A Workshop Method that Involves Users Talking, Doing and Making

Bo Westerlund

Abstract – **This paper discusses a workshop method suitable for use in projects with a participatory design approach. Participatory design is sometimes criticised for focusing too much on what users say. The method described here takes that into account by having users not only talk, but also do acting and make lo-fi prototypes. The method has been used in several different projects. The structure of the workshops is designed to enable the participants to express themselves by talking, doing and making. People express different aspects through different channels and by enabling people to express themselves not only by talking but also by acting and constructing artefacts we create a richer understanding of their needs and desires as well as their context and situation. The method often gives 'good' results that are foundations for further design work.**

Index terms – **design process, human centred design, methods and tools for idea generation, cooperative design, participatory design, workshops, prototypes.**

Introduction

When Edvin Land photographed his three year old daughter in Santa Fe 1943, she wanted to see the picture right away. Edvin knew how the technology worked and when he was going to start to explain to his daughter why her wish could not come true, he realised that he actually knew enough to make it work. In a couple of hours Edvin had made sketches of how to create a picture directly in the camera. This idea became a product that was sold a few years later under the name of Polaroid Land Camera. This incident shows several different aspects that I will deal with in this paper. One of the most important ones is the daughter's desire of use. The strong con-

nection to her concrete situation is one of the key factors in making the final product regarded as meaningful. Her desire coincided with many other people's desire. Emphasizing this fact when marketing the product contributed to its success.

Edvin Land's deep knowledge was important and allowed him to quickly construct the idea and an explanation. More important is that he used this knowledge in a creative and not restricting way. The fact that he worked at Polaroid and could influence the production is naturally also important.

To conclude, you could say that thanks to Edvin's *attention* to his daughter's desire and his own knowledge together with reasonable judgements lead to the development of a good idea.

Background

This paper discusses a workshop method that utilises the important aspects of the story above. The idea Edvin used was created in an authentic situation but usually we designers have to deliberately create ideas and the method described in this paper helps to make them successful. The method is suitable for use in projects with a participatory design approach. Participatory design is sometimes criticised for focusing too much on what users say. The method described here takes this critisism into account by having users not only *talk*, but also *do* acting and *make* lo-fi prototypes.

At CID (the Centre for User Oriented IT-design at The Royal Institute of Technology in Stockholm) several series of workshops has been conducted in different kinds of projects [12, 14]. The workshops were used to create design ideas and to acquire understanding of presumptive users' needs and desires [8]. The different projects have involved families, distributed workers, people with different kinds of disabilities, elderly people and their caretakers. In most of these projects the workshop method has been one of several methods used to construct knowledge of the design space, i.e. possible meaningful solutions [13]. Over a period of six years well over 30 workshops have been conducted, each with 10-25 participants and lasting around five hours.

The workshops all had a similar structure designed to enable the participants to express themselves by saying, doing and making. The assumption behind this is that we humans

Bo Westerlund is with Human-Computer Interaction, School of Computer Science and Communication, Royal Institute of Technology, Stockholm, Sweden and the School of Design, University of Kalmar, Sweden. bosse@nada.kth.se, http://www.bowesterlund.se

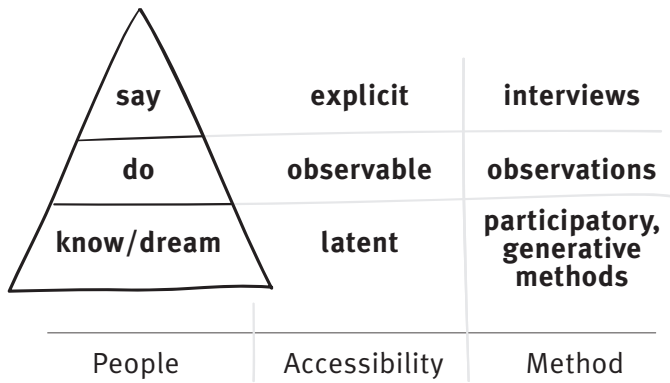|		
say	explicit	interviews
do	observable	observations
know/dream	latent	participatory, generative methods
People	Accessibility	Method

Figure 1.
The figure illustrates three channels of people's expression and also possible methods to get knowledge about the expressions and what they constitute. To the left we have the three levels: say, do and know/dream. In the middle is their respective level of accessibility. To the far right we have methods relevant for inquiring the different expressions.
   Drawn freely after Elisabeth Sanders [11] and Kun-pyo Lee.

express different aspects through different channels. By enabling people to express themselves not only by talking but also by acting and constructing artefacts we count on creating a richer understanding of their needs and desires as well as their context and situation.

There is often a difference in what people say that they do and what they actually do. This should not be interpreted that people deliberately hide information instead Argyris and Schön [1] have shown that people have two different theories for action, one espoused theory and one theory-in-use.

