVETAVA

versatile

MONIKÄYTTÖINEN

MUUNNELTAVUS
TRANSFORMABLE

DURABILITY
KESTÄVYYS

EXPERIENCE
KOKEMUKSELLISUUS

meaningful
MERKITYKSELLINEN

Katoavaisuus
perishableness

Pysyvyys
permanence

TIMELESS
AJATTOMUUS

Fig. 34. Keywords for the concept of the collection. Collected and translated by Konola 2012.

Fig 35. Example from the Bisociative drawing -exercise from two participants.

Process has been quite long, almost 5 months now, including 7 sessions, but it has not been participatory or interactive enough. A sense of frustration is felt from the participants, as they are reflecting on the vagueness of their role, lack of interaction between the group and the general slowness of the process. We haven´t been reflecting

or planning things as a group and I think participants feel a bit detached from the process. I wish there was a way to remedy these problems easily, but it seems difficult at this point. Workshop to Tampere is now in planning. An organization of a workshop day with the group was attempted to before this, but a common time couldn't be found. Thus next meeting will be delayed over a month. There participants will do some hands on designing where they can realize their ideas if they have some. I will have participants manipulating really early prototypes, almost basic forms and experimenting what can be created from them. Arranging a meeting later where participants could come and take a look at half-ready or even final prototypes for the collection is worth considering. At the end I am planning to have a discussion with the participants, sort of de-briefing where they could out all their grievances about the process. It now feels like they have been a sort of a test group with whom I have made all the mistakes. I know one participant is moving away in May, thus the data gathering needs to end there.

4.2.8. Participatory workshop at Hirvitalo, Tampere

Based on the previous action-reflection cycles I designed appropriate methods and tools to be used inside a participatory workshop frame. Special focus is on exploring with quick prototypes and 3D-mock ups, but intention is to carry through an entire co-design process successfully with a group of participants. Since the process with my long-term engagement group has been exploratory and sometimes even unsuccessful, I am hoping to have learned from my mistakes and apply this knowledge gathered into this new context and a new group of people. Keeping with the idea of scaffolding, I have combined and utilised the four-step framework by Sanders& William (2001), Fuad-Luke´s (2009) model of Co-design in Action and my past experiences and planned a process of priming or probing, brainstorming, deciding on a collective design brief, ideation and conceptualization and finally encouraging design and generative actions through bisociation and expression and quick prototyping.
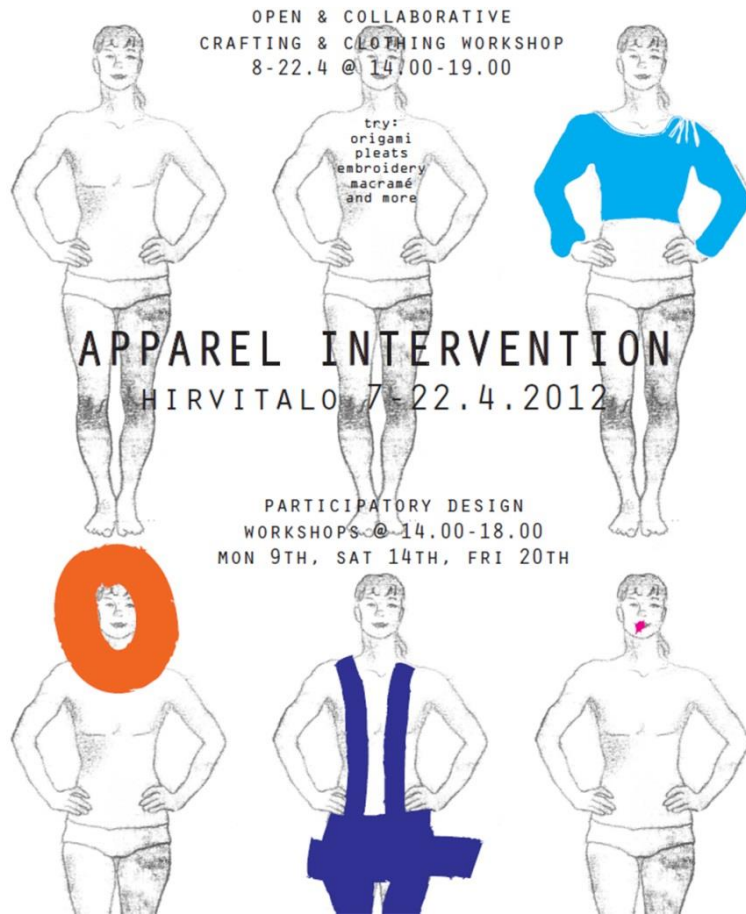
Fig 36. Piece of a poster designed for Hirvitalo exhibition & workshop. Konola 2012.

ACTION 8		
PLAN		
	Purpose of the intervention	Workshops for user makers as a co-design method. Apply knowledge gathered from the process and mistakes with the long-term group into this new context, new group of people and a short one day workshop.
	Participatory technique	Co-design workshop including the following techniques: 1. Priming and probing with Closet Confidentials –probe 2. Brainstorming 3. Cause and effect mapping with Problem and Objectives Tree 4. Ideation and expression with moodboards 5. Dreaming & conceptualization with 2D paperdoll – toolkit 6. Bisociation & expression with 3D mock-ups & quick prototyping 7. A story of the future (collection) 8. Evaluation & Conclusion
	Why this technique?	Intention is to try carry through an entire, well planned and structured co-design process, as a workshop. Special attention is paid in exploring with quick prototypes and 3D-mock ups, since it is a new technique.
	Theories referred	Sanders & William 2001: 4-step framework for harnessing people´s creativity Fuad-Luke 2009: Co-design in action

			MSP Portal 2012: Cause & Effect mapping and Problem & Objectives Tree Fletcher 2008: User maker
ACTION			
		Location	Hirvitalo - Center of Contemporary Art Pispala, Tampere
		Date & Duration	9.4.2012 / about 4,5 hours
		Number of participants	2
		Materials / Supplies	PP-presentation ACTION_8, empty cards for brainstorming, assorted goods for moodboard making, 2D paperdoll –toolkit, quick prototyping platforms (see Fig 38), dummies, pins, fabric scraps and other haberdashery also available
		Techniques used	Co-design workshop including the following techniques: 1. Priming and probing with Closet Confidentials –probe 2. Brainstorming 3. Cause and effect mapping with Problem and Objectives Tree 4. Ideation and expression with moodboards 5. Dreaming & conceptualization with 2D paperdoll –toolkit 6. Bisociation & expression with 3D mock-ups & quick prototyping 7. A story of the future (collection) 8. Evaluation & Conclusion
		Actions undertaken in a chronological order	See above. Participants had filled out the probe at my exhibition opening, so we started with brainstorming right away with a question: "*What should be considered when designing a clothing collection*?" 2D paperdoll –toolkit was not used, because participants already produced corresponding ideas in moodboards.
OBSERVATION			
		Reactions from the participants	Brainstorming turned into with only 2 people. Problem and objectives were agreed upon. Starting a moodboard a bit difficult for another one but at end she stated "*should do this more often*". On quick prototyping both dived in without hesitation. They mixed pieces and made several prototypes, both took pictures of 3 finished ones. Writing narratives was a bit laborious, because participants felt they had been discussing the concept so much already, clothing futures very relevant to the concept were produced.
		Interesting details	One of the resident artists at Hirvitalo at the time, also joined us for quick prototyping. Chairman of Hirvitalo association, Mikko Lipiäinen was also present and we ended up talking about copyright laws concerning participatory design.
		Outcomes from the tasks	Design brief as Problem & Objectives: Moodboards (see Fig 37.) 6 Quick Prototypes Narratives: "*U&ME Be your own fashion brand*" and "*In the Community Where I live…* "
REFLECTION			
		What worked?	Pretty much everything we did
		What didn´t work`	Getting participants into the workshop = advertising?
		What could be done better?	I didn't organise the Problem & Objctives Tree –exercise well and it remained more on a discussive level.
		Reflections from the participants	Generally a positive feeling about the workshop. Prototyping was especially liked and generated a desire to actually make something. Including non-designers in a design process was seen important, yet challenging, and participants envisioned organizing groups of people in designing and making their own clothes.

Fig. 37 Moodboards by participants for the concept *DIY clothing from local surplus*. (Photos Konola 2012.)

Fig 38. Examples of quick prototyping platforms. (Photos and compilation Konola 2012.)

Fig 39. Participants at Hirvitalo engaged in quick prototyping. (Photo Lipiäinen 2012.)

4.2.9. Quick prototyping with user makers on the 9th action cycle

This is a final session with the long term group where quick prototyping with 3D textile mock-ups, or platforms, is worked with. I asked the participants for two and half ours of their time, for prototyping and for final reflection on the whole process.

ACTION 9		
PLAN		
	Purpose of the intervention	Workshops for user makers as a co-design method. Explore quick prototyping as a method of engaging participants in the clothing design process, and observe how these more or less ambiguous platforms engage participants into action and reflection.
	Participatory technique	Bisociation and expression with 3D mock ups and quick prototyping
	Why this technique?	Since quick prototyping was so well received in Tampere, initial idea was confirmed to utilize the same idea and platforms with my long-term group as well.
	Theories referred	Sanders & William 2001: 4-step framework for harnessing people´s creativity
Fuad-Luke 2009: Co-design in action
Fletcher 2008: User maker

ACTION		
	Location	My temporary studio at Rovaniemi
	Date & Duration	26.4. & 25.5.2012 / 1,5 h per session + 0,5 h reflection
	Number of participants	2 & 2
	Materials / Supplies	Quick prototyping platforms, dummies, pins, fabric scraps and other haberdashery also available, disposable camera for recording "finished" prototypes.
	Techniques used	Bisociation and expression with 3D mock ups and quick prototyping
	Actions undertaken in a chronological order	Assignment, prototyping, final reflection & evaluation
OBSERVATION		
	Reactions from the participants	Participants eagerly started working even though none of them done something like this before. Two of them were a bit hesitant, but got the idea soon. Expressions of relief and joy when participants realized it is not so hard after all. Atmosphere was relaxed and participants concentrated on their work. Different platforms were mixed together. When time was full, half could have continued further and half were happy to end it there.
	Interesting details	As action and reflection levels were so good and atmosphere creative, suddenly an idea of a service came to my mind. I envisioned platforms users would work on the dummy like this, but then have someone else realise the design. Ideation is easy and fun, and also great experience, but to ensure the quality of the clothing, one could hand the actual production to a professional. The most amazing thing is that some moments later one participant voiced a similar concept, of this kind of service available for people.
	Outcomes from the tasks	5 +7 (+2 detail variations) = 11 prototypes 5 + 4 = 9 prototypes (see Fig. 40 for some example)
REFLECTION		
	What worked?	Pretty much the whole session on both occasions.
	What didn´t work`	-
	What could be done better?	Emphasize that this is a tool for ideation and there is no need to consider "realities" like seams or dressing
	Reflections from the participants	Protyping was fun for everyone, even though considered challenging by a few Abstract form as a starting point was seen as a good thing, because just a piece of cloth is too vague. Many realized they were working with shapes that please them. They also said their ideas resembled garments they themselves like. One participants felt "clumsy" at times, and another was thrilled about an idea to be able to work with colours, prints and better fabrics as well. To use participants this activity inspire reflection on new clothing practices. While working, she started talking about body images and how this kind of working might be beneficial for people of all shapes and sizes.

This is where collaborative actions with participants ended. Concept and prototypes for the collection were finished by me during the summer. How this participatory process is reflected in the final collection is not the topic of this research. Final concept and levels of participation and creativity created for the garments, however, reflect the effects of the process (see Appendix 3. DESIGN NOTEBOOK. Final page: Hide & Seek, Find & Play, Act & Create).

Fig 40. Quick prototypes by the participants, 2 examples from each. (Photos by the participants, collage by Konola 2014.)

5. Methods for analysis

Purpose of analysis is to function as the last reflective cycle in this practice-led, action research process. Aim is to arrive at an holistic understanding on what kinds of methods and tools work in engaging users in a participatory clothing design process, in what context does something work, for whom, and what kind of things need to be considered when embarking on a co-design journey. I will combine summative evaluation and thematic analysis into revisiting the documentation of the process and its outcomes. In action research, the theoretical framework guides the data gathering as well as analysis, but there are a few layers to the data analysis process. It begins immediately with the process and continues throughout the data-gathering process; actions and observations are reflected upon and further interventions and decisions are guided by them. Review of literature is simultaneous. It aids understanding and suggests directions. Data can be revisited for a more thorough, holistic understanding.[186]

Here the ongoing analysis has complied along the above mentioned and following lines. After each action cycle, self-reflection leaflets are filled by me and the participants. Soon after, key points from the observations and reflections on the design actions and their outcomes are written down, in the manner of process evaluation, into the Course of Action –report. Process evaluation stems from the realist evaluation approach and it seeks to examine for example how something is done, how something happens, what solutions produce the best results, decision making processes and action related reflections on knowledge and feelings[187]. I have for example looked at what works, what didn´t work, what could have been done better and points to consider for the next action cycle. While reflecting on the latest cycle and planning for the next one, I have reviewed literature again on relevant points. During the process I revisited data gathered thus far on a few occasions and already began to see some important themes emerging. Thematic analysis can be theory-led or grow from the data and it can help identify crucial topics relevant to the research question. Data is fractioned and organized accordingly. This kind of reducing is an appropriate way of analysis and a way of filtering essential information for more pragmatic research questions.[188]

For clarity, I have organized my analysis of this participatory process and techniques used into three levels, represented by sections 6 to 8. *A Framework for*

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[186] Herr & Anderson 2005, 80-84.
[187] Anttila 2007, 110-111.
[188] Eskola ja Suoranta 1998.

Organizing the Tools and Techniques of Participatory Design by Sanders, Brandt & Binder (2010) serve as an inspiration for the following levels. *Plausible participatory tools and techniques* analyses the data on the level of tools and techniques and will pay attention to the very concrete level of using them. This is an elaboration on the evaluation I have conducted for each tool after the sessions and recorded on the Course of action report. *Managing the method* section examines the existence, successes and failures of a method or methods in my process and reflect the findings from collected data to examples from literature. Finally, *Approaching co-design* discusses the process on a more ideological level and examines the purpose of and motivation for user participation, manifestations of these and their effects on user engagement.

6. Plausible participatory tools and techniques

When analysing the data on the level of tools and techniques, attention is paid to the very concrete level of using them. When talking about tools, I am referring to the material components that are used in activities. For example my *Wardrobe* –probe is a tool, as are 3D mock-up platforms. Toolkits are a combination of tools; for example probes are usually referred to as probe kits. Technique describes how the tools and toolkits are put into action.[189] I will go through each tool and technique and analyse what worked, for whom, in what context and did they fulfil the purpose they were designed for. I will reflect and compare the findings from collected data to examples from literature.

6.1 Probes

Visually appealing probes can be an easy and fun invitation into participation and exploratory co-design process. Both, my *Wardrobe* –probe and somewhat altered *Closet Confidentials* –probe for Hirvitalo were well received and participants found them interesting. Even though someone might argue that they are not much more than visualized questionnaires, I claim that their visual and open nature makes answering questions more interesting. Visually attractive appearance invites into design world and open space allows drawing as well as writing. The very first meeting, where *Wardrobe* -probes were handed out, was very informative and one sided. I tried to initiate some brainstorming around participatory design, but it didn´t inspire much conversation. Participants however, had positive thoughts about the first meeting and were looking

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[189] definitions for tools and technique from Sanders et al. 2010.

forward to an exciting project, probably thanks to the fun probe. Mattelmäki (2007) also shares this view of probes as a door opener and a facilitator and points out a case where it has specially been used as a first step in longer design collaboration with users[190]. Probing is also seen as a parallel or preceding technique to priming where participants are immersed into the subject area as one of the first steps in the process or as a pre-meeting tool[191].

Information probes can be a good and well received tool in collecting a lot of user data, but it can also operate in another direction in framing the challenge and introducing participants to a subject field. Framing the challenge of sustainable clothing, focusing on individuals contexts and gathering information were the aims of my *Wardrope* –probe[192]. Open questions in the probe were meant to explore these issues of needs, consumption and sustainability in relation to fashion from the participants` own perspectives and experience, and in this the tool was very successful. It mapped out knowledge areas and interests of the participants, but also elicited reflections about their consumption behaviour and ways of dressing: "*I considered more carefully about my ways of dressing, style and consumption habits.*" *The Closet Confidentials* –probe I made for Hirvitalo – exhibition, I had visitors fill it in the exhibition opening. In just an hour I got 31 individual experiences on clothing, consumption, needs and preferences. I have not processed the material for the purposes of this research, but this shows that the tool is easily received. Thus I agree with Mattelmäki (2006) that they are a good tool for collecting information on experiences and attitudes of potential users and determining further questions[193].

