UNIVERSITY OF OSLO

Methods, tools and techniques

Åsmund Dæhlen

What makes a method, tool or technique participatory.

Agenda

1. **What are we trying to achieve with Participatory Design?**
   - What makes it participatory, and why emphasize participation?
   - Exercise: What do the words mean?
2. **Ways of seeing the Participatory Design process**
   - General notion of the participatory practice (Bratteteig et al., 2012)
   - *The 'pd-mindset'* (Sanders and Stappers, 2008);
   - Lenses on PD-practice:
     - Having a say, mutual learning and co-creation (Bratteteig et al., 2012);
     - Tell, make and enact (Brandt et al., 2012);
     - Explorative, generative and evaluative (Sanders and Stappers, 2014);
3. **Concrete examples of tools and techniques.**
   - Future Workshop (Handbook of PD, p. 145-146 & 152-153);
   - Collaging (Visser et al., 2005);
   - Probes (Gaver et al., 1999);
   - Examples from my thesis;
   - Summary.

Part 1

What are we trying to achieve in Participatory Design?

Learning outcome from lecture:

1. Learn about the “PD-Mindset”
2. Ways of seeing the PD-process
3. How Methods, techniques and tools are applied using a “participatory mindset”

A history of *Participation*

Data gathering to design technology -> data gathering to design the process

«.. **data gathering is a central part of establishing requirements**, and of evaluation. Within the requirements activity, the purpose of data gathering is to collect sufficient, accurate, and relevant data **so that a set of stable requirements can be produced**, within evaluation, data gathering is needed in order to capture users' reactions and performance with a system or prototype» (Preece, Sharp and Rogers, 2015, p 226).

You are also moving beyond inquiry to inform choices in terms of what the technology should look like - to what the process should look like.

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Why emphasize participation?

"The heart of Participatory Design is participation" (Brandt et al., 2012)

The book (Simonsen and Robertson, 2012) emphasize a "participatory mind-set", democratization and empowerment.

Practical reasons

Nothing is new, there is always an existing constellation of tech/people

Motivated users (Hanseth and Aanestad, 2002)

Solve problems (Hanseth and Lyytinen, 2010)

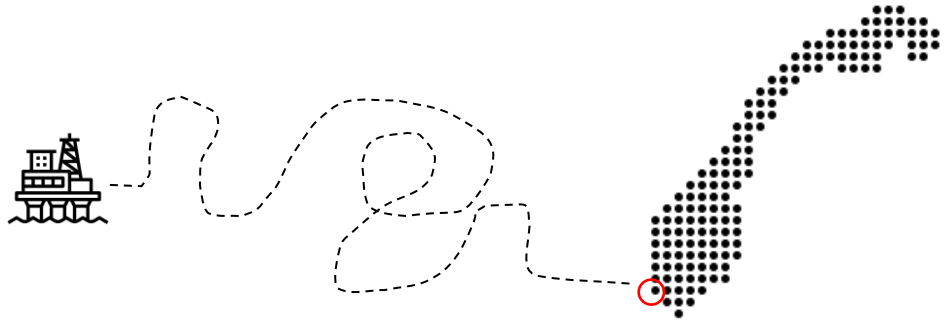
Fits the contextual requirements

Politics, laws, practices, organizations, resources… **all needs accounting for!**

Users, politicians, lawmakers, organizations, teams, team-leaders, section-leaders… all stakeholders **needs accounting for to get things done!**

Technology is not an isolated entity, it is a socio-technical entity of processes, practice, technology, organizations, culture, people… etc.

Techniques, tools, and a participatory mind-set



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Gather information

- Ethnography
  - Observation of practices
    - Shadowing
- Interviews
- Follow-up interviews once you understand more to go in-depth

Co-create sessions to explore problems and possibilities

- Workshops
- Stakeholder meetings

Synthesize higher resolution prototypes

- New workshops with prototypes

Synthesize iteration #1

- New workshops with new prototypes

- Testing of prototypes
  - Wizard of oz

Test high-rez prototypes

Test how the new prototype fits with existing processes

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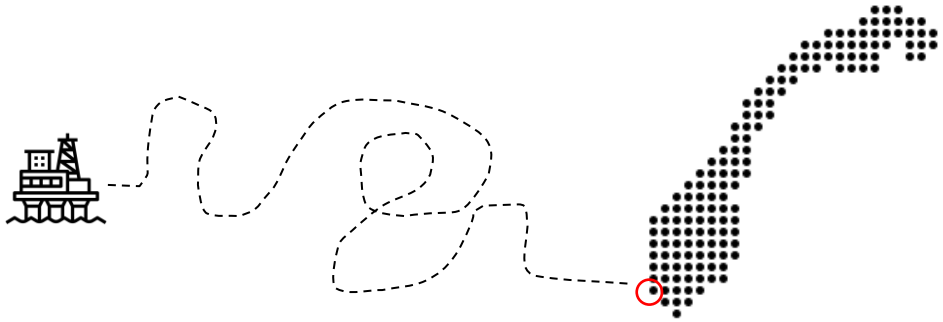
"You get one day on-site"
"We need a working solution within a month"
"You have x amount in budget"
"You get x amount of working hours with the workers"

Your design-work does (most always) not align with workers work!
Resistance from workers? Maybe they don't want this?
Is it a decision that will make people lose jobs, require more work?



