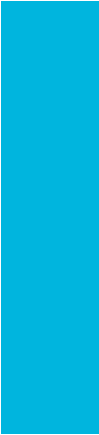# Observational research

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Product use=
Series of use situations.

Observational research=
Observation of use situations.

qualitative: 5-10 participants...

the low probability of being rare, or
the high probability of being there

Today:

- Doing good research

- From research to design

(one slide, at the end!)

Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Make research set-up

↓

Carry out research

↓

Process results

↓

(Re-)design

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Make research set-up

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Good research:

- relevant
- logically consistent
- clear
- efficient

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Observational research

Envision presumed use – visually, dynamically

↓

Set up presuppositions

↓

Pose research questions

↓

Make research set-up

↓

Carry out research

↓

Process results

↓

(Re-)design

Envision presumed use

Visiting another city for an important meeting: need to iron my shirt!

Here's the hotel's iron.

Old thing, a bit dusty ... not heavy though!

I'll put it down for a moment to sort my shirt

The dial clicks when I turn it. Nice to know that it won't turn unnoticed.

Ready to go, plugging it in.

I'll put it down while it heats. Will it rest on its back? Yes.

But it sure twists my hand!

Hey I heard a click sound. Is it ready? I'll put my hand close ... yes, seems warm.

Observational research

Envision presumed use

Set up presuppositions

Pose research questions

Make research set-up

Carry out research

Process results

(Re-)design

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Make research set-up

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Old thing, a bit dusty ... not heavy though!

I'll put it down while it heats. Will it rest on its back? Yes.

The product is light enough for

P5 – P95 Europeans' hand strength

Making the back of the product flat will be a usecue that you can rest it that way.

Observational research

Envision presumed use

Set up presuppositions

Pose research questions

Make research set-up

Carry out research

Process results

(Re-)design

Presuppositions **based on** the visual story

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Observational research

Envision presumed use

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Set up presuppositions

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Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

Presuppositions **based on** the visual story

Old thing, a bit dusty ... not heavy though!

I'll put it down while it heats. Will it rest on its back? Yes.

The product is light enough for P5 – P95 Europeans' hand strength

ALWAYS THINK FROM THE USER'S PERSPECTIVE!

Making the back of the product flat will be a usecue that you can rest it that way.

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

What is a 'presupposition'?

It's a reasoned prediction. > it contains the REASON why you think you can predict use.

The product is light enough for P5 – P95 Europeans' hand strength.

Old thing, a bit dusty ... not heavy though!

Making the back of the product flat will be a usecue that you can rest it that way.

I'll put it down while it heats. Will it rest on its back? Yes.

Observational research

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Observational research

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⬇

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Pose research questions

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(Re-)design

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I'll put it down while it heats. Will it rest on its back? Yes.

Making the back of the product flat will be a usecue that you can rest it that way.

Based on people's expectations that an iron can be rested on its back

Presuppositions

What in the **product** will users probably use as a usecue, and for what?		**How well or badly** do your assumed usecues work for users? Say also **why.**			
What is a usecue or small set of usecues?	For what?	How easy is the usecue to **perceive**? (perception)		How easy is the usecue to **understand**? (cognition)	
		+/-	and why	+/-	and why

I'll put it down while it heats. Will it rest on its back? Yes.

Presuppositions

What in the product will users probably use as a usecue, and for what?		How well or badly do your assumed usecues work for users? Say also why.			
What is a usecue or small set of usecues?	For what?	How easy is the usecue to perceive? (perception)		How easy is the usecue to understand? (cognition)	
		+/-	and why	+/-	and why
flat shaped back	putting iron down	+	flat shape is large	+	people expect it from other irons

I'll put it down while it heats. Will it rest on its back? Yes.

Observational research

Envision presumed use

⬇

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Set up the research

⬇

Carry out research

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Process results

⬇

(Re-)design

Observational research

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Pose research questions

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Set up the research

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Carry out research

⬇

Process results

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(Re-)design

Presuppositions **based on** the visual story

Research questions **based on** the presuppositions

The product is light enough for

P5 – P95 Europeans' hand strength

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Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Presuppositions **based on** the visual story

Research questions **based on** the presuppositions

The product is light enough for P5 – P95 Europeans' hand strength

Does hand strength affect use?

Making the back of the product flat will be a usecue that you can rest it that way.

Do previous use experiences influence use?

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

For example:

- How do people use the product? Are there unexpected successes or problems?

- Do people use the presupposed usecues or very different usecues?

- Were my presuppositions right? (... for example, about the role of previous expeirence, human capacities/limitations/ measurements, safety?)

- Are there missing or false usecues?

Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research   **- in the lab?**

- in the field?