In fulfilling its dialogue and participatory purpose, probes needs follow-up actions, like collective interpretation of the results. This will build interaction between designer and participants. It became evident, that open questions in the probes already can provide a platform or opportunity for dialogue for the participants: "*It felt good to be confronted with a channel that seems to be interested in the anxiety I feel towards consumption and also (interested in) my clothing related needs.*" Probes can be agents of dialogue where designers get to say something to the user through it and in doing the exercises, users say something back. Probes also facilitate and prepare for communication in further actions, which usually are follow-up interviews.[194] Instead of interviews, I

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[190] Mattelmäki 2007, 75-76 referring to Westerlund et al. 2003)
[191] see for example Sanders, Brandt & Binder 2010, 1-2 and Sanders & William 2001, 3-4.
[192] According to what Mattelmäki 2006, 63 has proposed as purposes for Information -probe
[193] Mattelmäki 2006, 60.
[194] Mattelmäki 2006, 61.

decided upon collective interpretation of the results, because I thought it would be more participatory, improve social dynamics in the group and provide more room for dialogue. Interpreting the *Wardrope* –probe together seemed to function well this way. Participants were actively involved in reflecting upon the summarized results, bringing their own views and experiences to the table and brainstorming for sustainable starting points. Even though the conversation steered away from the actual probe answers, sustainability in the clothing industry was discussed from a wider angle and things like renting and repair services were pointed out, together with known business examples. Mattelmäki (2006) includes collaborative learning as one of the results of dialogue probing. I learned that participants do think about sustainability, but more on an everyday level like how difficult it is to get information about these matters. Collective reflection and brainstorming also seemed to elicit an inner dialogue in the participants who continued to reflect upon sustainable clothing production back home: "*I am very interested in ecological/Finnish design. I feel anxiety towards the volumes of stuff/clothing at home, what I have, however, tried to cut down with the help of fleamarkets/SPR* (Finnish Red Cross). *I feel that my consumption has been transforming into a more positive direction.*"

A probe designed mostly for information and dialogic purposes can also function as an incentive to creativity if it is visually stimulating and there is room for user´s own input. In the *Wardrope* -probe there purposefully was room for drawing as well as writing, but only 2 out of 5 drew anything. Combined with collective reflection, however, it inspired one of the participants to innovate one of the brainstorming ideas of a multipurpose dress further: "*Reversal dress? Detachable lining? Or are accessories enough? A basic design that can be easily transformed by changing shoes, hairstyle or accessories?*" As *Wardrobe* -probe was modified into *Closet Confidentials* I designed it to include more visually activating elements. The results were also more visual. Out of 31 probes filled, 8 included only text, 4 some small drawing like hearts or other symbols and 19 also other drawings. Some authors do not regard the design of aesthetic appearance as important when looking for information[195], but if the ultimate goal is participation and harnessing user creativity, this is worth considering. Mattelmäki (2006) points out that visual aspects motivate and show interest in the user and as probes are meant to consider surprising perspectives, appearance can provoke and provide stimuli[196].

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[195] Mattelmäki 2006, 60.
[196] Mattelmäki 2006, 49-50.

6.2 Collage making

Collage making as a participatory technique can facilitate creative expression, produce inspirational material and inspire designerly orientation in participants. Collages can be a probing tool to collect visual material for design inspiration or a tool for individual or group meetings that stimulate creative expression and active feelings and memories [197]. Task of making a *Slow Fashion -collage* was well received. Participants were concentrated on their work and there were clearly some designerly qualities present in their making and thinking. One participant presented beauty, simplicity and movement as characteristics for slow fashion in her moodboard. Another placed most emphasis on quality, classics and good materials and held it important that people would find their style and invest also in everyday clothes. For third participant the slowness was found in softness, warmth, materials, roundness and quiet, stress free environment. Her visual and tactile moodboard supported her interest in colours and textures. She also commented on how "*making a moodboard INTUITIVELY was very FREEING*" and how this kind of approach inspires her in her own work. She was also thinking about sketching some clothes, search for the "*ideal party dress"* for herself.

It is clear, that collage making as an exercise, reveals preferences, but telling about the finished work adds more meaning to making and results in deeper reflection and articulation of feelings and experiences. Meaning of the content is created by the explanations and stories of the persons behind the collage[198]. Asking the participants to tell about their moodboards to others revealed deeper contemplations on materials colours, style, functions of clothing and sources of personal inspiration like movement, grandmother, sounds and touch. Moodboard presentations even sparked conversations between the participants themselves. The task seemed to be pleasant and inspiring. Participants were happy to present their work and interested in listening to others. Later on conversation continued how it is interesting to see and hear different views and how with this kind of activity one starts to think about their relationship with clothes more. One of the participant continued reflection on slowness and clothing into the reflection leaflet: "*Or could slow fashion be that there is no production?...-… About the penquins I was still supposed to mention that durable and versatile clothing would be like animals` fur and coatings.*"

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[197] Mattelmäki 2006, 82; Sanders & William 2001, 5.
[198] Mattelmäki 2006, 82 referring to Mattelmäki 2003.

As a technique, collages allow for a variety of interpretations, or working methods. People use them as is natural to them and what they see suitable to express in a particular context. According to Mattelmäki (2006) collages offer a "*variety of expression opportunities*" for variety of skills and produce compositions that suggest abstract as well as more realistic issues[199]. In our collage exercise, some expressed feelings and dreams in a symbolic form, while others clearly wanted to communicate an idea. For example one participant in the group saw her moodboard was the "*most concrete one*" and represented the qualities slow clothing design should have: "*I had a lot of pictures of classic pieces that stand the test of time. …, I had more been searching for clothes that to me depict slow clothing design.*" Another participant made the moodboard very much from the perspective of her own thoughts and feelings: *"I noticed I was reflecting very much about myself. How I experience myself through that concept* (of slow fashion)." Collage exercise In Hirvitalo workshop immediately engaged participants in designing clothing. Even though they were asked to make an intuitive collage based on the formulated design brief using, words, pictures and colours, both started dress up people according to their vision. Explanations behind moodboards were already on concrete level: "*Well simply, it is about patchwork…decorating clothing with patchwork.*"

6.3 Material sampling

Participatory design doesn't necessarily always require a specific participatory tool or technique, but carrying out activities specific to a design field can make the design task very tangible and invoke reflection on the process. Fourth action cycle and material sampling as an activity came about when one of the participants had expressed a wish to know more about materials. It is conventionally up to the designer to choose the materials for a collection, but it is ultimately the consumers that make the purchasing choices. So shouldn't they be aware of what they are actually choosing? These reflections led me to decide to have discussing materials and increasing awareness as the purpose of this intervention. Purposes were met without any particular co-design techniques in use. I held a PowerPoint-presentation on the environmental effects of textile production, sustainable materials and eco-labels and presented participants with actual material samples that I had sourced. Then participants were asked to choose 3-5 materials to use for a collection, write down their arguments why and provide an example where to use it. This seemed to

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[199] Mattelmäki 2006, 82.

make it concrete for the participants that we are actually going to design a collection. Awareness can also be said to have increased and there was new information for everyone. One didn't know where silk came from and another had never thought about the production processes of textiles. One participant "*got a lot of new information about fabrics.*" After the session where at the end I also presented my moodboards, question on the size and content of the collection and duration of the design process emerged.

Getting in touch with a real materials and the design task can also inspire further designerly actions and make participants feel part of the process. Following comments that reflect designerly interest from the participants now only remained as comments on the reflection leaflets, but they pose an interesting question on what could have been achieved if this material choosing exercise was combined with a generative exercise with a creative agenda. One of the participant got inspired to do some sketching and on the back of the reflection leaflet she had 7 drawings of a dress: "*…On the other hand I would be interested to loosen up and think of something crazy for the dress, on the other hand I would interested in thinking about a dress or some other party outfit I could actually use. I would also be interested in designing a cardigan.*" Two of the participants selected materials very much based on their preferences and current needs, but third one demonstrated more professional attitude in thinking about "*what would the larger public buy*". She also continued with this designerly thinking in her reflection leaflet: "*Getting ecological fabrics (in Finland) seems to be difficult so far. Choices of colour are limited, there are mostly neutral colours. This imposes designing with certain limits...*" and she made a small detail suggestion: "*After the meeting I started thinking that would it be possible to use the red suede as a detail, in skirts form example?*" This session had such an effect on her that "*it felt the most like one has been a part in contributing to the concept ideation/progress*".

6.4 Activating exercises

From the very first meeting where brainstorming about participatory clothing design was unsuccessful, I made an observation that activating participants is important. Idea for these activating exercises has probably come from reading a book on participatory workshops full of ideas for facilitating workshops and tips for exercises and activities for different stages of participatory sessions[200]. Only `official` tool, that is commonly used in

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[200] Robert Chambers` *Participatory Workshops: A Sourcebook of 21 Sets of Ideas and Activities*.

the design field as well, is brainstorming, but other activities I have come up with concerning the topic or theme of a meeting. All exercises have had some role in getting the meetings goings and participants active and alert, but here I will briefly and more closely analyse their role and function in engaging participants in to the process.

Brainstorming is a good tool for quickly gaining ideas on a certain topic, but also as a priming exercise for further generative actions. It is a tool for collective understanding and exploring[201] as well as a first step in a discussion where problem to be solved is stated clearly[202]. I used brainstorming in second meeting as a following exercise for collective interpretation of the *Wardrobe* –probe, to have participants come up with sustainable starting points for clothing design. It served its purpose well and all participants were happy to present their ideas. In the 3rd action cycle we successfully brainstormed about slowness, as a preceding exercise to slow fashion moodboard. Sanders & William (2001) suggest this as a tool to collect words and pictures for a collage toolkit[203], but my purpose was only to get participants activated and reflecting upon the topic before starting work. With only a few people taking part in brainstorming, there is danger of getting caught in discussions. Conversational aspect was already present in these mentioned sessions, but at Hirvitalo workshop, where there were only two participants, it became a problem. Starting question for brainstorming was "*What do you think should be considered when designing a clothing collection?*" Stating the obvious was difficult and participants started asking "*well what kind of answers are you looking for?*" I tried to encourage the participants to state everything that comes to mind, since that is the point in brainstorming, not to censor at all. Results were recorded on separate cards, but we then moved quite seamlessly into thinking about the problems in the industry, through Problem & Objectives Tree –exercise, because participants were already rather concerned with those and wanted to discuss them.

Fashion cycle and *What are you wearing right know?* –exercises seemed to have both awareness raising and energizing role in starting the sessions. Participants were active in constructing a fashion cycle from the pieces provided and it sparked conversation between them. Participants reflected this, together with the whole session, to increase their knowledge on clothing production as a system. In the beginning of 4th action cycle concerning materials, participants were presented with a question: "*What are*

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[201] Fuad-Luke 2009, 181.
[202] MSP Portal 2012.
[203] Sanders & William 2001, 5.

you wearing right know?" Results were recorded on the board. A question was also presented whether participants feel themselves material conscious. One participant reported favouring natural fibres, but was surprised to find polyamide in her pullover. Fuad-Luke (2009) points out that it is often useful for a facilitator to engage the audience in the task ahead, for example with audiovisual inspiration, before the participatory activities[204]. It is debatable however, whether these exercises of mine, were in anyway needed, or would it have been more useful for me to use the time in preparing a correct generative technique for the material sampling session for example.

Purpose of the *Inspiration source* and *Associative drawing* -exercises was to have participants contribute to inspiration sources and awaken their creativity. To some extent they functioned as intended. Presenting their inspiration sources in the beginning of 3rd action cycle generated narratives, personal reflections and experiences and seemed to function as a good warm-up to collage making and interpretations. "*My bike chains broke when I was coming here and this forced me to slow down. Chains remind me of knits that I like, but also the colour and the structure inspire me. So chains inspire me visually, ideologically, as a structure and function, but also mobility is important for me, in life and in clothes.*" Associative drawing words I chose from slow design literature. This exercise in the beginning of 5th action cycle referred to Sanders` (2010) idea of generative design space, a concept that I introduced to the participant. Drawing was to illustrate how this is a generative space where they can "*make stuff*" (drawing & sketches) that reveal "*their dreams and aspirations*"[205] Some of these dreams and aspiration clearly found their way to the themes participants generated in the fifth session. Especially the themeboard TOGETHER consists largely of participants` drawings. One of the participants reflected the drawing exercise as fun and "*quick, thus without pressure and easy – one didn´t have to stress that the end result should be some certain type.*"

6.5 Probe kit

Tools or tasks in the probe kit should reflect the purpose of the probe, but it is also good to include different types of activities to allow for different types of expression. Some might prefer writing, while others respond to drawing or taking photographs more. Sanders & Williams (2001) have recommended this kind of workbook/diary/send camera

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[204] Fuad-Luke 2009, 180.
[205] Sanders 2010, 119.

home type of exercises as pre-meeting immersion tools[206], but later Sanders, Brandt & Binder (2010) have extended the functions of diaries to tools for probing, priming and understanding and encourage a variety of applications for probing in the forms of writing, drawing, photos blogs and video[207]. One purpose of my probe kit was immersion into the topic of emotional durability, but it also had inspirational agendas. Whether purposes were filled I will elaborate here later, but the variety of task was greeted with interest from the participants. To one participant was exciting to get to observe her clothing practices, because "*…observing something regularly usually reveals something to the observer* ". Drawing tasks were generally reflected as fun, even by a participant who said she hasn't "*been drawing for ten years*". An exception confirms the rule. One participant didn't find the *Body platform* inspirational because she felt the outline of the person showing through disturbing. Photographing was experienced fun, but challenging: "*…photographing things was fun, but it was surprisingly difficult to come up with one target that would describe the words meaningful in my life for example…-…so for the photos I chose the things that first came in to my mind*." Some felt they only sought for concrete presentations for the adjectives and two of the participants mentioned that "*with more time*" or if there was "*a second round*" they might put more thought into it.

Diaries as a probing tool, can provide a lot of information on the daily practices of users, but reaching the relevant information can be challenging. Diaries are described as "*traditional self-documentation tools*", focusing on users´ daily routines, experiences and feelings[208]. Purpose of the *Dearest Probe…*-diary pages in my probe kit was probing for person product attachments, experiences and emotions, needs and aesthetics relevant for emotionally durable designs. Answers mostly remained on the level of recording the clothes worn. Connections between emotions and clothing of the day were elaborated by one participant, but also occasionally mentioned by others. Mostly clothing was chosen for an occasion: work, leisure, festivities or for practical reasons like the weather and warmth. Colours were many times associated with feelings. Directly asking participants whether they have some really meaningful clothes and if so, why are they meaningful, produced more insights into emotional durability than diary pages per se. Mattelmäki (2006) points out that recording situations and feelings can be time-consuming and trial to participants´ motivation. Success is dependent on their effort.[209] Even though my

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[206] Sanders & Williams 2001, 4.
[207] Sanders, Brandt & Binder 2010. see also Fig 4.
[208] Mattelmäki 2006, 76.
[209] Mattelmäki 2006, 76.

participants very conscientiously filled out all the diary pages and a few of them expressed this activity especially fun and interesting, some of them confessed doing some pages days later and how it felt a bit arduous.

Probe kits have a lot of potential to provide inspirational material for a design process, but it might not be the concrete results or outputs from the participants that provide inspiration. Phases of planning and making the probe can be just as, if not even more important processes for creativity, while some exercises in the kit might fail in their purpose. As a designer I felt that just by reading through returned probes alone and preparing and grouping the material for collective reflection, I didn't get much out of the material, whereas in the planning phase I had to develop my emerging ideas into some concrete from. For example many drawing exercises (*Body, Dress* and *Grid*) grew out of the idea of a platform, as I wanted to test whether this concept produces any responses and what kind. Planning the probes is a chance for the designer to exercise their imagination and explore possible directions and solutions[210]. For some tasks, like *Wear Something…* I had a lot of expectations and it turned out to be a bit misunderstood. Purpose was to wear something interactive for example, take a picture what that is and comment on how it feels. Two of the participants wore something, but only other one commented. Others didn't read the text on the page and took pictures of other things.

Interpreting the probe kits together with the participants can provide additional information and it is this further interaction and deepening discussions that instigate empathy in a designer. Probe kit was planned to be interpreted collectively, but as we were not able to arrange a date for the whole group to get together, I ended up meeting everyone individually. Meetings ended up resembling what Mattelmäki (2006) describes as follow-up interviews, where the interviewer is getting to know the user more, material is interpreted and further design opportunities are looked for[211]. In these individual meetings I asked the participants to make observations on all of the material grouped on the walls, look for similarities and differences, reflect upon the material and pinpoint issues that draw their attention. Instead of general interpretations, participants connected with the material very much from their own perspectives. All of them elaborated on their stories behind photographs and compared their own `answers´ to other peoples` views. I asked questions and commented on things as I saw fit. Towards the end of the session as I was digging deeper with my questions of emotional durability, meaning, function and

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[210] Mattelmäki 2006, 59,62.
[211] Mattelmäki 2006, 86.

intention I got some relevant answers that steered the design process. All this resulted in some genuine encounters that could be characterized as empathic design. Empathic design outlines an individual perspective, looks into peoples´ personalities, preferences, wishes and habits[212] and allows them to define what is relevant and meaningful[213]. This resulting empathy has influenced my work as a designer. After the meetings I really wanted to produce something for the participants. Even though I already had ideas developing, I did not wish to disregard their hopes, values and desires.