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Test high-rez prototypes

Test how the new prototype fits with existing processes

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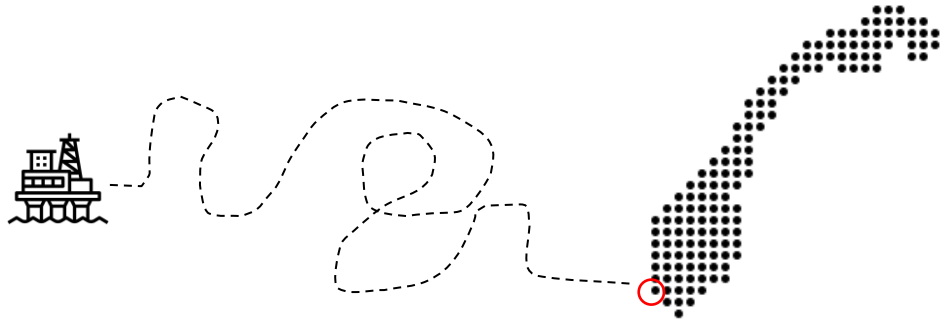
Gather information

- Ethnography
  - From a distance / or maybe a longer stay at the platform?
    - Film/pictures
- Interviews
  - Remote?

- Future workshop / collage
  - Digital: miro, zoom, ?

Can you test remotely somehow? Maybe focus on a process, which can be tested without a necessary object?



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Method

A Framework

A recipe

Tool

An Object

Camera

Technique

Application of the tool to the method - to fit the context, and what you want to achieve

Do you take pictures, do participants take pictures, does an impartial third party take pictures?

THIS IS ONLY ONE WAY OF SEEING IT

Bratteteig et al., (2012) view the method as a “set of principles of method which in any particular situation has to be reduced to a method of uniquely suitable to that particular situation” (from, Checkland 1981, p. 161).

Part 2

Ways of seeing the Participatory Design Process

(Lenses on the PD-process)

Empowerment and democratization (Computers Dividing Man and Work (Sandberg, (1979) if you are interested PDs history).

Having a say, Mutual Learning and Co-creation (Bratteteig et al., 2012) (ch. 6)

Enabling participation of end-users into design-decisions (Bratteteig and Wagner, 2014).

Telling, making and enacting (Brandt et al., 2007) (ch. 7)

