WORKSHOP: EXPERIMENTING WITH DESIGN EXPERIMENTS

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ABSTRACT

This full day workshop intends to explore design experiments to create a deeper understanding of the underpinning mindsets, epistemological assumptions and their implications as well as possibilities within the context of academic research. The participants will contribute with their experiences of conducting design experiments in a variety of settings and contexts. During the workshop the participants will give and get feedback on the experiments presented and explored, and participate in the discussion and development of (new) principles for design experiments in academic research. One aim of the workshop is to develop a conceptual map that categorizes the various design experiments based on their epistemological assumptions and practical implications for design practice as well as academic research.

INTRODUCTION (BACKGROUND)

Design research is inherently paradoxical in that it is both imaginative and empirical (McDaniel Johnson 2003). On the one hand, in design you need to create proposals that should be regarded as meaningful by some people in the future. On the other hand in design research you obviously need to create new knowledge, which often requires some form of empirical evidence.

This paradox poses particular methodological challenges for acquiring as well as analyzing data. Eikeland presents "three 'ways of accessing data'…: (1) observation, (2) asking questions, and (3) experimentation" (2006:194). This data can be turned into information, which can be transformed into knowledge by the researcher. Based on Eikeland's classification it is obvious that designers and design researchers developing proposals experiment for a wide range of purposes, in a variety of contexts, using a wide range of different approaches. Broadly defined, experimentation can be seen as the most frequent method in order to acquire data and knowledge in design research. Schön (1983) "suggests that to experiment, in the most generic sense, is to act in order to see what the action leads to and that the most fundamental question of experimenting is, *What if?"* (Küçüksayraç & Alpay Er 2009: 2809). Schön presents three approaches to experimentation: hypothesis-testing, exploratory and move-testing experimentation (1983:145ff). On an everyday basis though, designers' activities are seldom called experiments, but rather e.g. sketching, prototyping, mock-ups, scenarios, storyboards, simulation, and user testing (Gedenryd 1998:156).

Historically designers have borrowed methods to conduct experiments from many other disciplines and used them for our own purposes. Rarely have we reflected on the approach originally used for the experiment, and the underlying assumptions it brings along. Many experiments are based on an epistemology where objective facts are assumed to exist, and all problems can have an optimal solution. Design work has a different outlook that implies another epistemological stance according to which the proposed solution(s) and the interpretation(s) of the situation emerge simultaneously. Assessments are the only way to score, because with this approach there is no definite right or wrong, only better and less good proposals depending on particular perspectives. Such a designerly approach may be in stark conflict with the epistemological stance of the original experiment.

Schön claims that "experiment in practice is of a different order than experiment in the context of research (1983:145). Designers and design researchers normally deal with issues that are regarded as complex, messy, unstable, wicked etc. This is often the case as there are no clear borders where a situation ends. This is not always seen as bad and "some complexity is desirable" (Norman 2011:13), especially when looking to develop novel solutions. However, while design tends

to embrace complexity, departing from a human-centered perspective and an open-ended approach, traditional scientific experiments seek to eliminate complexity, removing the influence of the researcher and controlling the research context.

DIMENSIONS OF COMPLEXITY IN DESIGN EXPERIMENTS

If we are to use experiments derived from design practice in academic design research, we need to clarify what we mean by experiment in this context, and how we can understand it in relation to complexity. What are the underpinning assumptions for the experiments employed, and what are the implications for how we assess the output from these experiments?

For the purpose of this workshop all design activities, except observation and asking questions, will be called experimentation. To illustrate, an initial proposal of dimensions is presented below. We use these to trigger discussions of the underpinning assumptions of the experiments as well as their implications for what methods and knowledge they could legitimately produce. The workshop will not be limited to these, but the list will be expanded and developed during the workshop, since this is one of the central activities.

INVOLVEMENT

The kind of involvement and perspective of the people participating in, as well as designing, the experiments are necessary to consider. One scale could be *one – several*, but can include different *kinds* of *stakeholders* in the future situations.
Sole experimenter – several stakeholders

Another important aspect is the extent to which the researcher him/herself is involved in experimenting: the researcher can take the role of the passive bystander, designing the experiment, but not taking part in it herself, or she can be actively involved in facilitating the participation of other stakeholders. On the extreme of this end of the scale is the approach more common in artistic research when the researcher essentially uses her own experience as data/means of experimenting.
Passive – active role

Designers and design researchers also engage in experimentation with different mindsets, sometimes consciously and other times without reflecting on the approach. One example Liz Sanders often brings up is the expert vs. participatory mindsets: experts see 'users' as subjects (reactive informers), while people with a participatory mindset see 'users' as partners (active co-creators) (2013).
Expert mindset – participatory mindset

CONTROL

The basic premise of an experiment in the natural sciences is that you can control the situation in a laboratory and isolate the dependent variable. This is rarely the case in design experiments.