Follow-up interviews can lead to design empathy and these either individually or together can lead to insights that direct decision on design. Individual probe kit interpretation sessions ended up resembling what Mattelmäki (2006) describes as follow-up interviews. Interviewer is genuinely interested in participants and, but also brings the conversation to relevant issues, because of the search for design opportunities - and remembers the goal of gathering information[214]. I asked the participants to identify the main problem we try to answer with this collection. Discussions with participants resulted in some really inspirational points and observations that I recorded into the keyword cloud (see Fig 34). These discussions on individual meanings, reflecting ones persona, tastes and values in contrast to trying to create something durable, timeless and meaningful had a profound effect on the direction of the collection. Participants suggested many attributes that would address personal, meaningful, heart warming and mind pleasing, timeless clothing: adaptive, interactive, changing, versatile and renewing. Clothes and actions that would raise awareness were also called for. Such good quality that would require respect towards the material and makers was suggested. Sense of achievement and succeeding was noted important if there are DIY aspects. I found the notion of clothing that is not tied to a certain place or time inspiring. I would rather connect the clothes with their wearers and their values.

Filling out probe kits doesn't reach a very good level of participation, especially when collective interpretation is not executed, but it does make the participant more aware of their clothing practices and increases their level of reflection on the matter. After filling the probe kits and meetings, participants still don't know whether they have influenced the design process or the concept development. Some participants think they have, but don't know how. One participant has been absent a lot and has not known what her role

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[212] Mattelmäki 2006, 86.
[213] Niinimäki & Koskinen 2011, 176.
[214] Mattelmäki 2006, 86-87.

is, but after filling the probe, she interpreted it as an "*informant and a dresser*". Confusion about their role and function in participating in the project is fortunately somewhat surpassed by their satisfaction on increased self-awareness. Most participants felt that daily observation of ones clothing made them more aware of what they are actually wearing. "*Deliberations on presence. What is dressing up for me, what do I want to express with the way I dress, with my clothes, accessories? Who am I outwardly and who am I internally? Are these in conflict with each other?* " "*I realised that clothing can affect my mood. Strengthening it, uplifting, or also bringing it down.*" In their classification (Fig 4), Sanders et a. (2010) don't consider diaries fulfilling a generative purpose. Perhaps this lack of generating something, leads to a feeling as though participation is lacking.

6.6 Collective interpretation and reflection

For collective interpretation to be efficient, material needs to be or grouped, organized or summarized. This task provides the facilitator a change to get to know the material beforehand and possibly come up with some relevant questions or tasks to work with the material further. From 1st action cycle Wardrobe –probe answers were collected on a single probe where they are easily observed. This facilitative exercise also functioned as a tool for a quick interpretation on the information gathered from the probes. Probe material providing information can be simply organised into summaries and outlines describing the phenomenon in question[215]. Going through the answers led me to come up with some questions to facilitate collective reflection in the meeting and also plan further the context of this meeting. For example many participants were pondering upon the production chain of the clothing industry and the process of designing clothes and this led to the decision to inform the participants more on these matters. For the 5th meeting, where we needed to come up with a design brief or themes for the collection, I only organized the material produced so far for participants´ easy access. Probe kit produced so much material that I thought it best to group the materials on the walls of my temporary studio according to each task.

Interpretation needs a method, or a generative follow up technique to produce any results and take the design process further. For interpreting *Wardrobe* –probe in the 2nd action cycle, no interpretation model was specified, but brainstorming served a generative

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[215] Mattelmäki 2006, 98.

purpose. I presented a few questions to the participants inspired by the probe results and from there, we moved on to brainstorming where observations were utilized to develop starting points and design ideas. In the 5th action cycle, I asked the participants to interpret the material produced so far to look for recurring themes, group the material accordingly and name them. In this method I applied a basic method for interpretation as " *identifying items occurring most frequently in text or visual output and look for recurring themes*"[216] To some extent I also took advice from a method called "*Interpretation in terms of the material*", where the material forms the basis of the topics and where insights are grouped according to association by content[217]. Concrete results were produced in the form of themes to design a collection upon that I then utilized in sketching. Interpreting the probe kit did not turn out as planned in the 7th action cycle, but this turn of events from collective reflection to follow-up interviews also produced some interesting results.

Interpreting results from probes kits with participants in follow-up interviews provided fruitful insights. Researcher might not be able to grasp meaning behind a photograph for example, whereas it is the peoples´ own explanations that provide information and insight[218]. This became evident also in our meetings. Photograph exercises in the probe kit were mostly association tasks and a lot of photos were just concrete expressions of blue, or old, or grand as something big, but meanings behind pictures like sky in `Values`, trashes in `Meaningful` and moose vertebra in `Interactive` only became clear when the participants themselves explained them. It is also worth noticing that all of the participants gladly elaborated on their stories behind photographs. As I was dealing with the material with only one participant at a time, I was left missing for group interaction, as were also a few of the participants. Mattelmäki (2006) points out the obvious that discussing the material in a team is productive, because dialogues and a variety of interpretations emerge[219]. Niinimäki (2011) also favours group work, because of the complexity of issues and amount of data available: "*Meanings created through time, based on personal experiences, history and sensitivity and situated in temporal and sosio-cultural context entail a too large task for a designer. A designer or better still a multidisciplinary group of researchers and designers together can nevertheless create possibilities…*"[220] As I have no comparison, it is only speculating which one is more

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[216] Sanders & Williiam 2001, 11.
[217] Mattelmäki 2006, 90.
[218] Mattelmäki 2006, 89, referring to Carte & Mancoff 2005.
[219] Mattelmäki 2006, 88-89.
[220] Niinimäki 2011, 210.

useful: collaborative interpreting probe material with a designer or researcher team, or a team consisting of participants. There are probably advantages and disadvantages on both, but I would suggest it is very possible with participants. Some of my participants appeared very reflective as people and conversation quite naturally deepened.

Applying an interpretation model for collective interpretation with participants would be beneficial in order to distance the participants from their personal experience and generate more concrete contribution as co-designers. The fact that participants were dwell in their own experiences and connect with the material very much from their own perspectives, would suggest that this kind of distancing is needed. Good planning of the interpretation phase and method and explaining it to the participants for an easy execution, could shift their perspective from user who has produced the material to an interpreter. I remember I did not directly ask the participants to interpret the material from an outsider, researcher or designer perspective, but rather encouraged to observe reflect upon the material in terms of "*What question arise?*" "*What draws your attention?*" or "*Is there something new emerging when compared with the existing design themes*?"[221] Mattelmäki (2006) points out that good planning supports control. Interpretation in terms of the material, as a technique is aiming for this kind of distancing as observations are made from the details of the material.[222] This worked in the 5th session as a group, but not individually. Other possibility could be "*Applying interpretation models*" that uses models or agreed topics for interpretation that focus the process on topics identified as important in advance or related to goals of the study[223]. What I did with my participants towards the end of the session, resembles this to some extent. I had participants reflect upon the concept of emotional durability through the material they had just processed. We also discussed about intention, function, needs and meaning, the problem to be addressed and its possible solutions. It was mainly through these discussions, that took the processed material to another, more reflective level and from which I got some relevant insight were surfaced to steer the design process.

6.7 Telling stories

Writing or telling stories seems to be an easy technique to engage participants in expressing their feelings, dreams or ideas. Everyone can tell stories and will gladly do so.

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[221] questions from my 7th action cycle PP-presentation prepared for the session
[222] Mattelmäki 2006, 989-91 also referring to Jääskö & Keinonen 2003.
[223] Mattelmäki 2006, 90.

To try out story telling as a participatory technique, I had participants write stories after 5th meeting with the long term group and as an end note to the Workshop in Hirvitalo. Scenario development or visioning with stories is a typical technique to continue explorations on key issues[224]. With the long term group, participants were to create a story utilizing themes they had just come up with from collective interpretation. Task was left as a home assignment, but it was well received. Participants remarked it as fun and they wrote quite freely "*as things came to mind*" or "*just based on a feeling*". Writing narratives was maybe a bit easier than collective interpretation as it could be done in solitude and there was no need to reach consensus. One participant took advantage of this and came up with her own, slightly altered themes. In none of the 3 stories were themes stated clearly, or as the actual words (In the Nature, In Personas, etc.), but they could be found to some extent in all. At Hirvitalo, writing the story at the end of the process first seemed a bit laborious for the participants. They felt they had been discussing the concept so much already. Finally they both produced very concrete images of a clothing future where clothing is based on collective actions, DIY and recycling. Although the day was long, feelings among the participants were positive about the whole experience. Inspired by Sanders (2010) I have invited people into a generative design space, believing that everyone can tell stories[225] and so it very much seems to be.

To utilize the story telling technique in any stage of the design process, it should be made clear, what is sought after – expression of feelings or product ideas for example and task should be focused on what is being designed, whether it is a concept, product or service. With the long term group, *Telling a Story* -exercise was a bit unsuccessful, design vise. Narratives do not add much to the themes, nor suggest any clothing solutions. This probably due to the fact, that for some reason, I left out one sentence out of the brief that I had planned: "*Write a short story where you utilize the themes you have just created. Story is about a day in one woman´s life. Place the story a few years into the future, but time, space and the events are up to you. ~~The person is wearing one or few pieces from this collection that we are about to create.~~*"[226] Accordingly, stories were about regular working days, with themes shining through in different ways. Clothes were mentioned in all stories, but only briefly. In one participant´s story clothes are "*comfortable*", while in another´s story mentions jeans identified "*perhaps not the most environmentally friendly*

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[224] Fuad-Luke 2009, 182.
[225] Sanders 2010, 119.
[226] quote from my 5th action cycle PP-presentation prepared for the session

choice" and "*the most perfect jacket*" that is sadly not described in detail. To Hirvitalo I managed to correct this mistake and it worked. Adding a sentence "*You are wearing an ensemble from the collection that we have here designed*" in a brief, produced very clothing oriented results and stories were also very much related to the collectively concept produced and visualized. Both participants wrote their own stories, but they had much in common in describing clothing futures based on recycling, DIY, community and local resources, creativity and participation of the people.

Telling a story as a follow up exercise to another participatory tool, will help to elaborate on what has just been done. It can enhance understanding and build more meaning to a created artefact. A normal procedure in Sanders´s generative design tools is for the participants to tell a story about an artefact (collage, map, model etc.) they have just created[227]. This was demonstrated in participants explaining about their Slow fashion moodboards. Participants shared not only explanations of the chosen pictures and words, but also memories, experiences and associations behind them. This facilitated collective discussion, mutual understanding and later self-reflection. Hirvitalo participants also explained their moodboards verbally and the amount of information grew notably. I did not realize to instruct participants at Hirvitalo workshop to explain their 3D mock-ups or quick prototypes, but my long-term group I instructed to do so. Explanations revealed preferences of the participants and reasons behind making. Telling as a part of making, as I had encouraged the participants to speak freely, also inspired design proposals for services. While working with the dummies one participants started talking about body image and how this kind of working might be beneficial for people of all shapes and sizes. She also envisioned a service where you could design our own outfits from this kind of platforms, but then have someone else do it for you, because sewing requires skill. According to Hussain and Sanders (2012) story telling "*creates a synergy between verbal and visual communication*", allows people to express ideas more concretely, deepens knowledge about participants` experience and enhances understanding[228].

6.8 Quick prototyping

Quick prototyping as a participatory technique is easily received and engages participants into action. Everyone from both Rovaniemi and Hirvitalo dived into quick prototyping without hesitation, even though they didn't know what to expect. Participants mixed

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[227] see for example Sanders 2000, Sanders and William 2001
[228] Hussain and Sanders 2012, 52.

pieces from different platforms and made several prototypes. Remarks like fun, easy and inspirational were heard during the process and later in reflection. This turned out to be the favourite exercise of the whole process for 3 of the participants, but the least favourite for one. She perceived it as interesting, but very challenging as she felt slight pressure to produce something concrete and ready. Hirvitalo participants gave this technique the highest points of all. Technique seems to be easily approachable. At the Hirvitalo exhibition I also had a few of these platforms, randomly arranged on a mannequin and attached with a note: "*Modify the design and take a picture*." I received 3 photographs of modified designs from exhibition guests. For Sanders & Williams (2001) bisociation and expression is the last stage in their four-step framework in harnessing people´s creativity. They have remarked, that by this stage, people can be ready "*explode with ideas*".[229] Perhaps any exploding didn't happen in my cases, but excitement was created.

These more or less ambiguous platforms functioned in supporting participants into creative exploration in a very tangible, making level, and even resulted in some designerly thinking and further reflections of clothing practices. My 3D textile mock-ups are here, what Sanders & Williams (2001) refer to as make tools for meetings to stimulate creative expression. To support bisociation and expression authors suggest working with Velcro-modelling, a toolkit of building blocks, ambiguous in purpose, "*maximizing the opportunity for people to imagine and impose their own thoughts in the expression of their ideas*"[230]. Many participants found the technique very inspiring and surprisingly easy. One Hirvitalo participant commented how prototyping was something that would really work for her to "*try out new clothing ideas*". There were also expressions of relief and joy when participants realized it is not so hard after all. One long-term participant mentioned how they could probably "*design a whole collection in one and half hours*". Abstract shapes and basic forms were experienced as a good starting point to ideation. Participant commented how just a piece of cloth would have needed too much manipulation and with these something just "*looked like a collar, or this looked like a skirt or this like pants*". Reflecting during making resulted in reflections beyond product design, into service suggestions. With Hirvitalo group further ideas found expression in final narratives and with long term group these were expressed verbally during making. One participant for example suggested a service where these kinds of platforms could be adapted by users, but then some professional would make the actual personalized piece.

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[229] Sanders & Williams 2001, 3.
[230] Sanders & Williams 2001, 9.

With quick prototypes, participants are mostly generating pieces that appeal to their personal taste and current experience, but idea generation relevant to a design concept, can also occur. What has been done before quick prototyping, seems to have an influence on this. Participants maybe expressing what they have been primed for. Long term group quick prototyped pieces they personally find appealing, but Hirvitalo group had the concept in mind to some extent while working. Since Hirvitalo participants were not asked to explain about their prototypes, this can´t be said with certainty, but there are indications into that direction. One participant continued to work with the prototypes even after the official session and tried whether he could construct one of his models from patches - as concept of his collection suggests. During prototyping he was also already thinking about the production and developing variations on a particular piece. Other participant however, commented at one point how she keeps repeating shapes she likes. Many inthe long term group noticed they are very much creating pieces and working with shapes they find appealing. One participant liked to add details to her clothes and as she likes pockets, she also added them. Other one noticed how she makes pieces she "*would look at a clothing store*". Third one agreed that personal style has an influence and this could also be observed from her working. As a style conscious person following fashion, she tried bold designs and knew to name her pieces accordingly: "*maxi-skirt, poncho, jumpsuit*". This particular participant, however, might even had a more objective approach, because she referred to designing a collection and also commented "…*one would imagine also clothing designers design pieces they like, somehow..*" Ambiguity and the visual nature of make tools, seem to allow room for creativity, both in expressing current experiences and ideas and in generating new ones[231].

7. Managing the method

Here I will now analyse my co-design process on the level of methods. A method is a combination of tools, techniques or games "*that are strategically put together to address defined goals within the research plan*"[232] or it can be seen as a "*structured way of generating ideas through a sequence of co-design activities*"[233]. Along these lines I will be examining the existence, successes and failures of methods in my process and reflect the findings from collected data to examples from literature. From the data I have

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[231] Sanders & Williams 2001, 3.
[232] Sanders et al. 2010, 2.
[233] Lucero, Vaajakallio & Dalsgaard 2012, 2.

identified factors contributing to these successes and failures and will discuss what are the structuring, influencing or contributing aspects that should be considered when developing, or choosing, a method for a co-design process. First I will shortly elaborate what is meant by a method in current co-design literature. Then I will turn to specifying the contributing factors for constructing a method by discussing the relevant insights arising from my co-design process and literature.

In the co-design field, there exists a spectrum of methods that are intended to engage future users into a participatory design process somehow. Many practices have been developed throughout the years, from different origins and for different purposes and naturally there exists some confusion what to do and when[234]. I have to admit I was not that aware of the importance of a method when I embarked on this journey and had developed myself a relatively loose plan of user participation, introducing myself with probing as a tool and a method and with Sanders´s four-step framework. Since then, research and literature on methods has increased. Future workshops, interaction relabeling, inspiration card workshops, design games, make tools, contextmapping and fictional inquiry are example of a few methods out there [235]. Lucero, Vaajakallio and Dalsgaard (2012) have develop a dialogue-labs method that provides a structured, but flexible procedure for a two-hour ideation session, constructed around process, space and materials in order to spark dialogue and support collaborative idea generation[236]. In the method of contextmapping, users are involved in creating an understanding of the contexts of product use, inspiring and informing the design team in the early phases of the design process. Method is usually executed through distinct phases of preparation, sensitization, sessions, analysis and communication.[237] It was only after 4th meeting I started realizing the importance of strategic planning and defined goals and how much preparation and understanding of all the variables involved this process require.

My programme theory or intervention model (Fig 15) can be interpreted as a method I have planned for this co-design process. I have been planning scaffolds for an active, reflective and participatory process where level of participation is gradually increased. Plan was to gradually move from information and inspiration probing into more engaging activities and end up with participatory and generative workshops, where prototypes are created with active and reflective user makers. I have set out to design a

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[234] Sanders et al. 2010, 1.
[235] Lucero, Vaajakallio and Dalsgaard 2012, 1.
[236] Lucero, Vaajakallio and Dalsgaard 2012.
[237] Sleeswijk Visser, Stappers & Van der Lugt 2005, 1.

sustainable, participatory and emotionally durable clothing concept for a clothing collection. Plan was also to deal with the topics of slow and emotionally durable fashion. These strategies together with co-design and design activism are very much related to the reasons why I started conducting this research in the first place. A programme theory, however, is a working hypothesis, a model that is then followed up, tested and revised in an abductive and cyclical process that interventions take forward[238]. This is very much what happened. Now I examine with an increased understanding, what is required of a working co-design method.