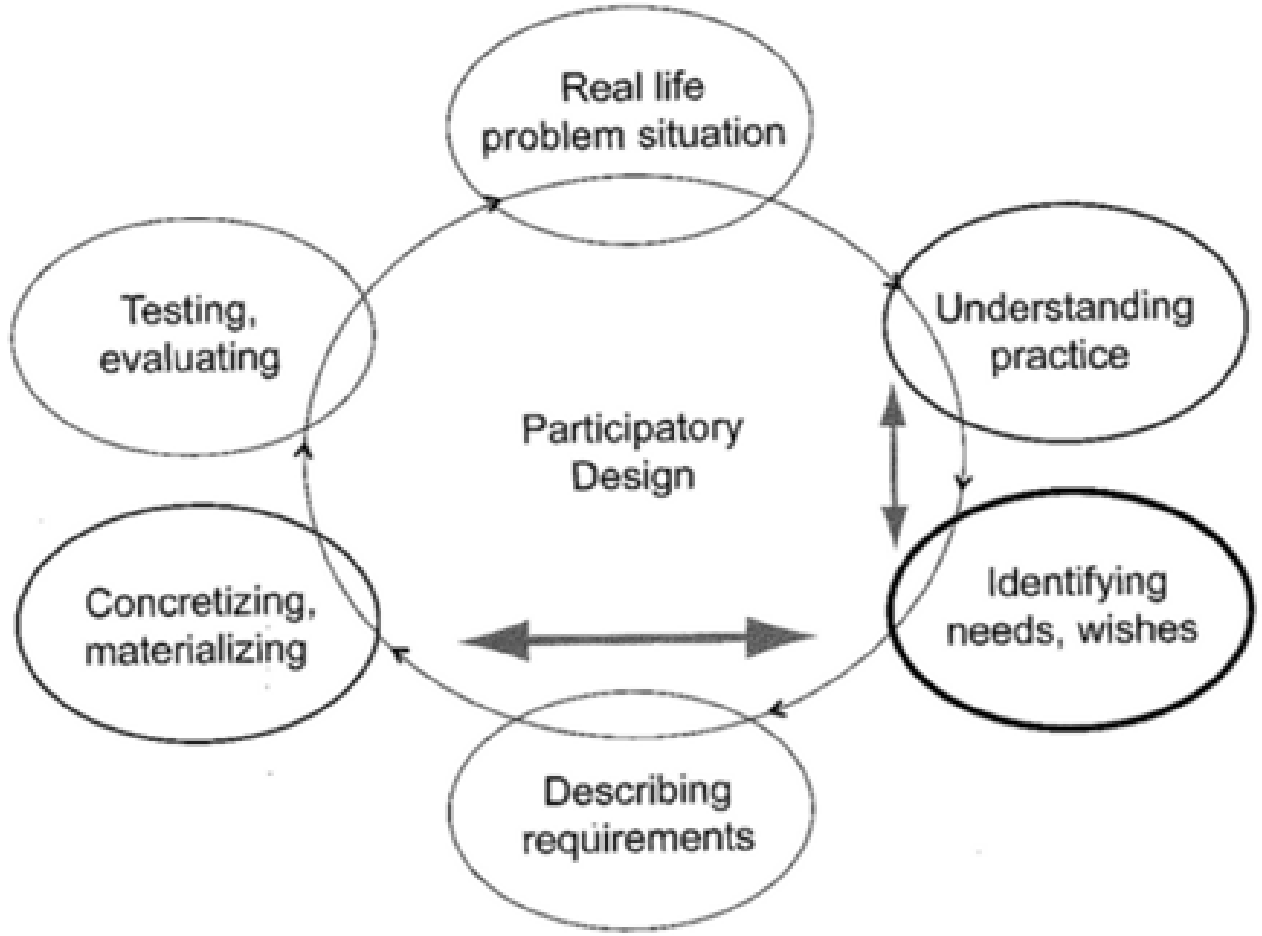


Figure 6.5 The use-oriented design cycle

(Ch. 6, p. 128, Handbook)

"There is still a reluctance to have the contribution of the PD community reduced to stand-alone tools and techniques if these are not accompanied by what Sanders and Stappers have called a participatory mind-set" (Brandt et al., 2012).

What is the participatory mind-set?

Bratteteig et al., (2012) sais, “this basic worldview leads us to the three core perspectives: having a say, mutual learning and co-realization”.

In chapter 6 (Bratteteig et al., 2012) the authors describe the general notional understanding of a method: “Method, as a general concept, is often interpreted as a ‘recipe’ for how to carry out a set of activities – Like a cookbook recipe.” (Bratteteig et al., 2012), and further, that this is not how the tradition views the use of methods.

PD process = PD-mindset (Real world context * method(adapt with techniques and tools))

(Ignore chapter 6’s emphasis on the example methods: MUST, CESD, STEPS. Read them, and try to understand why, but don’t emphasize these methods. It is a bit outdated.)

What makes a PD use of methods, tools, and techniques different to other kinds of design processes?

Not a black-and-white world, UCD and PD are based on the same principles of engaging users. There is overlap.

