Lessons Learned from Facilitation in Collaborative Design

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Abstract

The importance of a skilled facilitator in design meetings with users is often emphasized, but less is said about how to improve the facilitation process. This paper reports experiences and lessons learned from facilitation of card-based sessions in three design cases through an analysis of two sessions with users, and one session with professional designers. The analysis showed that many alternatives were not documented in the sessions with users who designed primarily by talking, compared to the professional designers who primarily designed by placing cards. We propose that facilitation, in cases similar to those presented here, could be improved by suggesting alternatives and possible consequences, prompt the participants to explore the consequences, and graphic facilitation.

Keywords: Facilitation, design representations, design games, participatory design.

1 Introduction

Methods for involving users in the design process through game-like card-based design sessions (e.g. CARD, CUTA and PICTIVE) are well established (Lafrenière, 1996; Muller, 1992, 2001; Preece *et al.*, 2002; Tudor *et al.*, 1993). The card structure resulting from such a session is a documentation that can be used in further design activities. It can also be used for reflection on consequences of the emerging solutions during the session. What the facilitator does, and have to do, in order to lead successful design sessions is, however, less well known. The importance of a skilled facilitator is nevertheless often stressed (e.g. Eden *et al.*, 2002).

In this paper, we report experiences from facilitation in three card-based design sessions, one with trained usability designers and two sessions with future users (newspaper staff members).

2 Representations in Design

When involving users as co-designers it is common to use materials and representations familiar to the users, such as a deck of cards or pen and paper. This enables them to express themselves in terms of design solutions, for instance by creating interface mock-ups (Bødker *et al.*, 1987). The everyday nature of the representational means—pen and paper or tangible user interfaces (Eden et al., 2002; Ernesto *et al.*, 2000)—enables users to participate on more equal terms with the designers.

The practices of professional designers entail, however, a specialized way of working with graphical representations such as pen and paper (Schön, 1983, 1987). Schön describes design as an exploration of the conceivable futures of the design situation at hand. Representational means, such as sketches, diagrams or other physical models are important tools for explorative moves. Expert designers tend to start by developing solutions already before they have complete understanding of the problem (Cross, 2004). They, furthermore, relate the details of the solution in relation to consequences for the whole problematic context (Bernstein, 1988; Nelson & Stolterman, 2003). The interplay between the designer and the graphical representation of the design situation also generates new ideas. Schön (1987) (p. 97) denotes this "the image generative." As the designers draw, they reformulate their problem utilizing the "backtalk" (Schön, 1987) from their representational means.

The sketch as a representational means is rapid and spontaneous, and it also leaves stable traces, in contrast to talk, which is evanescent. Talk is, however, important for the argumentation behind the solution. Designers employ a language of talking and drawing in parallel (Schön, 1987). Since users in collaborative design meetings usually do not employ this drawing-talking language, it has been suggested that a graphic facilitator should illustrate the alternatives in drawings as the design meeting proceeds (Crane, 1993).

Given that trained designers have a specialized way of working with graphical representations it is reasonable to assume that the requirements on facilitation of collaborative design would differ if you have a workshop with trained designers compared to a workshop with

users. We set out to study this using the recordings from three workshops that we recently had conducted.

3   Case Studies

In the facilitated design sessions that are the case studies of this paper, cards are used as representational means. Two collaborative sessions were held with users and one was held with professional usability designers.

The sessions were part of half-day future workshops (Jungk & Mullert, 1987). The workshops started with an introduction. It then proceeded with a brainstorming session on current or future problems at the company where the participants worked. Then, card-based scenario building was used to create scenarios of problems in the current situation (see below for a description). The problems were then discussed, and prioritized. Two scenarios of how the work should be in the future were then made using card-based scenario building, where the participants addressed their most important problems.

Somewhat different card-sets were used in the three workshops (see below). The participants were introduced to the method by a presentation of an example of how to work with the cards. The cards were used to describe how the team would act in a hypothetical situation. Each participant could introduce new aspects of the situation, by writing on and placing cards in a scenario structure. The scenarios that were created described situations and how they unfolded, by portraying what activities would be carried out, what competences would be needed, what methods, techniques and tools they would use, how the activities related to each other, and where they would take place.

The scenario-building sessions started with filling out a *what* card stating the design task that the scenario would be about. The facilitator explained additional details in the card-based scenario building method during the design session. He reminded the participants to use the cards for design when needed, and also helped the participants to place the cards into the scenario structure. Moreover, the facilitator interrupted the design work to ask the participants to consider different aspects of the scenario, if some important aspect seemed unspecified.