7.1 Understanding process stages and duration and scope of participation

Putting together a method requires understanding of the process and its stages. Categorizing the stages of a normal design process, can help to understand and plan the scope of the co-design process. From my intervention model it can be observed that plan was to engage participants throughout the process, but further examination reveals this didn't happen. After the 4th session, I returned to take a look at Fuad-Luke´s (2009) model on co-design and realised we haven't collectively agreed on the problems we wish to address nor agreed on the design brief. This then became the topic for 5th session. To point out, design brief or addressing the problem is usually the first stage of a design process. In Fuad-Luke´s model (Fig 6) "*collective agreement of the design brief including goals and aims*" is an important step of informed participatory design. Only after this follows collective designing.[239] In this schematic people can be engaged in all stages, but a more specific scope is presented by Lucero et al. (2012) in their dialogue-lab method. They present the method inside a diagram depicting stages of a typical co-design process and their method focused on the ideation, concept development and prototype phases.[240]
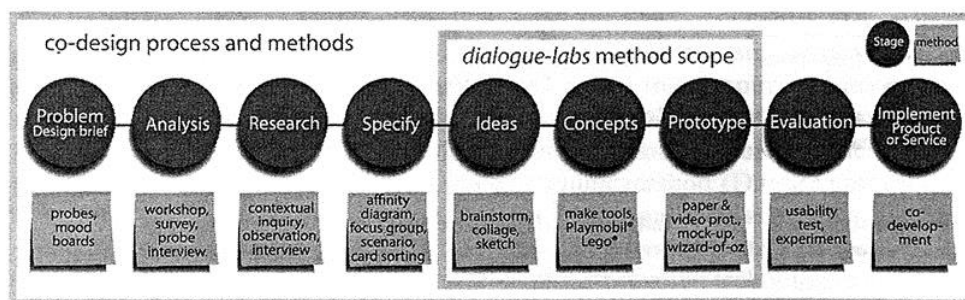
Fig. 41. The scope and methods of dialogue-labs in stages of a co-design process. (Lucero et al. 2012, 8.)

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[238] Anttila 2007, 70, 92-93.
[239] Fuad-Luke 2009, 149.
[240] Lucero et al. 2012, 8.

The fact that I had not planned a specific scope for participation in specific stages of the design process might have contributed to some confusion and the process ended up being somewhat unstructured. For example material sampling I brought into the picture as a response to one of the participants´ question on her reflection leaflet. This resulted in one of the participants reflecting on this session as " *...somewhat realistic, but restrictive starting point. But of course one has to start somewhere, so why not materials.*"

Phases in a co-design process need to be considered, not only in the overall process, but inside each session, event, or meeting, no matter whether the process consists only of one workshop or longer process with several sessions. There can be several phases to an event and sometimes only one workshop is the co-design process[241], as was the case with my Hirvitalo workshop. The first premise for designing a co-design method, according to Sanders et al. (2010), is that it is important to consider the whole process participants go through; "*each activity should prepare or prime them to successfully execute the next activity*"[242]. This view is also embedded in the contextmapping method[243]. Even though dialogue-labs as a method is less building upon a previous task, but visiting the problem from many different perspectives, Lucero et al (2012) agree that it is beneficial to allow people gradually move from easier tasks to more challenging ones[244]. There were steps with my long-term group that were successfully structured and primed each other well. Wardrobe-probe was a good start to the whole process and it primed brainstorming for sustainable starting points well. Making a slow fashion moodboard continued well from information to inspiration, but it was after design tasks should have been more specified and generative. Hirvitalo workshop demonstrated I was able to learn from my mistakes and plan a method with logical steps that take the process forward. Based on my experiences with the long-term groups and revisiting Sanders & William´s (2001) four step framework and Fuad-Luke´s (2009) model of Co-design in Action, I constructed a scaffolding method of priming, brainstorming, deciding on a collective design brief, ideation and conceptualization and finally encouraging design through bisociation and expression through quick prototyping. Finishing with narratives, this method successfully resulted in two sustainable clothing concepts.

Specifying the context for the method is crucial for planning and managing the process. One needs to know what is being designed and by whom and what kind of

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[241] Fuad-Luke 2009, 180.
[242] Sanders et al. 2010, 4.
[243] Sleeswik, Visset et al. 2005.
[244] Lucero et al 2012, 20.

information is looked for, because all this affects the goals of the method and tasks inside each individual technique. In the Hirvitalo workshop I had participants themselves to find the problem they want to answer and to come up with the design brief. With the long-term group I had already formulated quite a specific aim of sustainable, participatory and emotionally durable clothing that served a too rigid starting point for the process. Even though there was an aim, I wasn't communicating it much to the participants and wasn't sure how to weave this ideological framework into the process. Thus I ended up asking participants still later on in the process (5th and 7th session) for themes for the collection and problems to answer. It is very possible and usual to define some aspects of the object of design beforehand, but all involved should be fully aware of this. For example in one probing study, the goal was a user-centred product concept, a portable and wearable exercise companion. For probing, in addition to diary and a camera, participants received a key ring and a pin reading *'exercise companion'*. This was a way of focusing the user on this smart helper and its possible properties. The users were asked to carry their exercise companions daily, imagining various situations and needs to be shared.[245] In dialogue-labs method, the task is usually clear, as can be observed from a task concerning case "*Playful social interactions*": "*using these PLEX categories, think about how new services or interaction concepts could create playful social experiences.*"[246]

Time and duration are important factors when constructing a co-design method and planning for each individual task. Benefits of few hour co-design workshops or long-term participatory processes can be difficult to pinpoint based on my research, but relevant factors that need considering can be discussed. When looking at duration from the participants´ point of view, shorter process and intense sessions are favoured, but of course there are individual exceptions to the rule. In a process with my long-term group there were 8 sessions in 28 weeks, while Hirvitalo workshop lasted approximately 4 hours. In Hirvitalo workshop we were able to cover ground from collective understanding and exploring to designing, all the way to prototyping and product and service proposals in that few hours. With the long-term group an unstructured process led to detachment, lack of interaction and me as a designer doing most of the actual designing. Feedback confirms that our process stretched too long, was disjointed and detached. They would have preferred more intense process with workshops, for example "*3 sessions, each lasting three to four hours*". Too long process also caused some stress for the participants,

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[245] Mattelmäki 2006, 52.
[246] Lucero et al. 2012, 15.

because in the middle of it they didn't know when it was going to end: "*at some point it started to get to me, that is there still more and how much more..when you know there is only limited amount (of sessions) you engage in them with a different intensity.*." However one of my participants liked the slow pace, "*because it felt like a regular hobby one attends to*" and how between sessions "*there are things happening in life and one makes new observations about life, clothes and materials*".

Examples and benefits for both short and long-term cases can be found from literature. In a participatory design case described by Lahti & Seitamaa-Hakkarainen (2005) designing conference bags in a virtual learning environment (VLE) among design students and users lasted for 15 weeks, but communication was mostly conducted online[247]. Hussain and Sanders (2012) were designing prosthetic legs with Cambodian children during the course of 2 years, with 3 field trips and several interviews, meetings and co-design sessions with the children[248]. In the dialogue-labs method by Lucero et al. (2012) in turn, scope of participation in a co-design process is limited to ideation and prototyping and condensed to well-structured 2 hour sessions divided into 15 minute phases. Authors believe that clear structure and limited time frame boost creativity and effectiveness.[249] Hussain and Sanders (2012) have a more holistic approach to co-design and understand the process also as aiming to empower users, extending their horizons as well as the designers understanding of needs and perspectives. Cultural and social context is taken into consideration as well as the use situation and thus lot of effort is put into interviews and building mutual trust and understanding. They believe communicating several times during a project is critical for allowing the fusion of horizons to happen and understanding of issues to develop over time.[250] Similar characteristics can be found from the process with my long-term group as there were also empowering and awareness increasing aims. Most co-design projects are usually relatively short, but Brandt et al. (2013) point out an example where a longitudinal study was especially suitable for developing a digital community noticeboard with an exploratory prototype developed through use and immediate feedback[251]. It must be noted that discussing pros and cons is always relative to what is being sought after and what effects are measured.

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[247] Lahti & Seitamaa-Hakkarainen 2005.
[248] Hussain & Sanders 2012.
[249] Lucero et al. 2012, 17.
[250] Hussain & Sanders 2012, 49-52.
[251] Brandt et al. 2013, 161-162.

7.2 Importance of facilitation and communication

Communication is a crucial aspect of facilitation and an important aspect in the success of workshops, application of any method and individual technique. Fuad-Luke (2009) lists duties of a facilitator and a lot of them have to do with communication: "*communicating, capturing and disseminating information during the event, applying appropriate tools for tasks*" and "*summing up and pointing to the next step*"[252]. It can be inferred that it is advisable to explain the purpose of the research and each task to the participants so they know why something is done. Concept of informed participatory design also points to the elemental importance of communication. In Hirvitalo workshop participants came up with their own design brief. They knew what they wanted to examine, so I only needed to explain the following tasks to the them. Lucero et al. (2012) understand the importance of informed design and at the beginning of each session they explain its main purpose, present main findings from previous contextual studies and discuss to "*build a shared understanding of the main theme of the session*".[253] At the beginning of my long term process, a shared understanding was never built. I had carefully formulated a goal of designing sustainable and emotionally durable clothing concept and collection, but my lack of communicating this and understanding on how participatory techniques are used in reaching that goal, hindered the success of the whole process. But when you know what you are doing, also tell it to the participants.

Participants should be informed about their tasks clearly and what is expected of them. Applying appropriate tools is of course important, but also formulating the task for the participants according to the tool and expressing it clearly to the participants is important in achieving desired types of outcomes. In *Telling a Story* –tool for example, I had formulated a clear the task with a defined purpose in mind, but when I presented it to the participants, I left one sentence out that turned out crucial in directing the task to clothing design related envisioning what I was aiming for. Context mapping techniques explore user experiences and to produce wide range or expressions, use quite open-ended instructions like: "*Use these components to express how you feel about the experience of xxxxxx. You can do whatever you want, as long as it makes sense to you.*"[254] In 7th action cycle, a drawing exercise was planned based on the interpretation of the probe kit materials and themes rising from the discussions. A unique piece of clothing, a fantasy or

[252] Fuad-Luke 20o9, 179.
[253] Lucero et al. 2012, 9.
[254] Sleeswijk Visser et al. 2005, 12 refer to Sanders 2000.

over-the-top outfit, anything with no limitations was asked. Criteria was that it would somehow express the concerns and themes that have come up during the interpretation. Purpose to draw also complete opposite of that was to underline thoughts or characteristics they want to express. With a few participants this succeeded quite well as desirable attributes were expressed (see for example Fig 35), but one got stuck with the word over-the-top, drew that, and was left wondering "*to what purpose are these drawings of over-the-top and understated outfits going to be used for?*". Instruction cards utilised in dialogue-labs[255] could be simple way to remind the participants about the situation, tools and the task.

Summing up each session and pointing to the next step are important in communication between the facilitator and the participants, for managing, and especially for participants to understanding the course of the co-design process. The lack of these activities resulted with my long-term group in participants repeatedly wondering what was the point of some exercise or what are some outcomes going to be used for. Mostly, when asked in the reflection leaflets whether they felt they had influenced the process or concept ideation, participants didn´t know whether they had or didn't think they had. Still in the final reflection after the quick prototyping session, participants were wondering what is going to come out of the process and felt their involvement in the process rather detached. As a contrast, to Hirvitalo participants the self-formulated concept was quite clear from the very beginning and even though narratives were written individually, they reflected similar characteristics and a clear focus on the concept. Sleeswijk Visser et al. (2005) make a good point about a clear goal helping to focus what is looked for and structure the whole process; including each exercise, the session and tasks, but also communicating and analysing findings[256]. It doesn't matter whether the goal has been formulated beforehand, or by the participants themselves, it helps to clarify the communication in all directions and every phase.

When it is the participants that make up the design team, the method chosen to employ in the process should also facilitate the interaction and communication between the participants themselves to inspire and engage in exploration and collective designing. Making moodboards and then explaining them to others has been established as a good tool to facilitate communication. This kind of make, then say and further collectively discuss routine is embedded in context mapping method, where group discussion follows

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255 Lucero et al. 2012, 11.
256 Sleeswijk Visser et al. 2005, 6.

each generative exercise and individual presentations of those outcomes[257]. In dialogue-labs, as the name suggests, dialogue and communication are also at the heart of the method, and with a clear purpose. Participants are given a task to complete and communication first takes place between the participants in pairs, and later in group sessions. The word dialogue also refers to the dialogue that occurs between participants and the tools and approaching the problem from different perspectives. In the course of one dialogue-labs session, participants are faced with many different tools and materials, from which they can build a common design language from.[258] From my process, a focus on this communicative aspect and building a shared understanding was lacking. Even though moodboards facilitated group communication, I did not harness this dialogue into solving a problem or generating a design idea. In 5th session, where participants were to communicate and collectively decide on something –to come up with design brief or themes for collection, "*group dynamics were fumbling*" and participants were again left wondering the purpose of the task and also whether they should "*have discussed the contents and meanings of the elements more? Yes.*" Maybe this was because group had not been put to actually generate or negotiate something together before this.

It should be considered, which form of communication is best suited for a method, its particular phases and techniques. Brainstorming is easy in a group, but as a pair it can turn into a conversation, as we saw in the Hirvitalo workshop. Interpreting probe kit material individually with each participant is very time consuming, but can lead to genuine encounters and empathy. Sleeswijk Visser et al. (2005) weigh the advantages and disadvantages of group, pair and individual sessions. They view as advantages of group sessions a large amount of information and user experiences and something one of my participants was missing a lot towards the end of the process, group interaction[259]: "*I miss the group sessions, because I felt that the group had a chance to hinge together so that we could create something together.*" Lucero et al. (2005) favour working in pairs and argue that this allows "*main challenges of group dynamics to be overcome*" and it is easier for two people to reach equal participation[260]. One of these challenges is what also one of my participants observed during 5th action cycle: "*There were two of us standing out and one passive one.*" Group discussions, however, are also part of dialogue-labs at the end

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[257] Sleeswijk Visser et al. 2005, 10.
[258] Lucero et al. 2012, 12.
[259] Sleeswijk Visser et al. 2005, 10.
[260] Lucero et al. 2005, 9.

of the sessions to share ideas, evaluate them and perhaps generate new ones[261]. There is a consensus that probe kits are best interpreted as teams[262]. My intention was also to do this, but due to conflicting schedules already explained, this didn't happen. Thus I can´t say what kind of ideas or concepts would a proper collective analysis produce.

Individually, in pairs or as a group is not the only form of communication to be considered nowadays, but decisions need to made whether communication occurs face-to-face or virtually. Lahti & Seitamaa-Hakkarainen (2005) provide an example of a case where communication is conducted virtually, through a collaborative virtual learning environment. They argue that virtual environments may support collaborative projects in sharing ideas and undertaking reflective interaction at times when face-to-face meetings are impossible. Their Future Learning Environment FLE2 "*offered tools for participatory designing, so that multiple actors can asynchronously work and communicate...*"[263] I also set up a blog to record the advances of the process for the participants to function as a communication tool between the sessions, but it didn't work as intended. It was probably because it didn't exist from the very beginning and didn't obligate participants to any action. Results from our collective sessions were posted to the blog, so participants had a chance to visit them if they wished, but is was soon forgotten. Sanders et al. (2010) notify about the existence of technologies such as Skype, videoconferencing and blogs, which could enable participation from a distance. They point out that video use-logs and blogging have already been used as tools for remotes priming. [264]

Virtual, or online communication can provide some advantages for knowledge building in co-design processes, especially longer processes, if participants are well motivated for communication. For Lahti & Seitamaa-Hakkarainen (2005) the virtual environment and its "*Knowledge Building Module*" was their method that facilitated designing across distances and provided means of sharing and saving verbal and visual data. Everyone involved was able to produce documents in various formats, such as text, graphics, video or www-links.[265] What they identify as advantages of this communication form, is that knowledge is built collaboratively, it is saved and visible and this provides thinking scaffolds for the design process. All messages and sketches are posted to a shared space, where they are accessible to all participants. This kind of transparency is also

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[261] Lucero et al 2012, 10.
[262] see for example Mattelmäki 2006, 88-89 and Sleeswijk Visser et al. 2005, 15.
[263] Lahti & Seitamaa-Hakkarainen 2005, 105.
[264] Sanders et al. 2010, 3.
[265] Lahti & Seitamaa-Hakkarainen 2005, 114, 106.

intended to "*support awareness, involvement and ownership among the participants*"[266] Transparency and this kind of accessible, collaborative platform is something my process would have benefited from. Meaning of the blog was to increase interaction and engagement, but it probably needs to be set as one of the main tools in use if participants are meant to use. This blog was something I came up with a bit later. Mattelmäki (2006) sees potential in blogs, especially in probing, because interactivity can be increased when participants are offered access on each other´s material and possibility to comment upon them[267].