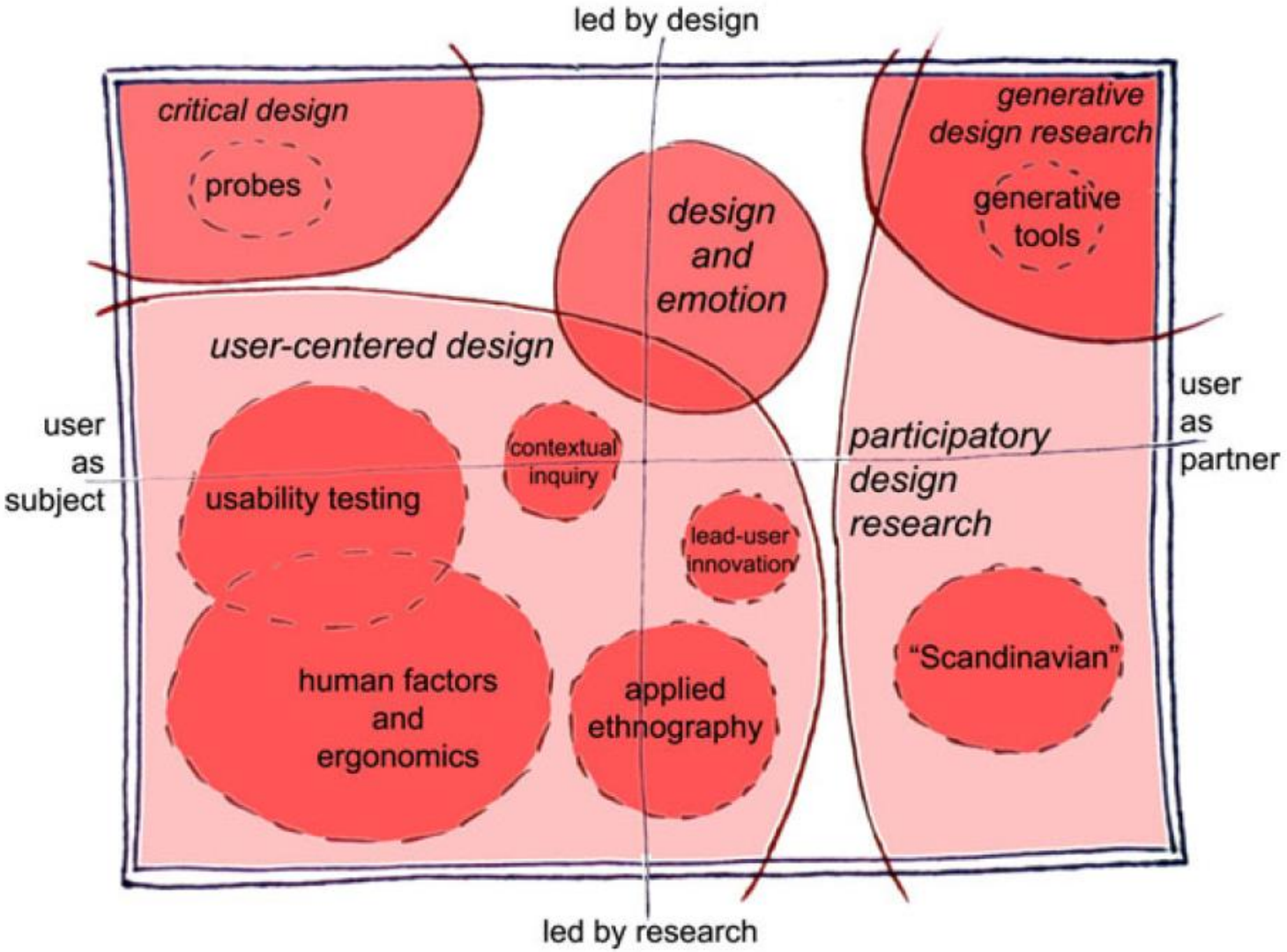


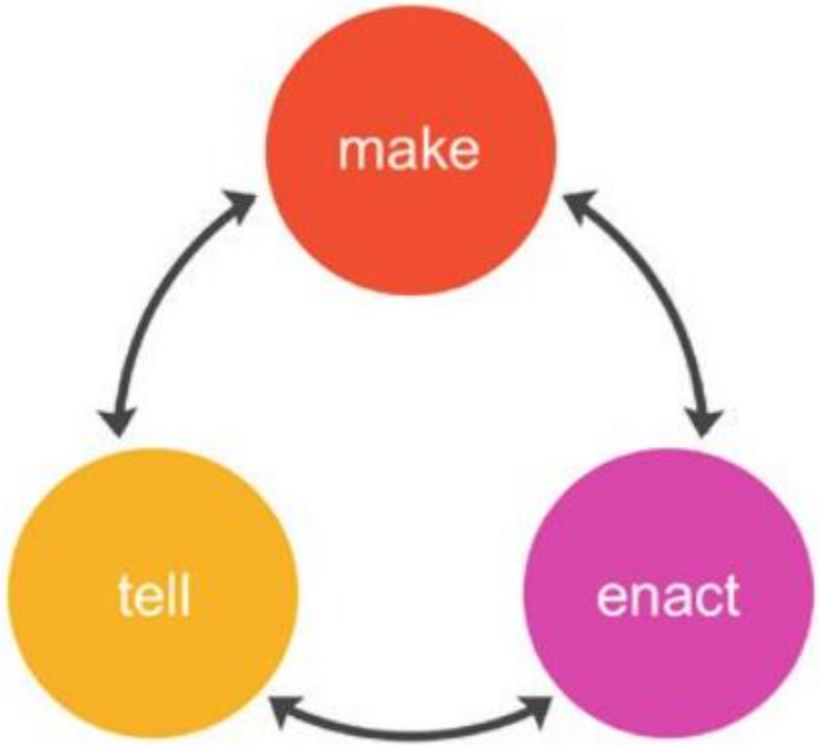
Figure 2. The map of design research, showing different approaches laid along two axes: role of the user (horizontal), and approach of the research (vertical). *Source*: From Sanders and Stappers (2008).

(Sanders and Stappers, 2014)

Different ways to think about the participatory design process

Making: co-design, an important part of making decisions (see Bratteteig and Wagner, 2014), happens in the making of design-artefacts.