> "When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that actually governs his actions is this theory-in-use. [...]
> We cannot learn what someone's theory-in-use is simply by asking him." [1:6-7]

Elisabeth Sanders emphasises the importance of design instruments that support understanding not only of what people say but when "all three perspectives (what people *say*, what they *do*, and what they *make*) are explored simultaneously, one can more readily understand and establish empathy with the people who use products and information systems" [11, my italics]. Sanders has used triangles similar to the ones in fig 1 to illustrate this. Kun-pyo Lee used similar triangles during his keynote at Joining Forces in 2005 and claimed that a group of successful methods for constructing knowledge about people's hidden dreams should be generative participatory methods. The workshop method described in this paper makes use of this approach, i.e. to have the participants jointly generate ideas, create prototypes and show examples of meaningful use.

The workshop method described here makes use of all these activities. The narratives that the participants tell hopefully reveal the espoused theory of action. And the acting out and making of prototypes makes the theory-in-action available for observation to the rest of the participants. Of course observation is not just a matter of looking, it is a complex activity where much still can be over seen or misinterpreted. Bruno Latour shows us in Laboratory Life that science is socially constructed and says that being aware of the very difference in associations we get when we realize "the transformation of the straightforward 'observation' into emphasis on the process of 'thinking about seeing something'." [7:21].

First when we acknowledge the difficulties in trying to construct an understanding of other people's needs and desires, we can take an open attitude and hopefully do relevant judgements when reflecting on the activities we experience.

The workshop method's approach is participatory design and we believe that it can be very valuable to work together with presumptive users throughout the design process. This does not mean that the users dictate what should be built. This is the design team's responsibility. It simply means that working closely with users in a conscious and attentive way makes it more likely that the product will be seen as meaningful by some people. It takes some risk out of the process. Besides the presumptive users we often also involve other stakeholders [6], like different manufacturers, service providers and government agencies, all depending on the 'product' or situation as well as the nature of the investigation.

The concept of prototypes has different meaning in different fields and traditions. Here the concept prototype is used to cover various kinds of artefacts that are used during the design process, like sketches, simple mock-ups, simulations, etc. up to near final visually and technically functioning artefacts. Basically prototypes are here regarded as learning vehicles [4]. They enable the designer to inquire about the future situation of use and thereby learn more about the design space. Gedenryd [5] and many others argue that prototyping is the core activity of designers. He calls it situating strategies and those are the means to externalize and test ideas for different solutions and thereby making the world part of cognition.

The goal of this paper, this inquiry, is to better understand what the underlying theoretical accounts are for how the workshop method works by using the works of Argyris and Schön [1], as well as Sanders [10, 11] and Gedenryd [5]. Although the method seems to work well under some conditions there are still aspects of it that could be further developed and improved.

One of the contexts that can be problematic is when the scope of the workshops deals with larger fields of inquiry, like digital television or mobile video telephony. Then it is sometimes hard to get the participants to be specific and not to just dream up features that they think that they would like.

The workshop method is simply structured into basically three phases. This does not mean that we believe that the design process as a whole should be considered linear. It is simply a way to help the participants in accomplishing relevant results during the workshop itself. Another important premise is that the workshop is clearly framed in order to help the participants provide input on relevant levels and topics. The workshops can have very different focus and either be concerned with a broad exploration of a field or a closely framed investigation of some specific task.

The narratives, talking

First, the participants (user participants not the other stakeholders) tell stories about recent situations or incidents that have been meaningful for them. We encourage descriptions of real situations that make sense to the participants, instead of general descriptions that are reduced and without detail. We more or less use the critical incident technique [3] and ask the participants to tell us about real and recent incidents that they regard as important and meaningful. Although both desirable and problematic experiences are interesting for the process, most stories tend to concern problematic incidents. However we do not get complete descriptions of the problems or lists of features they would want in an artefact. Instead we will hear the situations described as intentions and activities. This reduction and selected articulation makes the described situation more available to design activity than say a list of requirements that are abstract.

This reduction and selected articulation that the participants present is of course also an account for their espoused theory of action.

These stories trigger the rest of the group to create ideas for improvements. The objective is that the ideas that are developed during the workshop are grounded in the lives of the participants.

Creating ideas, doing acting and making prototypes

The work proceeds by the participants locating opportunities and possibilities in the explained situations as well as generating ideas that seem desirable. The ideas that are considered meaningful are developed into new scenarios. The scenarios are constructed where these ideas for improvements are used to change the initial situation into a desired one. Simple prototypes are also created and used during the acting out.

In this part of the workshop the participants do act out and show how they would want to use the artefacts that they have made themselves. These scenarios are video taped and thereby video prototypes are created.