Keeping participants engaged, up to date and designing is challenging in a long term co-design process. Communication in increasing interactivity and transparency plays a major role in successful building of design knowledge. I had devised tools that would facilitate these attributes in the process, like the process portfolio and reflection leaflets, but design knowledge ended up building only in my head and participants didn't know how their inputs were utilized. The process portfolio I handed to participants, intended to function as their own active documentation tool and design workbook, did not elicit any interest or activities. I instructed the participants to record in their process portfolio any notes, sketches, pictures and text that they produce along the process. I asked them to use it for their own reflection and return the folder at the end of the process, but bring observations and ideas into the collective discussion during the process. Nothing like this ever happened. This was the case with the blog experiment as well. If these were to be developed into an active tool to scaffold, support and structure design thinking "*at each level of solving complex problems*"[268], it would need follow up actions to accompany it or a method or technique should be designed around them. A virtual and open nature could be considered for this kind of collaborative design platform, where all the data produced by all the participants and the designer is there for everyone to see, comment and continue idea development on. Lahti & Seitamaa-Hakkarainen mention a new version, FLE3, which could have potential for this as it includes a software "*that create design files, which can be annotated and manipulated by someone other than the original designer*"[269].

If participants are expected to act as co-designers, facilitating relevant information and design knowledge among all participants is important throughout the process.

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[266] Lahti & Seitamaa-Hakkarainen 2005,106 refer to Fowles, 2000.
[267] Mattelmäki 206, 102.
[268] as Lahti &Seitamaa-Hakkarainen 2005, 114 phrase it
[269] Lahti &Seitamaa-Hakkarainen 2005, 114.

Combining visual and verbal, make and say techniques, works better in communicating design ideas or product knowledge, than just speaking, writing, sketching or generating something separately. As the design team is working towards a mutual understanding on the object of design, they need to be equipped to communicate their meanings clearly[270] and means for *"capturing and disseminating information"[271]*. My facilitating activities in capturing and disseminating information mostly consisted of delivering the results of first probe as a summary and then mostly organizing material for 5th session and probe kit interpretation. In the 7th session, I showed some sketches to participants and had them comment upon them, but this wasn't continued any further. Lucero et al. (2012) believe in providing a broad range of tools and materials, ranging for example from sketching, experimenting with props, collaging and discussing, to help participants find the appropriate dialogue style for them in a particular situation[272]. Make, then explain technique proved useful for example in *Slow Fashion* –moodboard exercise and with quick prototypes with the long term group. Especially quick prototyped clothing ideas were elaborated more verbally. The closest we got with the long term participants to representing product knowledge was my sketches, drawing exercise in 7th action cycle and quick prototyping in 9th action cycle. Now it is easy to understand that misunderstandings can occur "*due to lack of common product presentation knowledge*"[273]. What I could have done to place the participants more in their intended co-designer role, is to continuously analyse and combine the design ideas and knowledge accumulated so far and process it somehow for the participants to continue working on it with some generative tools.

8. Approaching co-design

Last level of analysis is the level of approaches or mindsets. It is an ideological level that examines the purpose of and motivation for user participation. To Sanders et al. (2010) approach is an "*overall mindset with which the research plan is to be conducted*"[274]. To Fuad-Luke (2009) approach means "*combination of elements of an underlying design philosophy, processes, methodologies and tools.*"[275] It asks the difficult questions of why

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[270] Lahti & Seitamaa-Hakkarainen 2005, 105.
[271] Fuad-Luke 2009, 179.
[272] Lucero et al. 2012, 19.
[273] Lahti & Seitamaa-Hakkarainen 2005, 105.
[274] Sanders et al. 2010, 2.
[275] Fuad-Luke 2009, 147.

something is being designed and why are users engaged in the designing process. Why is one of the biggest reasons I embarked on this research journey. Even though I realized I must understand and learn how before I can understand why, this is a question that needs consideration here. Reasons for engaging people in a design process have been multiple and here it is initially done for the purposes of this research, to explore the participatory genie. As previously stated, the basic idea behind participation in the design field is based on the concept that people who ultimately use a designed object are entitled to have a voice in designing them. However, there are big differences between perspectives when it comes to hearing that voice and why is it heard. Hussain & Sanders (2012) argue that what is seen as the purpose and motivation for user involvement is related to which research paradigm designers lean towards. Interpretivists seek to understand the user´s culture and the context of product use, whereas designers with a mindset of a critical theory "*see user inclusion as a political act and aim to empower users and change power structures*". Their methods may not differ and it must be noted that designers can also work from multiple paradigms, but knowledge about research paradigms is important in order to be aware of the values guiding methods they wish to employ. [276]

In order to successfully engage people in any activity, one must know why it is done, in order to decide how it is done and who is being engaged in what stage of the process. To support this argument, I will return to the philosophical levels of my theoretical frameworks of clothing design, co-design and design activism and examine how they approach user participation. I will focus on what happened on the approach level and disseminate the process accordingly. Three different reason for engaging users in a clothing design process are identified and analysed. Analysis is focused on how these approaches have become actualized in the process. I strive to understand how mindset has guided user engagement, the selection of method and techniques, but also suggest what methods might work for particular purpose. Roles created for designers and users alike in each mindset are examined. I will also try to identify what kind of outcomes and reactions certain approaches and their related techniques have possibly created.

8.1 Activist intervening and increasing awareness

My activist mindset was one of the main reasons for this research and served as an instigator for the whole process. Even the working title for the thesis was "*Time for an*

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[276] Hussain & Sanders 2012, 45-48.

Intervention!" when I started the process. I was accepting the challenges presented in current literature of for example encouraging behavioural change in consumers, increasing transparency and providing tools to empower users to be active actors in the fashion system. With this process I wanted to explore participation as a way to mind the gap between environmental awareness and consumption behaviour that has become so apparent. So how have these big ideas actualised in the process? Adopting an activist attitude also means analysing and evaluating the process and its outcome through this mindset. Fuad-Luke (2009) states how it is important to understand and assess the effectiveness of actions "*in terms of scale and impact on positive change*" in order to determine whether chosen methods are working or new strategies are needed[277]. Thus I will examine how these activist aims have become actualised in my process and what are their implications to user participation. I will compare and contrast my findings with a few other clothing design activist cases conducted so far, namely by von Busch (2008) and a more recent ones by Hirscher (2013)[278].

With an activist mindset one can choose many participatory techniques, while contents of the task is planned accordingly. Level of involvement varies, as people are placed as subjects of interventions. Aim of the *Wardropbe* –probe was to probe peoples experiences and attitudes on clothing, but also increase awareness on sustainability in the fashion industry. Questions like "*When considering ecological and ethical questions in the clothing production, I often wonder…*" and "*What I find problematic in the clothing industry…*" directly addressed sustainability issues and forced participants into thinking about them. *Fashion cycle* –exercise primed participants into thinking about clothing production and set the stage for my short introduction into the problems of clothing industry. The activist in me also wanted to present the participants with Max-Neef´s (1991) theory on fundamental human needs that sees fashion as a pseudo-satisfier[279]. In the 4th action cycle, I held a whole lecture on textile and clothing production, problems related to them and the sustainability of chosen selection of fibers. EMOOTIOI, EMPATIOI –probe kit was mostly probing for emotional durability, but I wanted to include a page of quotations that participants could read, reflect and comment upon and most of them dealt with sustainability, consumption and participation[280]. Similar

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[277] Fuad-Luke 2009, 85.
[278] see von Busch 2008 and Hirscher 2013.
[279] Max-Neef 1991, 35.
[280] an example from the probe: "*Our lack of involvement in the design and making of objects and our consequent gap in understanding undoubtedly affect how we value them.*" -Stuart Walker 2006.

awareness increasing content was designed by Hirscher (2013) in her case of designing a consumer education platform about clothing production for Amnesty webstore selling fair and organic garments and accessories. She evaluated it as education that can trigger action, but with low level of involvement. [281]

Activist approach does seem to work as intended and produce, if not behavioural change, at least an increase in knowledge and awareness. Both *Wardrobe* -probe and the probe kit increased participants´ reflection on their clothing practices, had them thinking the contents of their wardrobe and what are they wearing or buying and why. After fiber and textile production lectures, knowledge on clothing production and materials was said to have has increased. It is difficult to pinpoint what techniques would be especially effective, because generally having participants reflect on their clothing habits or clothing related needs or hopes increases reflection on all kinds of matters. Narrative technique in 5th action cycle, however, was one clear tool that inspired reflections on ecological lifestyles from one of the participants. "*Today I will do it. From this day forward I am going to be more ecological and responsible consumer*", begins her story. Final reflection revealed changed perceptions from everyone. One participant said her dressing or consumption behavior has not changed, partially due to her job, but the process has reaffirmed her views concerning style, quality and durability. Two of the participants expressed their knowledge on materials, durability, ecological issues and global production chains increased: "*Before this I thought that if a piece says Made in China, everything is done in China – I didn't expect the materials possibly wonder about around the world*" Some could point out changes in consumption habits. One participant noticed to be looking at material labels in clothes more. Other one realized it does matter what you buy: "*..and then also before, I clearly thought that well it doesn't matter if I go and buy something from Hennes (H&M) ...- ...through this I have realized that it does matter.*"

Activist approach can also work against itself if communication is too one-sided and there isn´t enough room for people´s own thoughts and actions. Depending on the participants own worldviews and attitude, however, they can also become co-activists. My already famous example of Max-Neef´s pseudo satisfiers leaving everyone silent is a god example of negative effects. Also the material selections and reasons behind selecting them (feel, colour, looks) demonstrated an interesting counter effect where ecological reasons were mentioned only once. After these I decided to turn down my activist

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[281] Hirscher 2013, 70, 74-77.

approach and later saw that when activist agenda is not imposed on the participants, it can emerge naturally. In the final reflection one of the participants felt that people can´t be influenced by preaching, but maybe through sharing own good experiences or through creating possibilities for those experiences. Participation and for example this kind of draping exercises conducted as *Workshops for User Makers* were seen as a potential way. Hirvitalo participants were both aware of environmental issues and concerned of our wasteful consumer culture. This workshop demonstrated both the role of personal values and activating effect of a workshop. Process at Hirvitalo was started with a question "*What do you think should be considered when designing a clothing collection?*" No mentions on sustainability or hidden agendas on my account, but it was the participants who after stating some obvious facts about colour, materials and cut started to question this task and explain how they find the whole clothing industry so problematic that they don't want to design or produce a clothing collection. Problems of overproduction and using up resources were found and goals to address this problems were agreed upon in the form of a design brief: "*Reducing the production by DIY clothing from local surplus.*" After the workshop a desire to act upon what was experienced surfaced: "*I would like to organize people and encourage them to make their own clothes and to help them better understand the environmental impact of buying ready-made clothes and synthetic fibres.*" Generally, those with an activist attitude, remained theirs and were contemplating ways for impact and change, but those without one only expressed slightly increased interest in ecological or ethical matters and small changes in their consumption patterns.

Workshops and quick prototypes can especially serve an activist purpose, because they encourage reflection through making, disrupting the everyday habits. With planned quick prototyping sessions, there was also an empowering agenda to escape from the passive role of consumers and become fashion-able[282] and to some extent this was successful. Two participants in my long term group saw this kind on quick prototyping as a potential method to impact people positively. They pondered whether clothes would become more appreciated and worn through engagements like this. After the session some were inspired to envision ways to influence other people´s consumption behavior and awareness. Transparency in production, educating people about clothing waste by taking them to local Kontti to see the heaps of textile waste, but also learning about body shapes through draping were seen as ways to change clothes from "*anonymous Made in China*

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[282] what for example von Busch 2008 advocates for.

rags" into cherished possessions. Hirvitalo participants rated the quick prototyping as their favourite task and their concept envisioned providing experiences of participation and making for others. Hirscher (2013) has also discovered positive results from engaging users in making. In her third case, she utilised half-way products in workshops directed to normal consumers and found that joyful participation and gaining knowledge through experience can instigate behavioural change and produce level of satisfaction into the self-made clothing.[283]

Designer as an activist an take on many roles, but perhaps most important is that of a facilitative catalyst, that allows users freedom in their actions. My roles gradually changed during the process from an expert design activist addressing over-consumers into a catalyst instigating co-activism. My expert activist role was emphasized by the fact that I had already dictated some goals for the collection and only imperceptibly informed participants about this. In the first sessions I noticed myself pouring information in people´s heads and warned myself of too much preaching. Those with an already co-activist attitude were happy to deal with these issues and expressed hopes to do more. After the first Wardrobe probe one of the participants was already calling for a concept that would "*radically change the markets and people´s consumption habits*" and was later concerned when nothing "*earthmoving*" hasn't happened. Informed participatory design also serves as the best catalyst for co-design activism. This is what I claim happened at Hirvitalo workshop. Clothing design activist also doesn't need to be a clothing designer to serve as a catalyst for empowering participation and joyful experiences with clothes[284]. These observations combined with the fact that Hirvitalo participants already started planning their own evens, validates the view designers are no longer designing just products, but envisioning new business models and working as connectors and happeners designing interventions and events.[285]

When considering the activist approach, it is difficult to talk about the scope or stage of participation in the design process, because focus is more on interventions and action, not designing products or services. But what can be inferred, is that open events where anyone is welcome to work as long or short time as they please, are most inviting. To my Hirvitalo workshop there was also a third participants coming, but when she realized it would last 4 hours, she decided not to join. As a contrast, quick prototyping

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[283] Hirscher 2013.
[284] Hirscher is educated as a graphic designer
[285] von Busch 2008, 50.

with ready platforms and mannequins seemed so inviting to then current resident artist, that he decided to join for a while. Also if we consider *Closet Confidentials* probe as an intervention tool, people at my workshop opening were happy to engage with it, some with much more depth than others. Workshops that Hirscher (2013) conducted were also open and optional. Von Busch (2008) describes Hackers and Haute Couture Heretics workshop that were free and ready for anyone to walk in and spend as much or little time as pleased. It was the designers or facilitators and props standing ready and well prepared.[286] Even though this seems to work for the fashion field, it must be noted, that community oriented design activism processes that considers other fields or bigger issues like community planning for example, can take up many workshops dedicated to each stage of idealized co-design schematic[287].

8.2 Facilitator harnessing creativity and scaffolding design activities

It is an underlying assumption in the co-design field, already established in this research, that all people are considered creative and experts of their own experiences. With this mindset I approached an alternative way of designing, facilitating and harnessing the creativity of my participants to design clothes. This approach is very much inspired by Sanders´ (2006) observations on emergence of more creative ways of living and levels of everyday creativity. She poses on interesting question of who are we serving through design that is very relevant to the participatory approach. Designers are used to serving the consumptive mindset of industry and consumers, or as user-centered designers the users and we know how to design for shopping, buying, owning and using. We are yet to discover ways to design for doing, making, adapting and creating, that Sanders defines as the needs behind the creative mindset.[288] Here I will now analyse how this facilitative approach was actualized in the process. I will examine how were the scaffolds of creativity and participation climbed, what kind of levels were reached and by whom and what tools aided in these efforts the most. I will also take a look at what kind of roles were created for, or adopted by actors involved.

Best way to build scaffolds is to design appropriate methods, tools, materials and spaces to allow for a gradually generative design process. Generative tools that are well planned, ready to work with at the session, with simple instructions and aims facilitative

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[286] von Busch 2008, 218-222.
[287] Fuad-Luke 2009, 149, 179.
[288] Sanders 2006, 3-9.

in nature, have been shown especially suitable for participatory design. Successful *Slow Fashion* collages serve as a good example of an easy generative technique where materials are prepared well beforehand and after a clear brief, participants have freedom to express themselves. However, my inexperience as a facilitator resulted in some crucial errors confusing the process. Introducing the probe kit in the middle of the process was one of them. This kind of immersion into the use context or emotional experiences is best placed in the very beginning of a design process. By the time I visited Hirvitalo, I had learned something about facilitating and planned, prepared and executed a participatory workshop according to scaffolding principles advocated by Sanders[289] where each activity was preparing for the next one. Good feedback from the participants confirmed the success. An alternative approach to scaffolding is visiting the problem from many perspectives, but Lucero et al. (2012) also favour generative techniques in their dialogue-labs. Space and materials are carefully arranged to serve the purposes of the co-design session and they use a variety of materials. Materials for idea generation include for example collages, Playmobil, MakeTools, cards and play acting.[290]

When preparing for the generative techniques, a good facilitator can take into account individual differences and ways of expression. Dialogue-labs for example utilize making, telling and enacting tools in the same session, because they understand the importance of facilitating different modes of expression and still building a common design language. Some may be inspired by materials available while other by the ongoing conversation.[291] This was also evident in my long-term group. While others favoured quick prototyping, one of the participants said her favourite thing in the process has been writing reflection leaflets. This is demonstrated by the fact that she was the most productive writer and also drew some sketches on the reflection leaflets. Into the probe kit I designed tasks allowing for different modes of expression and this worked quite well, but I also discovered that some minor details in materials can hinder a person. The Body platform that others were happy to fill out, but one other vise avidly drawing participant drew only one shirt and felt that "*lines shining trough were disturbing*". Also Brandt, Binder and Sanders (2013) emphasize the iteration and utilization of "*making of things, telling of stories and enactment of possible futures together*"[292].

