Research in design projects
& research on user participation in design

Tone Bratteteig

Department of Informatics, University of Oslo

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what is research?

produce knowledge
in a systematic way

four elements in research
- ask questions
- gather data / evidence
- analyze / theorize
- answer questions

ask: three types of questions

1) descriptive questions
   – identify something
   – document a phenomenon
   – compare cases
   – explain a phenomenon

2) normative questions
   – variation: good & bad examples

3) constructive questions
   – what can X do to improve Y?
   – intervention (Action Research)
   – imagining (experimenting)

Ragnvald Kalleberg

design and research

- two hats
  - – research: produce knowledge
  - – design: produce artifacts

- confusion in the practice
  - – the same activity can produce knowledge and artifact (plan)
  - – in the activity the designer-researcher wears two hats

- to make something is part of asking and answering *(Kalleberg)*

design

- design: forming ideas in a material
- decisions / choices between possibilities (in the space of design ideas)

- "see – move – see"
  - evaluation of the situation, suggest possibilities / choices
  - select one of the choices
  - try it out, concretize the idea
  - evaluate if the choice leads in the right direction (vision)

- evaluating the result (in the context, over time)

"see – move – see"

Schön

Stolterman

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research in/on design & making things

research about making things are often discussed as research into, through and for "art and design" where

- research <u>into</u> design is seen as historical or theoretical research (about design processes and results)

- research <u>through</u> design (Frayling) refers to material research development work and action research (dessigning a solution produces knowledge)

- research <u>for</u> design Frayling calls research with a small ´r´, i.e., gather materials as part of design

Frayling

refrasing Frayling

– research about the <u>artifact life cycle</u>, i.e., the process from idea to result to artifact-in-use. Knowledge about design processes and design results (and their use)

– research about the <u>artifact as a materialization</u> of a concept / idea / vision. Knowledge about how an artifact can embody a concept (mastery, openness etc.) through materials and forms

– research about the <u>materials and forms</u> used in design of the artifact. Knowledge about how materials and forms can be developed to produce new artifacts

design research

- user-centered design (UCD)
  - users are involved to some degree (spectrum: inspiration source – users as designers)
  - based in the use context

  life cycle & artifact itself

- Participatory Design (PD)
  - negotiating the problem and its solution
  - users as co-designers

  life cycle & artifact itself & materials

- Research through design (Rtd)
  - the process of making
  - exploring concepts and their materializations

  artifact itself & materials

Participatory Design (PD) basics

- future users of technical solutions should participate in the decisions that influence the design of those solutions
    1) contribute with knowledge that can improve the design
    2) ease the introduction of new technology
    3) influence future work conditions / changes that will influence them
- to **have a say** is more than having your voice heard
- the organization of the design process should facilitate user participation throughout the process
    – in **mutual learning** (problem setting (definition) and solution)
    – in **co-construction** of the new solution in its real context

PD research

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- PD as intervention
  – solve a real problem with (future) users
  – in their context

- PD as imagining
  – explore possible futures
  – develop technology critique "on the shop floor"

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PD is <u>a form of</u> Action Research

- Action Research integrates an action in the approach to answer the research question
  - to carry out the action is the best (only) way to answer the research question
- the action in Action Research is a research approach combined with a way to solve a problem in an organization
  - the problem originates in the organization
  - but the process of solving the problem as well as the solution of it are central in the research question
- the Action Research starts with a real problem while PD often start with a new technical possibility or a wish for exploring possible futures

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understanding & theorizing in PD research

- what is it that users participate in in participatory design?
- how do they know that they have influenced the design?
- what is a PD-result? Who and how is it evaluated?

Bratteteig & Wagner

- Spaces for participatory creativity, *PDC 2010*
➔ Spaces for participatory creativity, *CoDesign Special Issue on PD*, 2012
- Disentangling power and decision-making in participatory design, *PDC 2012*
- Disentangling Participation. Power and Decision-making in Participatory Design, *Springer CSCW series*
- Design decisions and the sharing of power in PD, *PDC 2014*
& Analyzing the politics of PD: a conceptual investigation (workshop)
- The life and death of design ideas, *COOP 2016* (w/ O-K Rolstad)
- Unpacking the notion of participation in Participatory Design, *Journal of CSCW 2016*
- What is a participatory design result? *PDC 2016*

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