3.1   Case 1: The Usability Design Team

The purpose of the session was to design new ways of working with user-centred design at the IT-consultancy company where the participants worked. The session included the design team manager, and team staff. The four women who participated worked with usability, interaction design and requirements. Their working experience ranged from three to fourteen years. They had, however, no experience with card-based techniques. A card-set was used containing cards labelled *who*, *what*, *where*, *tool*, *when*, and *problem*. There were also un-labelled cards.

3.2   Case 2: The Printed Newspaper Staff

The purpose of the session was to design new ways of working with online news, enabled by new tools for journalistic work. The session included an editor-in-chief, a photographer, a business developer, an editorial researcher, and newspaper reporter, and a radio reporter. Even though the participants had different rankings the discussions were quite open and outspoken, perhaps due to the informal character of the newspaper organisation. The card-set included cards labelled *who, what, where, tool, when, how,* and cards without labels. The *how* card was to be used for description of the characteristics of carrying out a task, like for instance *swiftly*, or *automatically*.

3.3   Case 3: The Online Newspaper Staff

The purpose of the session was to design new ways of working with online news, enabled by new tools for journalistic work. The session included an editor-in-chief (the same as the editor-in-chief in Case 2), the web manager, a web reporter, a web producer, an archivist, and a web sales person. The discussions in this case were also quite informal, open and outspoken.

4   Analysis

The three card-based sessions were transcribed. Episodes were firstly coded in terms of whether the actors were making design moves, or whether they were evaluating consequences of the emerging design. This resulted in three categories: 1) episodes where participants mainly made design moves; 2) episodes where they mainly evaluated consequences; and 3) episodes where design moves were intertwined with evaluation of consequences. Design moves were seen as either elaborating the scenario, or as creating alternatives.

Having conducted this first step of the analysis, we then analyzed the design moves, regarding whether the participants mainly designed by placing cards, or mainly designed by talking. In doing this, we compared the transcribed discussions with the card structures. The actions of the facilitator were analyzed in the same way.

5   Observations

When the transcriptions were analyzed in detail, two observations especially prompted us to reflect on the facilitation of the card-based design sessions; 1) the facilitator focused on structure and documentation, and 2) many alternatives were not documented in the sessions with the newspaper staff, since they had phases of design by talking, documentation, and then reflection. In contrast, the usability design team designed by placing cards, intertwining the design moves with documentation and reflection.

5.1   Focus on Structure and Documentation

The facilitator in the workshops focused his intervention on the scenario structure, to ensure that the scenario was concrete and detailed. An example of this was when a card describing an actor just had been put into the structure and the facilitator requested that the participants filled in a card describing what the "News Graphics Creator" would do. This would make the scenario more detailed and direct attention to specific scenario aspects. This kind of intervention was common in the two sessions with the newspaper staffs since they primarily designed by talking, to which the facilitator reacted by requesting cards to be filled in.

In contrast, the usability designers designed mainly by placing cards in the scenario structure, also reflecting on the whole as part of their work with the cards. This meant that the facilitator did not have to remind the participants to fill in cards.

5.2 Many Alternatives were not Documented

Newspaper staff and usability designers reflected on their design alternatives in different manners. Although several alternatives were discussed in the newspaper sessions, for each topic, only one was finally selected and put on a card. The other ideas were not followed through and further developed. It was also noted that the newspaper staffs jumped from detail to detail without relating back to the whole picture, as much as the usability designers did.

For example, in one episode with the online newspaper staff, the participants work on details for how indexing could be done. The facilitator then responds by requesting detail about who does the indexing, and alternatives for that are presented. The participants then start to evaluate the consequences of the design. They also relate back to the scenario, to find a card with an actor (already in the scenario) who could do the editing. Only one of the alternatives expressed was, however, written down on a card as the design moves happen in the talk rather than in the cards.

After these phases of design-by-talking, they documented their decisions in the card structure, before they reflected on their design and assessed consequences for the whole. The cards then worked as a public protocol of their work. Let us now turn to the design session with the usability designers. Unlike the two sessions with the newspaper staffs, design was realized in combined card work and talk, intertwining discussions about alternatives with relations to the part and the whole. For example, one of the usability designers connected earlier proposals to the scenario structure by saying, "Actually it's the same as these" and pointed at the cards representing the tools. Another participant who also connected back to her own previous statement immediately acknowledged that it was the same. The usability designers, furthermore, related new ideas to the existing structure, exploiting the backtalk of the material. Episodes where card placing was intertwined with talk and assessment and reflection, were common in the design session with usability designers, but rare in the sessions with newspaper staffs.