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[289] see for example Sanders and William 2001.
[290] Lucero et al. 2012.
[291] Lucero et al. 2012, 13.
[292] Brandt, Binder & Sanders 2013, 145.

Providing relatively ambiguous materials for working is important, but there is a subtle balance to preparing for the tools, that is worth considering. Hussain and Sanders (2012) argue that people are driven to make meaning and therefore project their needs onto ambiguous stimuli[293]. Sanders &William (2001) advocate the importance of collage tool kit containing ambiguous enough, but well prepared and brainstormed positive and negative words and imagery[294]. I let participants choose the level of ambiquity themselves in their collage making and thus choose their own materials from fabric scraps, haberdashery and magazines. Some went for more concrete, fashionable expressions while other chose more symbolic approach. Dialogue-labs favour materials varying in abstraction level. These materials can serve multiple functions as inspiration as well as testing ground for ideas and people can find dialogue styles appropriate for them.[295] In the EMOOTIOI/EMPATIOI -probe kit, both *Wear something…* and *Pirta* were associative photo taking exercises that people could impose their own interpretations, experiences and feelings onto. Interpretation session in 7th action cycle discovered ambiguous pictures inspire most interest and reflection. *Grid* –page in the probe kit was probably too ambiguous, since only one participant reacted to it. For quick prototyping it is important to provide materials to work with, but turning the basic building block of a Velcro –modelling kit into textile form was a challenge. My zero waste design interest and origami platforms provided a good starting points for designing these quick mock-up tools. Feedback from the participants confirmed that these shapes and piece packages offered something to start with. Different materials were also commended interesting – I had both stretch and woven fabrics.

With this mindset it is especially important to consider facilitating building shared shared knowledge and practice and pay attention to duration and time spent. As already established, long time span is a challenge. Lack of signposts on where to go and too long time to walk alone results in losing a sense of direction. During the process my mindset and skills grew into a more facilitative direction, but due to inexperience, time and some practical reasons, participants in the long-term group never became `true` co-designers. When a generative aspect is lacking, participants more easily feel a confusion of their role and contribution to the process. Even though there were occasions where participants demonstrated their creative and designerly abilities and there are numerous ways they

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[293] Hussain & Sanders 2012, 53.
[294] Sanders & William 2001, 6.
[295] Lucero et al. 2012, 6-7.

have contributed to the design of the collection, it can be questioned whether they ever felt like they were co-designers of a clothing collection. When asked whether they have contributed to the process or concept ideation, two of the most common answers were " *I don´t know*" and "*I think so*". One participant describes this confusion well: "*I think, in some strange way I have. How, is just not really clear to me.*" Roles that participants found for themselves during the process were for example "*user*", "*informant*", "*dresser*", "*novise or a student*", "*tester*" and "*idea generator*". Defining stages of the design process to the participants would have clarified the process. Now they were left wondering still in the final action cycle "*what is the purpose of the whole, let say a project, I mean is there a purpose to make a collection and apparently so..or at least that is the assumption I was left with that at some point it is the purpose..*" Long gaps in the process resulted in gaps in memory. Lucero et al. (2012) emphasize the importance of introduction where purpose of a session is clearly explained, its content framed and the role of summarising in the end. To this they add a level of assessing the generated ideas by the participant themselves.[296] I would imagine this increasing understanding and a sense of involvement.

Facilitating as a skill is only learned in practice, but adopting a right mindset from the start helps. I now know some basic materials scaffolds are generally built from and some tips on how to build them, but getting people to use them and invest their meanings and aspiration onto the tools is the true challenge. Setting with the long-term group was not informed participatory design, but having a design team of participants with whom to do some collective designing with[297]. Even though communication is important in an action research project and in any co-design project, my explanations in 5th action cycle about the premises of action research, co-design and creating new action spaces probably only confused participants and made them feel they were attending a lecture: "*There are also descriptions of action research and co-design in the lecture handout*" and perhaps put into the shoes of co-researchers. As a contrast, planning the workshop and facilitation went so well at Hirvitalo, that there was no need to question the roles of the participants. This was a case of informed participatory design where participants also felt empowered by the process. They became full blown co-designers ready to take their concept further into action. It is a consolidation that "*the best way to learn how to apply the making tools and techniques is by doing, i.e. by making, in as many different situations as possible.*"[298]

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[296] Lucero et al. 2012, 9-10.
[297] referring to the division made by Fuad-Luke 2009, 149.
[298] Brandt et al. 2013, 175-176.

8.3 Empathic clothing designer

Importance and implications of an empathic approach to a participatory design process is something I only realized later on. Process was started as a researcher, an activist and a clothing designer, but at some point understood myself turning into an empathic clothing designer. Even though empathic design is a concept I was aware of and had included it in my programme theory, understanding what it could mean to design practice or suggest to user participation, only came through experience. Here it is analysed how my roles as a clothing designer and later on as an empathic designer, were actualized in the process and what implication they had on user engagement. Roles created for designers and users are examined. Participatory techniques recommended for empathic approach are considered. To point out the change that happened, I will first outline how I could not escape my inclination as a designer and analyse how this reflected on the process. Examining the creative process does not directly answer my research question about engaging users, but it is crucial in understanding the overall picture and can provide some insights into why should a designer also let everyday people intervene in their design process.

When designer is embarking on a participatory journey, identifying personal design drivers and inspirations sources is important. I discovered what Mattelmäki (2006) also concurs that doing this helps to identify the insights resulting from user participation, but these drivers also serve as a source in designing tools and inspirational materials for the participants[299]. My theoretical inspiration sources were the initial design drivers for the process, but I couldn't turn off my artistic inclinations either. I started my Design Notebook (see Appendix 3.) already during the summer 2011 as I was conducting a research plan. Current sources of inspiration gathered from my travels were documented, and project specific research was continued[300]. Keywords that kept repeating themselves in the literature were recorded. I also collected some visual material connected with the topics of sustainability, slowness and participation that I was currently reading about. All this condensed in the form of thematic moodboards. This artistic research influenced what kind of visual world I created for first probe and later for the probe kit. Though I abstained myself from systematic sketching up until the 5th action cycle where themes for the collection were collectively decided I have been making notes or observations, some of them also visual, while reading research literature.

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[299] Mattelmäki 2006, 66 on tuning-in.
[300] Gaimster 2011, 2 identifies designers engaging in background research and project spesific research

At first I tried really hard being a facilitator, but mostly ended up playing the role of a clothing designer. Actions like me explaining the participants about clothing industry and sustainability (2nd action cycle), lecturing about materials and showing my process portfolio with inspiration boards (4th action cycle), set me up as the clothing designer, creative AD and the expert in the field, into whose work participants would be interested in getting to know. After the 4th session, two of the participants remarked how they would like to see how my design work progresses and other one would also like to see my old work or sketches "*because every designer has their own distinct style*" One participant saw herself as "*a novise or a student, not a designer, but someone who tests and creates ideas, whose thoughts the master (that means the group leader Sanna) can utilize if she wishes for somekind of sum up or final design*". In the 7th action cycle participants commented on the sketches I had made according to the themes found and comments reveal traditional designer user roles, as participants commented on the sketches having "*professional and more creative touch*" and were hoping later to be "*looking at prototypes*". Once I realized that I am going to design the final collection anyway, anxieties vanished and I began to embrace access to in-depth user insight.

Changing mindset from a clothing designer following their own artistic ambition, to an empathic designer can enhance understanding, not only on user and their needs, but also new design possibilities. As I set out on a participatory journey, I didn't plan to follow my own artistic ambition, nor did I have a traditional user-centered reason for engagement – I didn't consider the participants as a focus group nor was I interested in their individual needs. Participants still many times felt I was surveying their preferences and considered that as a synonym to participation: "…*I also thought that clothes would be designed for us, according to our preferences together discussing with you and then…yes, actually that I was expecting in the beginning*." It was only after discussions in the 7th action cycle I discover an empathic interests in their needs. From hearing their stories, I understood what is important to the participants: free time as their own time, home and family, moments and experiences and all of their special favourite things. To someone a good vacuum cleaner is important, to another a grandma´s dressing table that they have renovated. Even though at this point there were already ideas emerging for the collection in my mind, I wanted to include their hopes, values and desires in it as well. Keyword that I compiled from the discussions became my guiding light for finishing the concept and steering the final steps for the design process. Their input from the in-depth interviews and working with textile platform mock-ups influences the concept and

confirmed the importance of levels of participation and creativity in the final collection. Niinimäki (2011) has found that empathic approach allows designers to work with past, present and future dimensions of person-product relationship and consequently discover new design opportunities in product longevity or for example in creating services[301].

Empathic clothing designer can co-design meaningful and unique pieces with the user. Insights from the process suggested many useful techniques to create possibly meaningful products. Niinimäki and Koskinen (2011) suggest co-design as one of the design strategies to form deeper product attachment trough connecting emotions, identity construction and memories, aesthetic needs, values and lifestyles with the design outcome. They describe how the idea in empathic design is to observe, probe and listen to what kind of meanings products have for people.[302] As suggested, probes are an excellent tools for this. Probing, combined with follow-up interviews and collage making could serve as fruitful method to start formulating lasting attachment and satisfaction with garments. This is based on the insight, what Hussain and Sanders (2012) also argue that through "*using generative tools, users develop deeper understanding of their own needs, views and perspectives*"[303]. This is what all my participants could agree on, the process contributing to contemplating on their preferences and clothing practices more. Two of the participants saw a real potential in participatory approach for a more personal and slower process that would results in unique pieces. They found moodboards, probe-kit with taking photos and quick prototyping as suitable tools to discover preferences and include personality into the design. Observations from the process point to the interpretation that people express, draw, drape and photo what they find appealing and important. Personalities shine through the tasks and reflecting upon ones preferences even more intensifies awareness on one´s identity, values and aesthetic needs.

To design a clothing collection for bigger markets as an empathic clothing designer would benefit from engaging people into the process as users, but also as a part of design team. Defining roles explicitly from the start would make the process more definable and everyone would know what is expected of them. The phase where participants are engaged in would thus be more clearly defined and limited and co-design tasks and desired outcomes would be easier to define. Mitrunen (2010) for example designed an interior design print collection for children involving a group of kids in

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[301] Niinimäki 2011, 84-86.
[302] Niinimäki & Koskinen 2011, 176-177.
[303] Hussain & Sanders 2012, 52.

ideation through probes and later in evaluating proposals. Results pleased the intended end-users. Anttila (2013) designed men´s training clothing and engaged two men presenting the focus group in context mapping, primed them for the session and had them make a collage, combined with selecting materials and categorising colours[304]. The scope of dialogue labs emphasises the design team thinking. Method is limited to ideation, concept creation and prototyping phases of a design process. Content for the activities is designed according to findings from user studies conducted beforehand.[305] One of the participants in my long-term group saw a great potential in this kind process with a focus group as a design team to produce also slower collections with a real demand, resulting in better quality, durable clothing. Defining the focus group and genre would be the designers job, but working with the focus group as a design team through intense workshop sessions could result in "*more coherent process and shared views*". Through this kind of process one could "*survey what sells*", but also design slow fashion, because "*if one was to design a trend collection with this method, the trend would be over before the collection is ready*". Niinimäki (2011) encourages to combine consumer research knowledge with empathic design methods to produce more satisfactory clothing[306].

When co-designing products, no matter how empathically, careful planning of tools is required to shift participants from user mode to design team mode. Selecting materials in 4th action cycle was an attempt to this direction, but only one participant was thinking about the wider audiences. Moodboards depicting slow fashion functioned well and thus could be used for example in ideation for a particular genre. In Hirvitalo this `genre` or problem was overproduction and using up resources and collages resulted in relevant patchwork clothing ideation. *Dress* and *Body* platforms in the probe kit were intended as an incentive to sketching, but as clear instructions to sketch for the collection were lacking, people drew "*ordinary*" clothes and "*pieces that please themselves*" as defined by the participants. Occasionally, there were some attempt towards thinking as a clothing design: "*In an outdoor jacket I drew I tried to take influences from one moodboard Sanna had made, that had felt stones and baggy clothes in it. In that home jacket I made, I would have used similar coloration that was in one tunic I admire from the probe-kits, that was like dip dyed towards sleeves and hem.*" Combining drawing tasks with quick free association could also work. For example the multipurpose dress

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[304] Anttila 2013, 36-45.
[305] Lucero et al 2012, 5.
[306] Niinimäki 2011, 85.

mentioned in the very first session, could have served as a starting point for quick sketching, especially when one participants expressed the desire *"to let go and come up with some crazy things for that dress"*. Design team could also be more consciously and innovatively be engaged in evaluating ideas, concept proposals or prototypes. I only had participants commenting on sketches, but a real jury or a production team could be set up to choose pieces according to commonly agreed criteria for final design specification. This is supported by the observation that participants on many occasion showed interest on the proceedings of the design process[307]. In dialogue-labs methdod participants discuss best ideas and in a following exercise evaluate the quality of ones selected[308].

Empathic clothing designer searching for sustainable solutions should engage people to co-explore the fuzzy front end to search for new approaches, but also to create new product-service systems or business models. The overwhelming amount of material that probe kits produce, could serve as a rich starting point to search for sustainable attributes and insights into clothing. Also allowing people to define the problematique and design brief can provide unexpected results. Even though Hirvitalo workshop was not consciously aiming for service concepts, those resulted. I had only framed the design context to some extent[309]. Niinimäki advocates for combining empathic approach with experimental design and service approach in examining future possibilities of sustainable consumption[310]. Quick prototyping as a making activity instigated a service idea related to these platforms or half-way designs, as they also can be interpreted. In a sense, participants came up with services from the activities they were doing, because they enjoyed them. Hirscher (2013) has demonstrated the potential of halfway products in her workshop.[311] Niinimäki and Hassi advocate half-way structures or modular products in the context of emotional durable designs[312]. Ballie´s explorations into co-design methods have also resulted in suggestions for alternative services and business models[313].

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[307] ”*I would like to later see how Sanna goes forward with the design process, before she starts pattern making, On what grounds are some design selected and others rejected.*"
[308] Lucero et al. 2012, 10.
[309] as "*creating scenarious for sustainable and reflective future fashion*" as expressed in flyers to attract participants.
[310] Niinimäki 2011, 85-86.
[311] Hirscher 2013, 95-97. . She deviced patterns and instructions for different skill levels, after realising there is not only one half-way, and they were well received.
[312] Niinimäki & Hassi 2011, 282.
[313] Ballie 2012.

9. Finding convivial clothing design

Here I will draw the findings from my three levels of analysis together and present the results of the study. A question was asked in the beginning: How to engage people in a participatory clothing design process? What works, for whom and in what context? Tools and techniques have been tried out, importance of method demonstrated and effects of different approaches discovered. A practical answer after all this is unavoidable. The challenge in co-design projects is that they always need to be designed accordingly. Thus answers to the research question I have already presented while depicting and analysing the process. To engage in any participatory activities, one needs to define the context and the goal, engage the relevant people and find the suitable method, techniques and tools to reach that goal. This has to be done every time. No matter whether you are utilising a very specific method like context mapping or dialogue-labs, the content, scope and aims need defining. Surprisingly, there is no right answer, no ready-made tool box one could always use. However, the understanding of the requirements and circumstances in doing all this has for me increased. Perhaps insights and observations from the process can be helpful to someone else, trying out their first participatory project. What I have learned, is that when practicing participation in design, conviviality is the key.

Findings of this research are summarised through the concept of conviviality. I am well aware that it is not traditional to bring any new concepts or ideas into the concluding chapter, but this is where it has all boiled down to. Throughout this process, I have been designing tools to engage people in action. Also the collection that finally emerged, is also a tool to inspire participation and creativity. I have been designing activist tools to increase awareness, facilitative tools to inspire creativity and empathic tools to build emotional connections. In my mind, this all comes together in the concept of conviviality, brought to my attention by Sanders 2006[314], but originally generated by Ivan Illich in 1970´s. In modern day language, conviviality refers to jolly, good-humoured and sociable people, but Illich traces the origins of the word to include deeper meanings and in reference to things or tools[315]: "*Convivial tools allow users to invest the world with their meaning, to enrich the environment with the fruits of their visions, and to use them for the accomplishment of a purpose they have chosen. Industrial tools deny this*

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[314] in her article on Scaffolds for Building Creativity
[315] Conviviality connects to `austerity` and `eutrapelia`. Austerity as "*disciplined and creative playfulness*" or "*friendship or joyfulness*" is a fruit of understanding that things or tools could destroy, rather than enhance this "*graceful playfulness*" (eutrapelia). Illich 1975, 7.

possibility to those who use them and they allow their designers to determine the meaning and expectations of others."[316] Conviviality as a concept doesn't have any strictly defined dimensions or theoretical fields and thus it can open up to new possibilities and applications. Here it shall serve as my inspiration for engaging users in collaborative clothing activities. Through examining attributes of conviviality I am summarising the most important insights from this research.