Workshops, probes



Telling: ways of introducing the designer to the context, but also a means for participants to articulate their contexts and explore challenges and problems.

Workshops

probes

Interviews

Enacting possible futures: lets participants experience and explore what the future could look like.

Roleplay

Testing scenarios

Brandt et al., (2012) (ch. 7)

Making: co-design, an important part of making decisions (see Bratteteig and Wagner, 2014), happens in the making of design-artefacts.

Workshops, probes

Not mutually exclusive activities: in the act of making something, you can ask participants to tell stories about their artefacts, or enact possible use.

Telling: ways of introducing the designer to the context, but also a means for participants to articulate their contexts and explore challenges and problems.

Workshops

probes

Interviews

Enacting possible futures: lets participants experience and explore what the future could look like.

Roleplay

Testing scenarios

Brandt et al., (2012) (ch. 7)

People are different: some like telling, some like acting, some like making.

Our responsibility as designers in knowing the *right* way of engaging.

"Things-to-think with" (Brandt, 2007)

Fig. 6 Mock-ups of valves and manifolds from the WORM project. The mock-up to the *left* was from the second workshop, middle third workshop, and the mock-up with the most details to the *right* is from the fourth workshop

Brandt (2007) used high fidelity mock-ups to engage the participants into co-design.

Lower fidelity = broader conversation topics,
Higher fidelity =more specific topics.

Note that such discussions require deep professional knowledge on the subject of these specific valves.

things and, by that, gets further with the design. The design process in the WORM project is best described as reflective conversations with problematic situations and generation of possible solutions through collaboration between users, customers, and the full design team. The reflective conversations were centered

of finishing than the earlier ones (see Fig. 6). They looked as if they could almost work. The amount of details and finishing seemed to affect the communication by making it more focused and detailed. This is

This kind of prototyping, letting the hands-on objects of future use lets the user tell stories of the context of use, enact futures on how they would work and, if knowledgeable enough about the topic, be a part of making future iterations (co-creation, having say, mutual learning; enabling user decision-making).

Table 3. The three approaches to making are expanding across different time frames.

	Probes	Toolkits	Prototypes
The world as it is	Cultural probes (Gaver, Dunne, and Pacenti 1999) Design probes (Mattelmäki 2005)	Toolkits for understanding experience: a day-in-the-life exercise	Usability testing of an incrementally improved redesign
The near future	Design Noir (Dunne and Raby 2001)	Toolkits for exploring future experience: my-ideal-future-product exercise	Usability/field testing of a radical new product
The speculative future	Diegetic prototypes (Kirby 2011) Artefacts from the future (WIRED magazine)	Toolkits for experiment-ing with experience: make-believe role-playing with co-constructed artefacts	Research through Design prototypes (Keller et al. 2009)

(Sanders and Stappers, 2014)

How making can happen across time, within different time frames, for different contextual reasons.

Part 3

Examples from practice

Probes

(Gaver et al., 1999 & Visser et al., 2005);

Google

Probe

All | Images | News | Videos | Maps | More | Tools

space | ultrasound | surgical | boboiboy | dental | ford | thermometer | temperature | sur | medical | test | voyager | nasa | m

RS PRO Test Probe, 10A | RS
no.rs-online.com

definition of probe by Med...
medical-dictionary.thefreedic...

Probe & Seeker, 6" Length | ...
homesciencetools.com · In st...

Best pris på Mammut Probe 240 - Se ...
prisguiden.no

Ortovox Probe Steel 320+Pfa Steel ...
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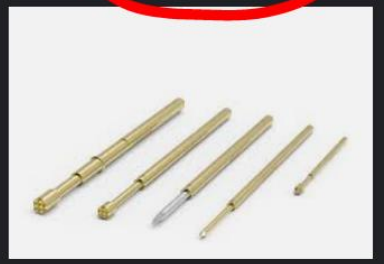


Contact Probes - FEINMETALL GmbH
feinmetall.com

Ford Probe - Wikipedia
en.wikipedia.org

Temperature probe glass-co...
velp.com

Periodontal dental probe - Horse De...
horse-dental-equipment.com

Bully Tools 48 in. Soil Probe ...
homedepot.com · In stock

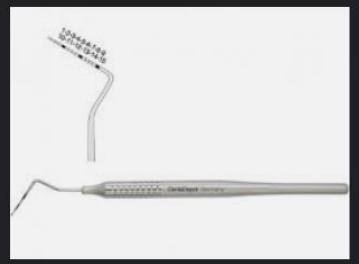
Ion Sensor Probes "PRO" for Smart Water ...
libelium.com