Design work traditionally takes place in the studio but seems to more and more be done in the context of current or future use (Koskinen et al. 2011).
In the lab/studio – in the field

Levels of complexity thus also increase as experiments are increasingly aimed toward preferred future situations rather than fixing existing problems
Present - future

Many design experiments involve making, creating and changing shapes, colors, surfaces, relationships, interaction, etc. (i.e. design). This can be done by the designers on their own, or in workshops with many people involved. While other experiments do not involve the activity of making or creating.
No making – making

PURPOSE

Design experiments can be conducted to create knowledge in relation the participants' experience and also interaction during the experiments. The knowledge if interest can be propositional. But perhaps more likely other aspects of knowledge that can be seen as skills, familiarity and judgment knowledge, that are more difficult to inquire into with just observing and asking questions.

There can be many ways of categorizing intentions. Of particular relevance for this conference are the different interests and audiences that design practice and academic design research have. In the social sciences there is an ongoing discussion on the relevance-rigor dilemma, meaning that the researcher often has to balance the relevance of the study for practice and the rigor of the method for academic credibility.
Academic research – Commercial practice

Earlier we mentioned Schön's distinction between different approaches to experimentation in design. Christiane Floyd discussed prototyping and presented a difference between exploratory approaches, where you want to be surprised, and experimental ones, where you expect more of a yes or no answer/result (1984:6).
Testing - exploration

The desired output can thus be more or less be more specified in advance, which leads to different possibilities for drawing conclusions. Depending on the nature and focus of the experiment, the result can be summarized in words or numbers (an artifact – as in a traditional lab experiment), or sought to capture the experiences of participants (as in human-centred design). The desired output can thus be conceptualized as:
Artifact - experience

RELEVANCE FOR THE CONFERENCE

The workshop is a collaborative exploration of design experiments aiming to produce a deeper understanding of the underpinning mindsets, epistemological assumptions and their implications. Academic research is often assessed on the basis of the *reliability* and

validity of the data and method. We will explore what these overarching qualities could mean in the context of the design experiments in complex contexts.

WORKSHOP FORMAT

PARTICIPANTS

We welcome participants that are design researchers and practitioners that have a range of experiences from different ways of working with design experiments in varying contexts and settings. You should be interested in gaining further understanding of their own and others' ways of working.

To ensure a good climate for discussions the desired number of participants will be between ten and twenty.

BEFORE THE WORKSHOP (I.E. SELECTION OF PARTICIPANTS)

If you are interested in participating in the workshop please submit a max four-page position paper where you present an approach, method, technique or case study that relates to experimentation, that you would like share and explore. The paper should present the experiment in a visual as well as verbal way.

The paper must be sent by e-mail to anna.rylander@gu.se no later than 20 May. Include "Nordes Workshop 113" in the subject. We will respond regarding your involvement in the workshop around 1 June.

The accepted position papers will be shared among the participants before the workshop and we anticipate that the participants get familiar with the other's papers.

SCHEDULE (TENTATIVE)

The workshop extends over a full day, with the following schedule outline:

AM: Mapping experiments

- Introduction to the workshop and the schedule.
- Presentations of experiments/cases brought to the workshop.
- Active exploration in smaller groups of the experiments the participants bring. Mapping and discussions depart from the dimensions presented above , but participants are encouraged to to challenge, elaborate and complement these dimensions.
- Presentations by the groups of their conclusions and insights from the mapping exercise.

PM: Exploring assumptions and their consequences

- Mapping and discussion of underlying epistemological assumptions of the presented

experiments and the conceptual maps from the morning.
- Mapping and discussions on criteria for judgment of the mapped experiments as research methods.
- Share experiences and sum up.

AFTER THE WORKSHOP

The organizers will create a summary of the learnings from the workshop and present these as an exhibit or in some other way. Possibilities for publication of results will be sought.

THE ORGANIZERS

We who are organizing and conducting the workshop are involved in development of design research, design education on all levels and design work.

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