Convivial designer is a designer of processes, methods and tools. Platforms or situations that enable actions of making, telling and enacting between the participants are designed. Conviviality is about creative interaction among peoples and of people´s with their environment[317]. Telling tools fulfil their probing, priming and dialogue purposes well, but when combined with making, add depth to interpretation and level of interaction with environment. Probes elicit dialogue between the participants themselves and the designer. Probes increase understanding on the subject field that is probed, whether it is consumption practices or emotional durability. Creating narratives as can also contribute to further understanding of an issue and even generate concepts through future scenarious. Combining making techniques like collages or mock-ups with telling activities add depth to the material produced in the form of personal connections, experiences and insights. Making activities themselves can be used to generate and visualise ideas, actively represent the environment or situation. Making activities like prototyping can also turn to enacting, because setting users in new situations elicit ideas and perhaps future visioning.

Convivial design must be disciplined, but creative. Tools and methods that support the ability of people to shape their own environments and are easily used in expressing meanings in actions[318], are not easy to construct or implement. Constructing a method around the purpose of participation helps. There are many, however, to choose from. Probing, priming, understanding and generating are purposes of participatory activities, but alone they are not enough. Priming for what? What is generated? Collective understanding and exploring or collective designing and deciding with the design team always needs a focus, whether it is determined by the designer, or the design team. Dialogue-labs for example serve a very specific idea generating purpose in the design phase. Context mapping as a method usually serves the collective understanding and exploring phase. Probing can also be chosen as method if participatory scope was limited

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[316] Illich 1975, 29.
[317] Illich 1975, 17.
[318] Illich 1975, 30, 74.

to the more fuzzy front end of the design process. Scaffolding purposes from priming to generating for creativity, need to be designed according to what kind of products, services or scenarious are sought after. This is what I constructed for Hirvitalo, for creating scenarious for sustainable fashion. Form and purpose are applied to specific stages in the design process and scope of participation needs to be considered accordingly.

In convivial design participation is informed. Process also benefits from scaffolding, not only creativity, but of practice and shared understanding. Tools to support this are called for. Informed participatory design is collectively exploring the problem and deciding the design brief together. Here level of involvement is deepest and participants are given freedom to dictate what problems they wish to address and what direction shall the solution take:"*...participatory tools and techniques can be seen as the scaffolding for the temporary community of practice in the making. They support collaborative enquiry into the intertwinement of the essential questions about `what to achieve` and `how to achieve it`.”[319]* As analysed, tools to support this collective enquiry and building of shared understanding were scarce in my process. In a case where scope of participation is more limited, participants should be well informed about what stage the design process is now in, their position and role in the process and purpose for engagement. Dialogue-labs method supports collective knowledge constructing by introductory session where a shared understanding is built and discussing and evaluating ideas at the very end. Many methods for this do exists, but I only scratched the surface and realised their importance as they were lacking.

In a convivial mindset, approach is also a purpose, where a method and tools can be designed accordingly. It is important what is being designed and how people are engaged in the process. Clothing designers no longer design only clothes and concepts to serve the consumptive mindset. *"People need not only to obtain things, they need above all the freedom to make things among which they can live, to give shape to them according to their own tastes, and to put them to use in caring for and about others."[320]*. Depending on their mindset, whether activist, facilitative or empathic, or something totally different, convivial designers can design interventions, experiences or demonstrational artefacts, product-service systems or spaces to make things in. They can design for doing, making, adapting and creating. Von Busch´s hacktivist fashion is all about empowering users and designing new action spaces for them through protocols, instructables and open events.

[319] *Brandt, Binder & Sanders 2013, 148.*
[320] Illich 1975, 17.

Hirscher has continued along these lines by designing workshops with half-way products to induce joyful participation for co-producers to take hold of the fashion system. Ballie has opened up opportunities for people to do fashion illustrations, design scarf prints, manipulate half-way clothes into unique pieces and pick and remix discarded clothing through co-creation workshops, just to name a few new things designed in the name of clothing. An important insight of the process was that product design is not the best focus for extensive user participation, but many other purposes have demonstrated potential. Ideating, prototyping and enacting these new purposes and action spaces with people, providing them the convivial tools to do so, would be important to give them the freedom to shape the apparel field to answer their needs.

Convivial design allows for a life of action and new action spaces for people, no matter whether they are designers, researchers or users. People are at the heart of convivial design. Premises of co-design about people having right to be designing artifacts they will be using, resonate with the ideas of conviviality. Artifact can be elaborated to services, systems that also represent tools in Illich´s views. Everything is a tool that is used for some purpose, from normal hand tools like a needle or a hammer to power tools or machines like cars, sewing machines all the way to systems and institutions like phones or electricity and health and knowledge[321]. Clothes are tools for keeping us warm and perhaps demonstrating identity. So pretty much anything that can be designed by man is a tool, like our fashion system. Engaging people in participatory activities in all these levels of individual objects, services, communities or systems, is providing them with new actions spaces to foster self-realisation, that is one of the objectives of conviviality. Hirvitalo people didn't have any interest in designing a clothing collection, as workshop structure offered them the opportunity to imagine something else. One of my long-term participants was calling for a concept that would radically change the markets and peoples´ consumption behaviours. Then, I didn't have the means or understanding to deal with this request as goals for collection were set. Convivial design is about enabling and inviting people into exploring with convivial tools and this means designers also. Participation is not an intrinsic value, but having and offering the chance to do so. Openness and to be able to choose the level of involvement and role, whether a user, designer, co-creator, or co-activist, are crucial.

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[321] Illich 1975, 28.

10. Discussion, validity and suggestion for further research

Here I will discuss the validity, relevance and tribulations of this research and examine some suggestions for further research. First it should be stated that the long process to get this thesis finished has influenced its relevance and contribution to any new knowledge. Participatory process was conducted between 2011 and 2012, whereas analysis and construction of the thesis in varying periods after that until 2014. Between 2012 and today I have discovered many new articles, books and research emerging on the topic. Had I read all this before embarking on this participatory process, I would probably have been much more informed and focused in what I do. In 2011 there were no handbooks on participatory design[322], but a collection of articles and research from varying fields. This study probably has not contributed to the wider discussions on participatory design, but perhaps can add some insights into applying co-design in the context of clothing design. There are dissertations just coming out on the subject, and in the field of textiles and clothing, that will investigate the subject on a much deeper level that was ever possible in this study. I must try to see the silver lining and perceive as personal triumph the insights this fuzzy process has perhaps created in the borders of different approaches.

Reliability and validity of practice-based research and action research are difficult to evaluate, as design processes are not repeatable as such and actions are based on continuous planning, acting, evaluating and change during the process. However, reporting and reflecting on the process improves the validity of action research as does clarifying ones position as a researcher and a designer.[323] These I have immaculately done before and during research and reflection has been ongoing with my course of action report. Also during analysis I have been examining my roles in the process and tried to make different position clear to the readers. I have been an activist, researcher, designer and a facilitator just as I have been a participant observer collecting data during the process. Hussain and Sanders (2012) point out that researcher´s and or designer´s pre-understanding will always influence their analyses[324]. Thus mapping them out and reflecting upon how they evolve throughout the project is important. My course of action report has been a valuable source of data on the methods and tools, but later also identifying my own preconceptions, deductions and errors in planning or acting.

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[322] see Handbook of Participatory Design 2013.
[323] Ruohonen 2009, 17-19.
[324] Hussain & Sanders 2012, 51.

Research methods used can be argues quite suitable for the subject, but more emphasis could have been placed in collecting feedback and evaluation from the participants. Collective reflection, planning and evaluation is an integral part of action research, but from very early on I realized I cannot demand the role of co-researchers from my participants. Thus most of evaluation and planning was done by me, aided by the feedback from participants´ reflection leaflets. I even added more questions to the leaflet as I realized I am not getting the feedback I need in order to steer the process in better direction. From the perspective of realist evaluation, number of stakeholders included in the evaluation increases the competence and validity of the process[325]. Final reflection or evaluation with the participants was conducted verbally and in pairs after the last action cycle. Participants were very frank, but many things might have escaped their memory due to the long duration of the process. However, abductive logic behind evaluative approach, like in design processes in general, accepts the fact that results and theories are constantly developed and improved and through practice we are only looking for evidence for the affirmation of the results[326]. My understanding has still developed during analysis and this is reflected in me bringing conviviality in to the picture at the very end. The strongest validity points in this research go to credibility and sincerity[327]. My sincerity about feelings, views and values, successes and failures is hopefully reflected in this thesis. Credibility of the data, events and conclusions I have tried to portray in the extensive documentation of the process.

This research has been qualitative and practice-based, where data has been collected engaging a small group of people into a rather fuzzy design process with many theoretical frameworks. It can be conclude that no empirical conclusions can be drawn, but understanding on the subject has increased. With the choice of frameworks, I have clearly been too ambitious. Examining participation from three different perspectives has been challenging, and as the process has demonstrated, at times confusing. Had I focused on one approach, with tools and techniques specific to that framework, there might have been a chance for more coherent results on what works, for whom and in what context. Other, more focused research conducted at the same time elsewhere have demonstrated the benefits of focus and perhaps resulted in more in-depth knowledge on that particular

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[325] Anttila 2007, 34.
[326] Anttila 2009, 37.
[327] that Anttila 2007, 148 includes as concepts to examine validity of realist evaluation research processes, in addition to effectiveness and utilizing capability.

approach[328]. Even though my results might not have been the most reliable ones, I can consolidate myself with the fact that participation in design is an evolving field and facilitation can only be learned through experience.

As the research would have benefited from a more defined focus, it would be useful now to continue with examining a specific method with a specific scope. For example probes, that have been extensively studied, but not so much in the clothing context, could be a well-defined research subject. Take the different purposes of the probes and examine where in the clothing design process would they be most beneficially applied and in search of what kind of outcomes. Especially focusing on appplications in the context of emotionally durable design would be interesting. Both, EMOOTIOI/EMPATIOI -probe kit that I used and probing conducted by Eriksson (2008), had an emotional purpose, This suggest that interesting insights into the field could be provided. Probes serving as an inspiration to the designer is evident,but how about their convivial use in designing unique or customized clothing or in organizing oneself a durable, dream wardrobe. I would also be interested in probing for service opportunities from people´s clothing practices or needs.

There any many participatory techniques out there I have not explored and which probably are not yet examined in the clothing context. One big field is that of enactment, or acting and playing, the third form in framework provided by Sanders et al. (2010). Observations from this research suggest that workshops could serve as tools for participatory envisioning or enactment. Workshops, planned especially from an activist framework place people in new situations, perhaps future situations of draping themselves a unique garment from a platform or hacking a couture piece to increase their design skills. More sustainable clothing futures could be enacted and examined through user engagement. To me, this is connected to applying participatory methods in designing services or product-systems. In this research, service ideas were somewhat just sudden side products of the process, but they made me realize the potential of making, telling and enacting in creating services that would better fulfil users clothing need without perhaps continues massproduction of new wants and products. This is also one of the conclusions Ballie reached as many of her participatory projects and explorations in her PhD produced service design concepts and new business models for the industry[329].

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[328] for example Hirscher (2013) on activist approach or Anttila (2013) on context mapping.
[329] TFRC 2014.

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Appendix 1. REFLECTION LEAFLET (first version, later questions modified)

What happened?

Date

What thoughts did this experience awake?

Did the experience offer you something new, e.g. skills or knowledge?

What questions or thoughts did this awake?

How would you like to continue with the process?

Please continue to the other side if necessary >

Appendix 2. PROCESS PORFTFOLIO for participants (photo of the package)

Appendix 3. DESIGN NOTEBOOK

STYLES, PEOPLE, SILHOUETTES, DETAILS

ACTIONS
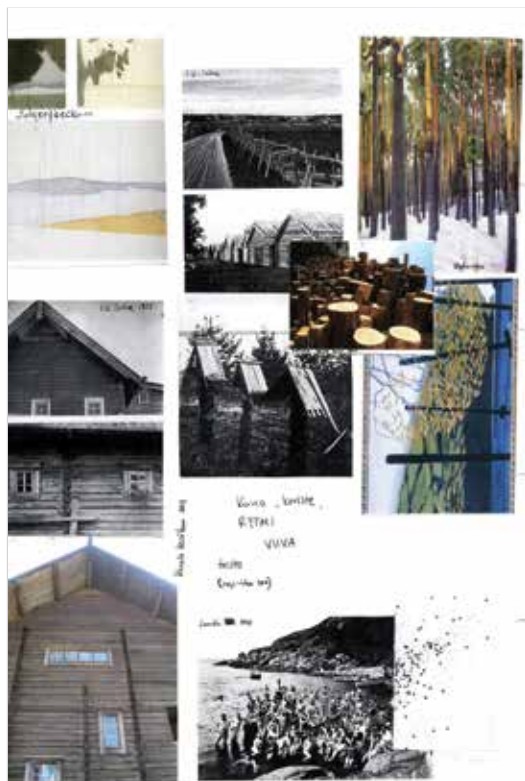
PATTERN, RHYTHM, LINE

COLOURS, MOOD

ACTION CYCLE 0 - Tuning-in - Themeboards from my inspiration sources

ACTION CYCLE 0 - Tuning-in - Ramona
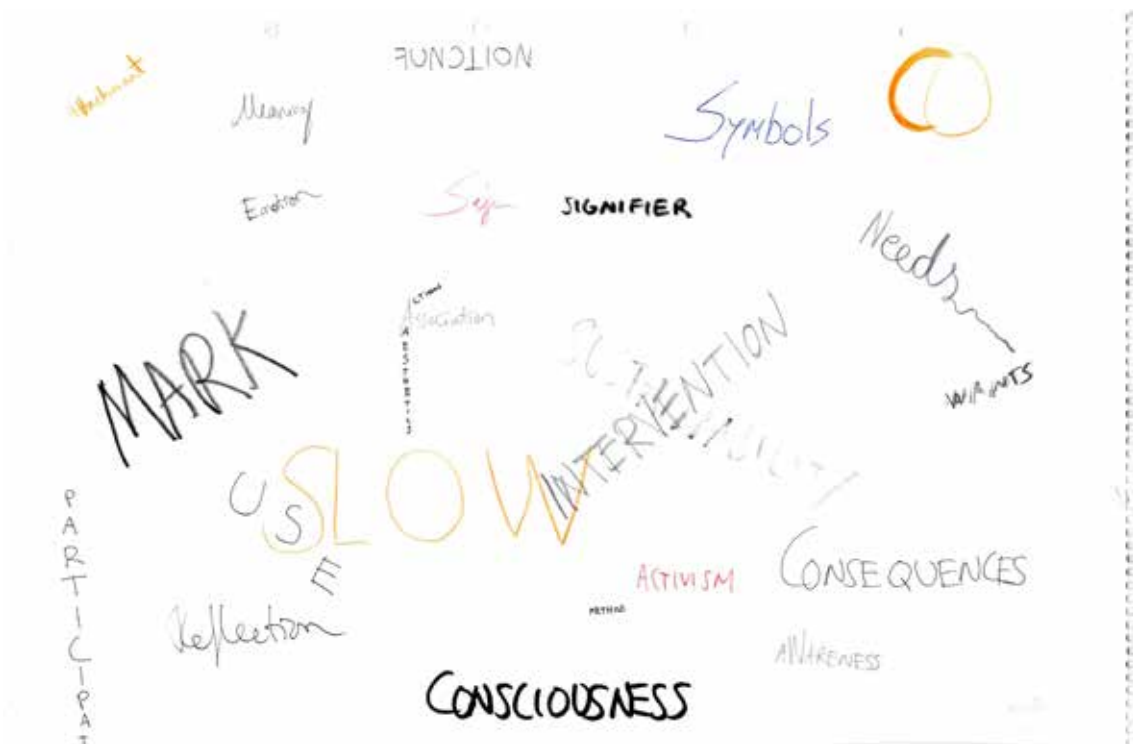
ACTION CYCLE 0 - Tuning-in - Keywords from literature review