Dental Perio Probe (Periodon...
indiamart.com

RS PRO Oscilloscope Probe, Probe Type ...
no.rs-online.com · In stock

PROBE | University of Bergen
uib.no

Test Probe Set, 5 Piece
harborfreight.com · In stock



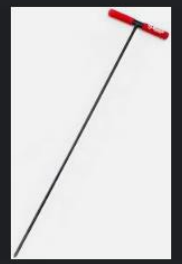
Periodontal Probe, 1-2-3-4-5-6-7-8-9-10 ...
orthodepot.de

Amazon.com: 6 Pcs Bowman L...
amazon.com · In stock

Oscilloscope Probe, Differential, 100 M...
no.farnell.com

Probe and Pick Set – iFixit St...
eustore.ifixit.com

Dental probe blunt short (25 mm ...
horse-dental-equipment.com



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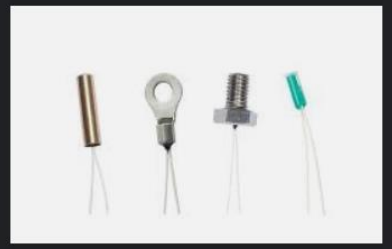

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ingeniovirtual.com

Why Gaver et al., (1999) used probes.

..

Generational gap

"[..] increase the presence of the elderly in their local communities" (p. 22).

Combat distance

Physical

Research-researched divide: avoid feeling of being researched.

Figure 1. A cultural probe package.

Postcards

Informal, friendly and suited to people who are familiar with this sort of activity.
This can be seen as an alternative to a questionnaire.

Camera invites enacting & telling

Postcard invites reflection, telling about something

Mapping invites making

All promote reflection

Figure 6. Some of the returned items.

Photography/camera/diary
Asked to photograph their home, what they will wear… casual topics—which they were asked to collect into a diary, telling ‘their story’.

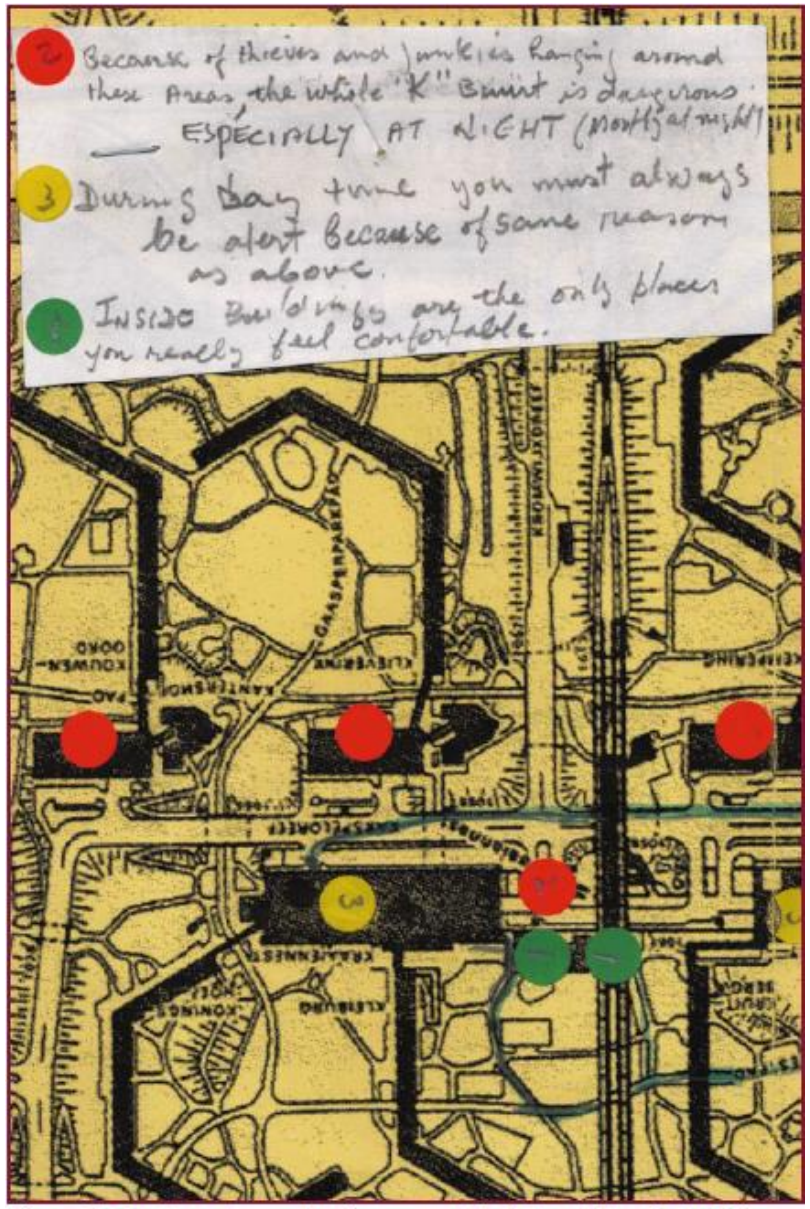

Figure 7. A returned map showing zones of safety and fear in the Bijlmer.