↓

Carry out research

↓

Process results

↓

(Re-)design

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

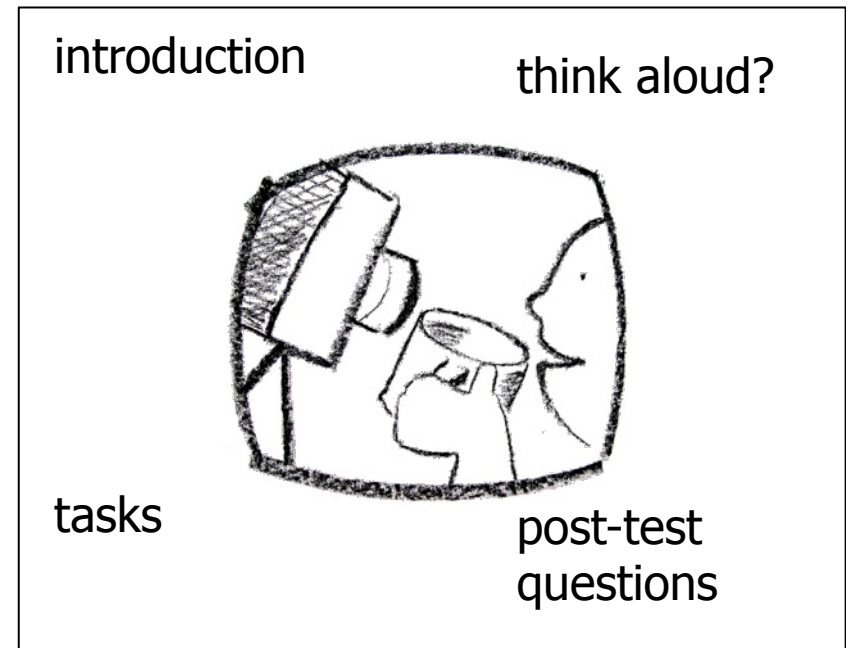Pose research questions

⬇

Set up the research   **- in the lab?**

- in the field?

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

introduction		think aloud?
tasks		post-test questions

Do point out to participants at the beginning that you would like to make a video

Don't stay behind the camera unless necessary, to make it a 'piece of furniture'

Think about what participants might do to choose videoposition and do not change it

Instructions for participants

Tasks provide information on the problem
   situations

Exploration can reveal what people
   actually do

Longitudinal usage research may provide
   ...how people discover a product
   ...fleeting and persisting problems

Verbalization in pairs

Hackman and Biers (1992)

- Total time verbalizing higher: more statements with high value
- No change in performance (task difficulty)
- No change in subjective evaluation

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Points of attention:
- follow-up effects

(careful not to present the object on its back)

I'll put it down while it heats. Will it rest on its back? Yes.

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

That's why: do a pilot research!

Points of attention:
- follow-up effects

(careful not to present the object on its back)

I'll put it down while it heats. Will it rest on its back? Yes.

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Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

Poi
- f

I'll put it down while it heats. Will it rest on its back? Yes.

...sent the object on its back)

That's why: do a pilot research!
To prevent a bad research set-up

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Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Poi
- f

I'll put it down while it heats. Will it rest on its back? Yes.

That's why: do a pilot research! To prevent a bad research set-up.

A pilot research = do your research exactly as you intend it with one participant (who is part of your target group)

Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

Possibilities:
- unobtrusive observation
- fake task

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

- The same for each participant

- BUT: this is qualitative. So if your insights change, do adapt your set-up

- Be well-organised (team work)

- Make sure you have enough time to get participants who are the people you need

- Be nice to them and don't influence them

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Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results   Answer the research questions.

⬇

(Re-)design

Observational research

Envision presumed use

Set up presupposition

Pose research question

Set up the research

Carry out research

Process results

(Re-)design

I'll put it down while it heats. Will it rest on its back? Yes.

Old thing, a bit dusty ... not heavy though!

For example:

"Participants 1, 3, 4, 5 en 7 rested the iron on its back without hesitation. Asked later why, they said it seemed quite natural and the steady position told them it was stable."

"The P5-50 participants had trouble with the weight. They said so and they put it down after a short time."

"Participant 3 said she would need another handle on this product"

"Participant 4 said she would use it like this at home"

Observational research

Envision presumed use

Set up presuppositions

Pose research questions

Set up the research

Carry out research

Process results

(Re-)design

Answer the research questions.

But since this is explorative research, also note completely unexpected results!

Observational research

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Also make a note of research set-up and execution mistakes and how much influence they had on it.

Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

Observational research

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

- Product requirements
- Directly, product characteristics
- Product/system positioning in the context

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Remember

Envision presumed use

↓

Set up presuppositions

↓

Pose research questions

↓

Set up the research

↓

Carry out research

↓

Process results

↓

(Re-)design

Presuppositions **based on** the visual story

Research questions **based on** the presuppositions

Conclusions **based on** research questions

Frequently made mistakes

Envision presumed use

⬇

Set up presuppositions

⬇

Pose research questions

⬇

Set up the research

⬇

Carry out research

⬇

Process results

⬇

(Re-)design

Research not well prepared

Bad pictures/video!

Influencing participants

Not enough questions asked about why people did certain things.

Biased reporting.

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Frequently made mistakes

Envision presumed use

↓

Set up presuppositions

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Pose research questions

↓

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(Re-)design

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Research not well prepared

Bad pictures/video!

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Not enough questions asked about why people did certain things.

Biased reporting.

Preventing biased reporting:

Be aware of your assumptions

Observe carefully

First note down observations,

ONLY THEN interpret them.

From research to design

From research to design

- make the functional aspects of a concept immediately visible

- anticipate the meanings that people will attribute to those aspects

  > (for example on the basis of earlier experiences, or when a colour or shape stands out for them)

- make a variety of ways possible to use the product or system successfully.

- (but of course, within the bounds of safety: some ways of using a product should be made impossible).

- make use of the fact that people transfer earlier product use experiences to new ones:

  - either make the new use similar

  - or make it so different that they cannot transfer earlier experiences.

From research to design

- make the functional aspects of a concept immediately visible

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