ACTION CYCLE 0 - Tuning-in - Material sourcing

ACTION CYCLE 1 & 2 - Wardrobe -probe, here with filled with participants answers
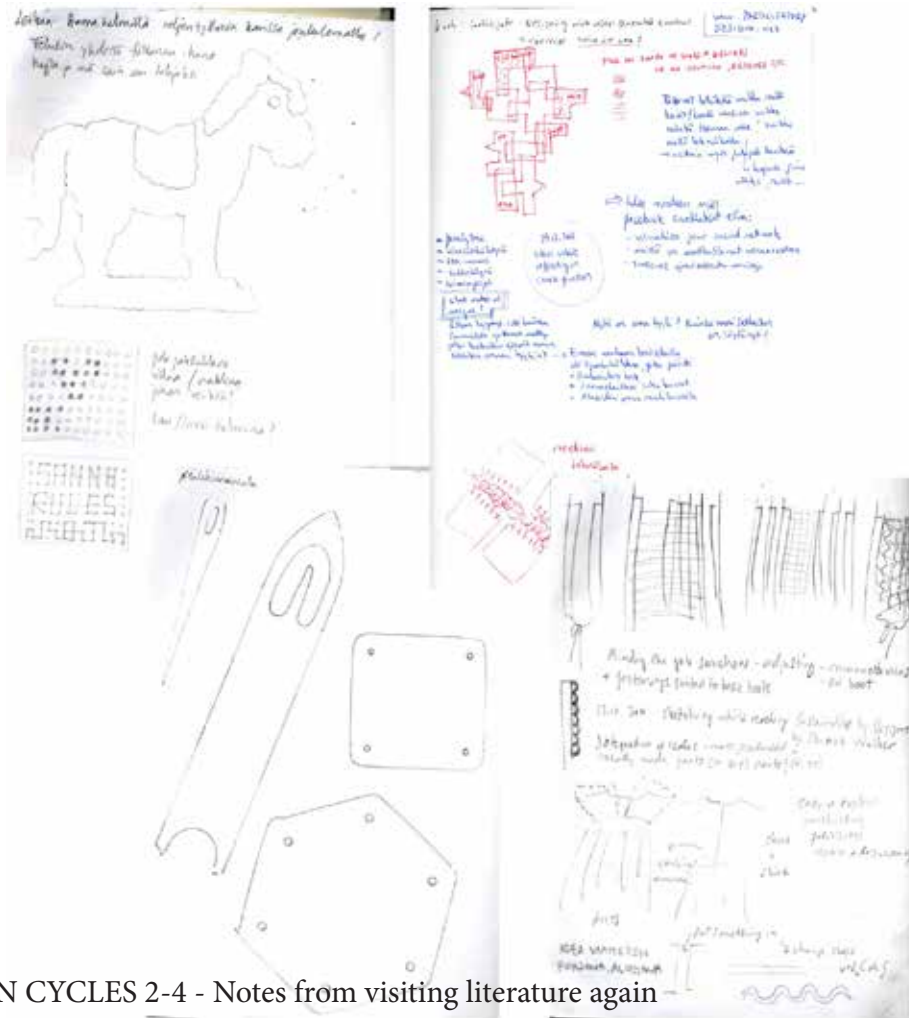
ACTION CYCLES 2-4 - Notes from visiting literature again
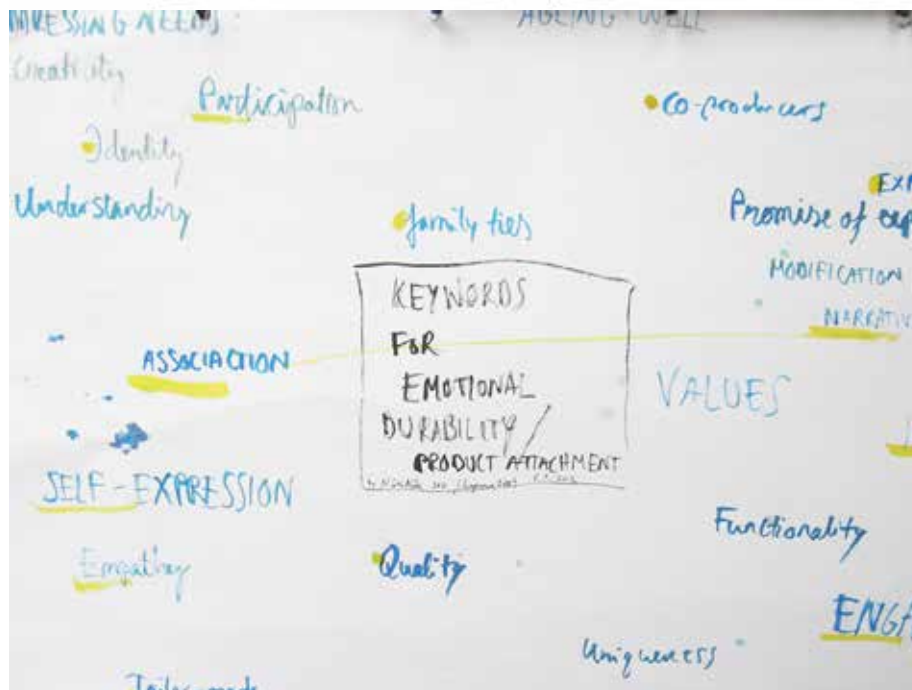
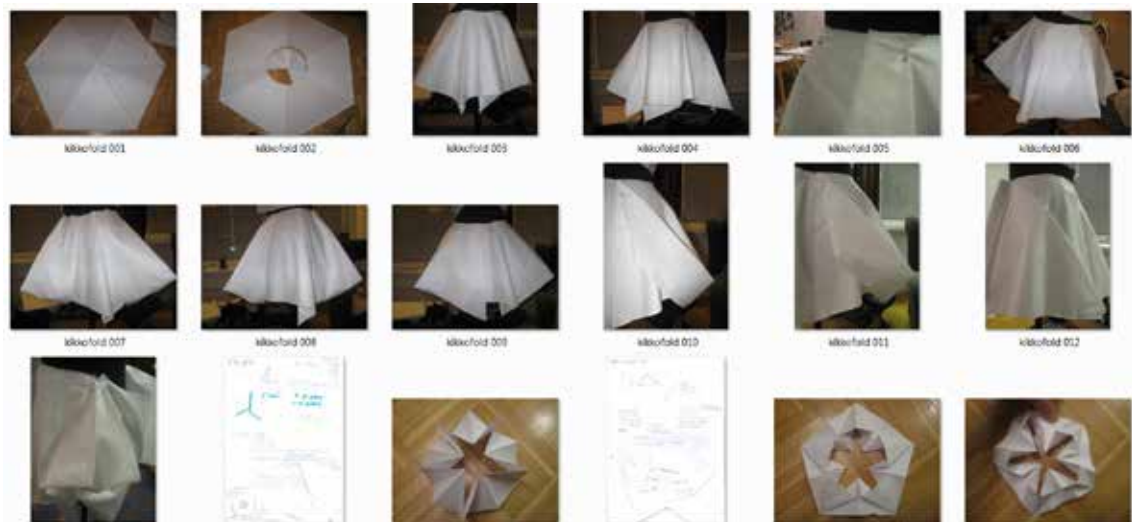ACTION CYCLE 5 - Keywords for emotional durability
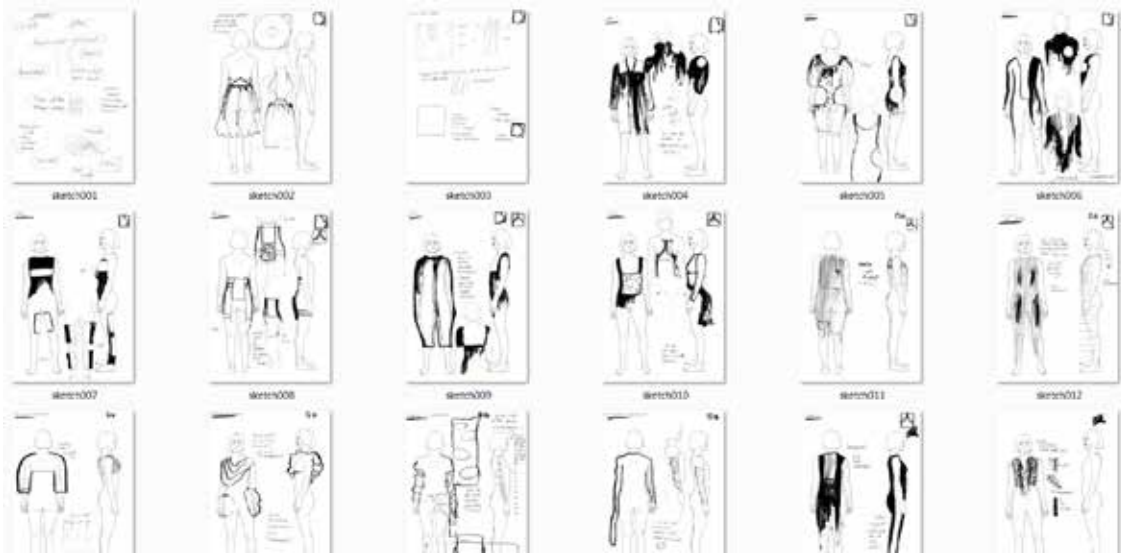
ACTION CYCLE 6 - Sketching based on Themes for the collection - Round 1

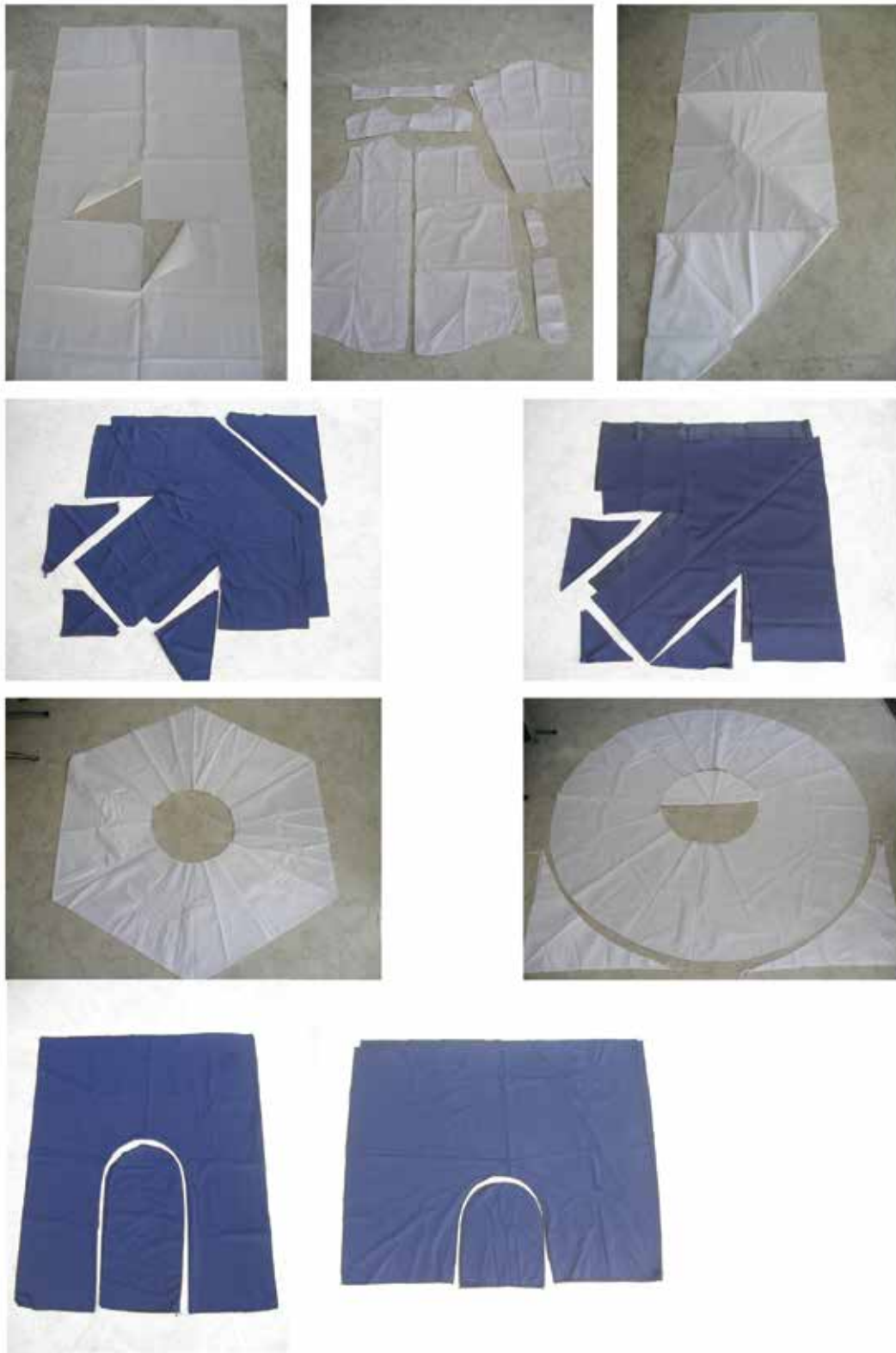ACTION CYCLE 6 - Sketching based on Themes for the collection - Round 2
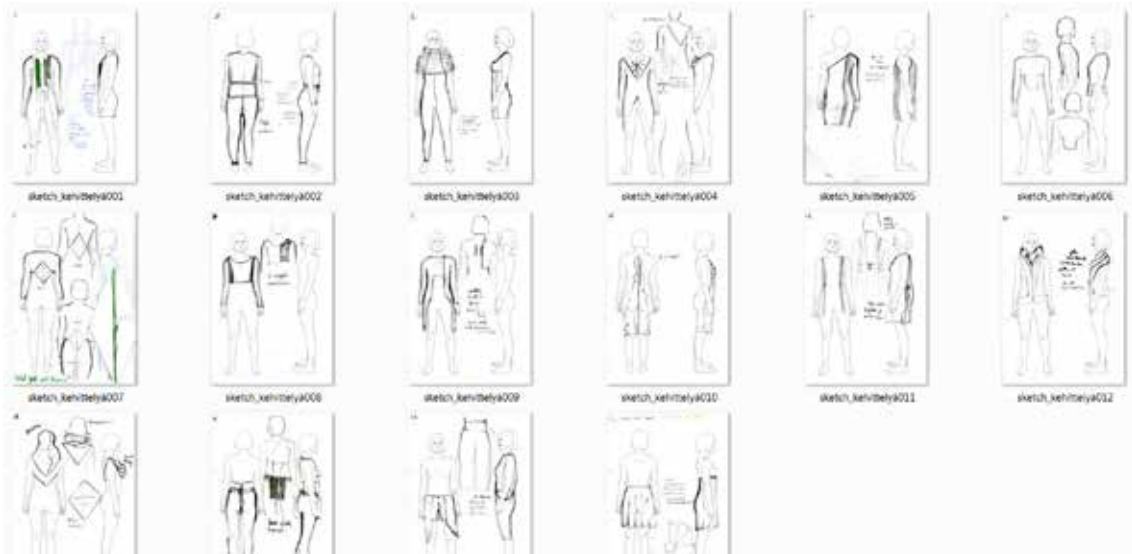
ACTION CYCLE 7- Further skecthing

ACTION CYCLE 7 - Exploring platforms for 3D-mock-ups

ACTION CYCLE 8 - 1 out 5 flyers designed for Hirvitalo workshop

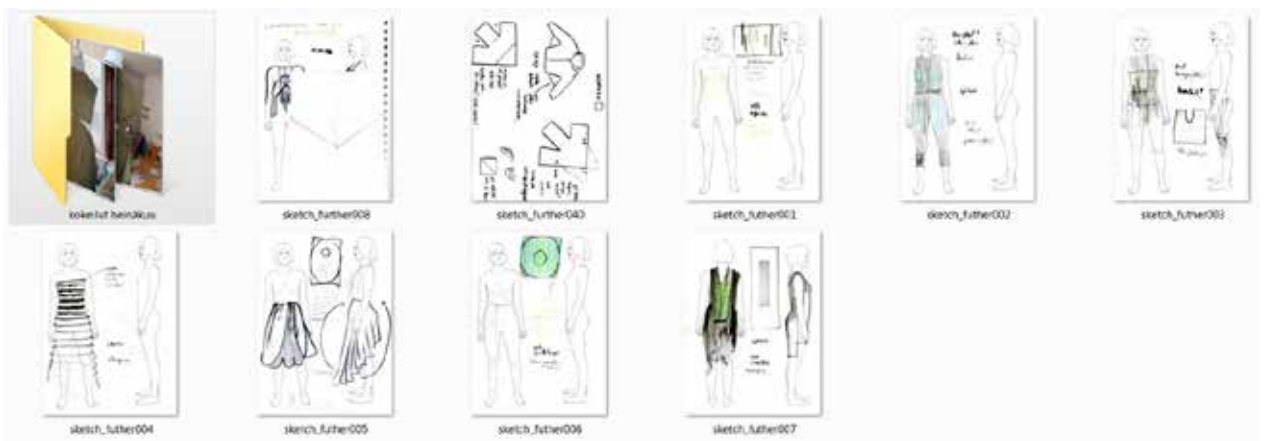ACTION CYCLE 8 - Examples of quick prototyping platforms

ACTION CYCLE 8 - Paperdoll platfom exercise planned for Hirvitalo workshop, but not used

ACTION CYCLE 8 - Quick prototypes produced by Hirvitalo participants

ACTION CYCLE 9 - Clip of a video on participants engaged in quick prototyping

ACTION CYCLE X - Sketching and experimenting after the participatory process

HIDE & SEEK FIND & PLAY ACT & CREATE

HIDE & SEEK

Balancing between the inner world, self and outside expression.

Level of ambiguity in construction invites into participation, seeking new solutions.

Wear it as you wish!

FIND & PLAY

Clothing as a game, fun activity, space for exploration, something to do with friends even and share.

Hints of another alternatives in form and function suggest adapting the pieces, playing with them, making them your own and finding something new.

Play with it!

ACT & CREATE

A piece only exists in the moment it is worn, but the building blocks are constant.

A way to create meaning in to the moment. Turn awareness into action.

Puzzle platforms are simple shapes, 3D mock-ups turned into wearable pieces. They demand acting upon them,¨ quick prototyping everytime -a moment of thought, action, inspiration.

Pick up the pieces and create a picture of your own!

EROTTAUTUMINEN PIILOUTUMINEN   VUOROVAIKUTUS MUUTOS   MERKITYTKSELLISYYS KOKEMUKSELLISUUS

ETSI   LÖYDÄ   LUO

Doing   Adapting   Making   Creating

CLOSED   HYBRID   OPEN

ACTION CYCLE X - Levels and creativity and participation created for the collection