Maps

Inquiry into elderly's use of their local community.
Where they meet people, daydream, to be alone, where they can't go.
Ranging from specific inquiries to poetic.

Why Visser et al., (2005) used probes.

Prepare user for participation

"Sensitizing is a process where participants are triggered, encouraged and motivated to think, reflect, wonder and explore aspects of their personal contexts in their own time and environment." (Visser et al., 2005, p. 123)

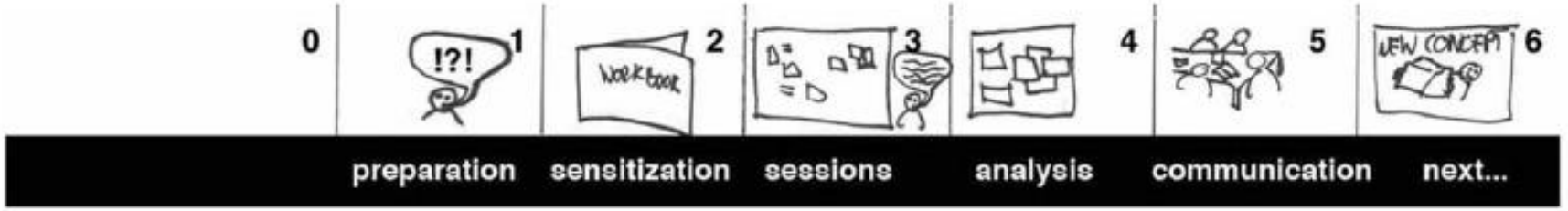

Figure 4. Procedure of a contextmapping study.

Gaver et al. (1999) uses the probes for gaining insight into the context as inspirational data to stimulate designer's imagination, and users presence in their community.

Visser et al. (2005) uses it as a generative technique for co-design

Collaging

(Visser et al., 2005);

Collaging (and toolkits) are created to better understand day-to-day experience, explore future possibilities, and speculate (think: tell, make, enact) (Sanders and Stappers, 2014).

Participants capabilities, experience, skill, the context is the limit for what you can do!

Figure 5. Some generative techniques used in practice by SonicRim.

Toolkits can also specifically be crafted to enable co-creation—as physical prototyping kits for the participants to have hands-on experience with future materials: https://sphero.com/collections/all/family_littlebits

Future Workshop

(Handbook, p. 145-146 & 152-153);

Phase	2-day schedule	1-day schedule	1/2–day schedule
Preparation phase Designing the room, introducing the Theme and working method	1 h	½ h	1/2 h
Critique phase Creating a richer; common image Of the problematic situation	4 h	2 ½ h	1 h
Fantasy phase Generating visions of an improved Situation without restrictions	6 h	2 h	1 ½ h
Realization phase Bringing the visions down to earth and Developing a plan	4 h	2 h	1 ½ h
Follow-Up Phase			

Jungk & Müller, 1987

Method to put all kinds of tools and techniques into!

Sense of how much time it takes to do co-design.

Flexible method for any stage of design (think generative, evaluative, explorative)

Personal experiences: Facilitating for capabilities of people with Intellectual Disabilities

Immersion as a Strategy to Facilitate Participatory Design Involving People With Intellectual Disabilities and Caretakers as Proxies

Shaping spaces for participation through contextual insight

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Abstract — **This paper reports from the early phase of a Participatory Design (PD) process where the goal is to design technology that involves people with Intellectual Disabilities (ID) and their caretakers as participants. The background of the study is a long-term collaboration with a local activity center for people with ID and 56 participants from this empirical context participated in this study. The presented methodological approach emphasizes immersion as a means of gaining access to and learning about the context to help identify crucial considerations for the facilitation of later PD activities. The paper presents two analyses of contextual data to reflect on how immersion as a strategy provides important insight into contextual considerations that can help shape future PD activities. Three learning outcomes are presented and discussed: involving users with ID and their caretakers as proxies, organizing long-term commitment, and lastly building on already-established forms of mutual learning.**

immersion as a strategy to gain the necessary contextual insight to facilitate future PD activities. We report from our initial phase where we have immersed ourselves in the context to help identify important considerations. This study involves 56 participants, including users with ID, their caretakers, and the managerial staff. The data gathered through immersion revealed two main topics overarching all contextual factors, namely activity and communication. We used these two topics to structure our analysis of what type of contextual insight we gained through immersion, and then later use the findings to reflect on why this knowledge is necessary to facilitate a PD process involving both people with ID and proxy designers. We end the paper by presenting three concrete learning outcomes: (1) the PD process should facilitate for the participation of caretakers as proxies; (2) the PD process should be organized as a

Creating design activities that fits the existing environment

Figure 31: The complete Polaroid Diary toolkit

Not to elicit information, but to sensitize healthworkers to become designers on behalf of users. **Enabled by** immersion.