6 Discussion

In summary, we observed that design alternatives did not come down in writing in the sessions with the newspaper staff. They had phases dominated by design by talking, phases dominated by documentation, and then phases dominated by reflection and assessment of consequences. This differed from the usability design team who designed by placing cards; intertwining the design moves with documentation and reflection/assessment.

Users are usually not professional designers and training them to develop a drawing-talking language that professional designers often use would be time consuming. In most situations it would therefore be better

if the facilitator could support the participants in this respect.

In our experience, the facilitator could follow up design moves to a larger extent, instead of only reminding participants to fill in the cards (even though reminding participants may be necessary (Muller, 2001)). In our case studies, it was disruptive to constantly ask participants to fill in cards when the pace of the discussion was high. We suggest that participants can be encouraged to follow up design moves by *demonstrating and suggesting alternatives and possible consequences* of design moves, or by *prompting the participants to explore the consequences* further. These two strategies could, however, also be disruptive, so for the facilitator the timing of the interventions are important. It is best to make them when the discussions are slow. Also, to improve backtalk from the material, *graphic facilitation* could be useful for capturing design alternatives.

6.1 Suggesting Alternatives and Possible Consequences

Examples of interventions: Could you do it like this? Does this mean that [something]? Would this lead to [something]? Could this be an alternative to that?

With this facilitation intervention we introduce another role in the workshop: we can call that role "creative facilitator" with the function of suggesting alternatives and possible consequences. In our workshops with the newspaper staff this kind of role was taken by an editor-in-chief, but having a high-ranking member of the user team on this role could potentially lead the considered alternatives towards his or her personal preferences. The purpose of this facilitation intervention is to get a wider divergence and explore more ideas, and also avoid getting stuck in present practice. There are two main reasons for not having the regular facilitator suggesting alternatives and possible consequences and instead introducing the role of the creative facilitator. Firstly, the facilitator is needed to run the organization of the workshop, and cannot do everything. Secondly, if the facilitator gets ownership of ideas, there is a risk that he or she leads the discussion back to those ideas.

6.2 Prompting Participants to Explore Consequences

Examples of interventions: What would that be like? In that case, how would you do this and what would happen? What consequences would that have?

In our workshops, the facilitator was content as soon as a card was filled in. However, consequences were not explored well enough in the workshops with the newspaper staff. The facilitator would have needed to prompt the participants to follow up consequences of alternatives. It is also important to capture domain knowledge and attitudes from the participants to pinpoint conflicts and problems. Some conflicts are showstoppers, and in our workshops, for example, it became clear that the newspaper staff did not work with advertisements in the way we had thought they did. These showstoppers are the things that you do not want to change; the invariants or constraints in the design space. The facilitator

moreover needs to make sure that all participants take part of the discussion to explore consequences, and a scheme for turn taking may be necessary.

6.3 Graphic Facilitation

Examples of interventions: I will draw this like this. Was this what you had in mind?

In graphic facilitation, an illustrator draws the alternatives that the group is talking about (Crane, 1993). He or she works as a secretary with the sole responsibility of sketching down alternatives as they emerge. In card-based design the equivalent would be someone who documents the work by placing cards. This would provide the participants with material to reflect on, and it is an obvious countermeasure when the facilitator constantly has to remind the participants to fill in cards and by that interrupts the flow of creativity in the workshop.

7 Future Research

The design tasks in Case 1 are slightly different from Case 2 and 3. This points towards interesting questions for future research. The nature of the design task is likely to affect the usage of design representations (e.g. cards or sketches), the context for the design task will probably also have effects. For example, collaborative design is most likely different from individual design. At this point we can only hypothesize what the differences are.

8 Conclusions

This paper has reported experiences and lessons learned from three collaborative design sessions using a card-based method. When analyzing transcribed recordings of the sessions we made observations with consequences for our facilitation practice. Alternative design solutions were not documented in the sessions with the newspaper staff. They designed primarily by talking, while the usability design team primarily designed by placing cards. Design by talking has two potential risks: 1) alternatives are not documented, and 2) consequences are not followed up. To deal with this the facilitator can employ several approaches: demonstrate and suggest alternatives and possible consequences, prompt the participants to explore the consequences, and graphic facilitation.

9 Acknowledgements

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