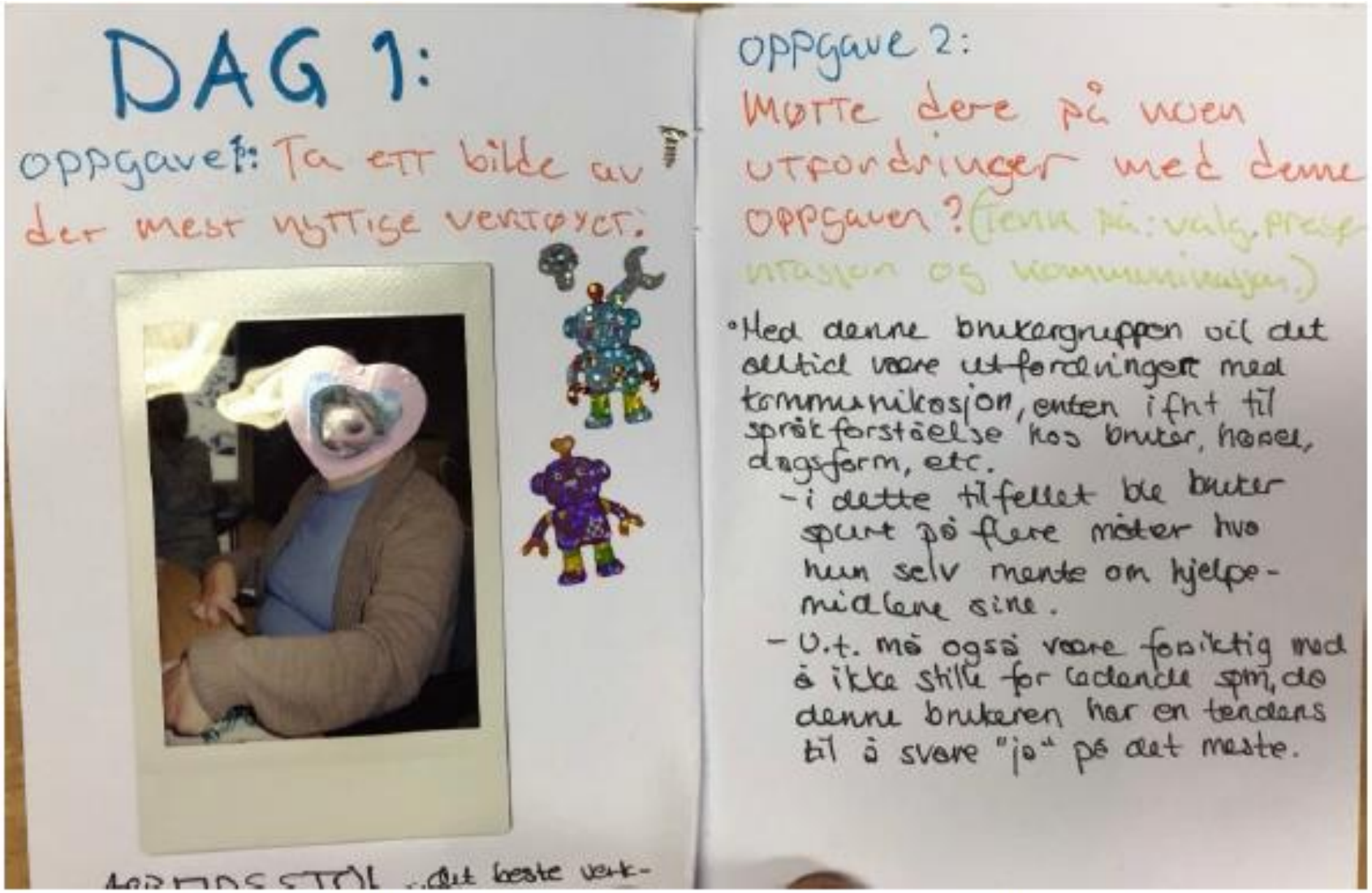

Figure 37: CW4 Reflects on the presentation of choice and cognitive capabilities.

Figure 48: Icons on post-its, used to explore the users understanding.

Figure 47: CW2 exploring U3s capabilities

Figure 43: (left) collaging tools, (middle) U4s screen interaction (right) exploring choice.

15 years of knowing eachother, but how does she really make choices?
Can they use touch screens?
Creating a prototype

Learning outcome from lecture:

1. Learn about the “PD-Mindset”
2. Ways of seeing the PD-process
3. How techniques and tools are applied using a “participatory mindset”

Challenge: Apply “the pd-mindset” and create/adapt other methods, tools and techniques

Example from master thesis (Universal Methods of Design 2018)