Video prototypes are short movies that show the use of the prototypes in relevant settings. They are recorded in the right order and 'cut' directly in the camera. They are not meant to be fancy or dramatic, just illustrating.

Since multiple ideas often are generated, our experience is that it is most fruitful not to negotiate these into a single idea. Instead the user who has told the story and thereby 'owns' the experience should be the one to decide on the details since it is his or her life that is to be improved.

Reflection and evaluation

Finally all participants look at all the video-prototypes that have been made during the workshop. Now everybody has the possibility to discuss and criticise them. In this phase participants reflect on and discuss how the described situations and corresponding ideas for improvement might be

Figure 2 (left). Simple prototypes are made to help illustrate how the design scenarios that are constructed and recorded on video should be experienced.
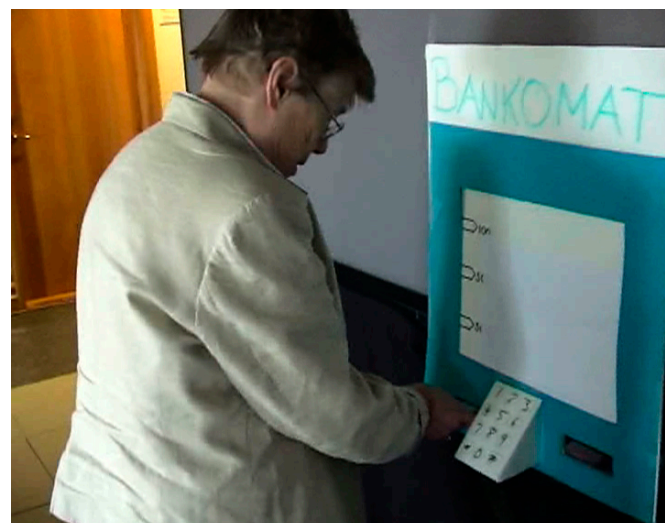
Figure 3 (right). Picture from a video that deals with how blind users or partially sighted users suggests that preferences could be stored directly on the card. Then the interaction with the machine would always be the same and in a preferred way.

generalised, i.e. see if they seem to be meaningful to others as well. Conflicts of different kinds and ethical issues can be issues as well. People's different values as well as power relations can surface. Sometimes also the ideas for solutions go well beyond the scope of the workshop and this must be acknowledged.

Stakeholders coming from the industry often try to construct business models around the ideas, i.e. find out how they could earn money on them and in that way enable the idea getting materialized. These are seldom concerns that the users care about but still it gives them an understanding of the conditions that industry have.

The 'users' are often very pleased with the relevance of the results. We believe that this is partly due to the fact that the results seem meaningful and partly since each workshop consists of a whole 'cycle' and the work results in tangible prototypes and video prototypes.

Normally the same participants take part in several workshops with some time between them and thereby the ideas are iterated and improved.

Figure 4. When looking through all the movies that have been created during the workshop the participants can critisise or generalise the ideas shown.

SOME EXAMPLES OF RESULTS

The results can be of many different kinds and the most important is often the knowledge that the participants get of each other's situation. Designers, developers, users and other stakeholders all get a shared understanding of the users' situation, needs and desires. This understanding is constructed from first hand experience of the talking, doing and making during the workshop. This means that the knowledge is constructed not only of the verbally espoused theory of action but also from experiencing the theory in use.

The content of the video taped results, the video prototypes, range from broad visions to detailed scenarios. An example of the latter is when a deaf user showed how she would like to communicate an OCR-number on her 3G mobile video telephone and explained how difficult it is to communicate long strings of numbers with sign language through the small displays. This example is very detailed and the telephone manufacturer also participating in the workshop said that the workshop had fundamentally changed her view on the use of video telephony.

A more visionary example is the BongoFax that was created by a twelve-year-old boy during one of the workshops in the interLiving project [2]. The boy explained that he would use the fax if, for example, the phone or the toilet was occupied in his home. Then he could jump into the fax, dial his grandmother's number and turn up in her house and use her phone or toilet. Then he could return home through the BongoFax. One way of looking at this is to say that this idea is useless since we do not have the knowledge to build teleports. But when comparing the boy's BongoFax idea with his father's suggestion it gets more interesting. The father proposed a system that showed to him the positions of his three boys on a map. He said that he needed this service in order to be able to find and pick them up quickly when the family was going to their countryside house over the weekends. As the situation

normally is, he has to spend lots of time looking for them. At the same workshop the father designed a control-device and the son an escape-device. This seems to suggest some conflicts of interest between the family members. The prototypes with relevantly detailed accounts of their use do provide information that is useful for analysis on different levels.

The workshop activities also support all the different competencies involved in the design process to construct the same overall aim. These 'other' stakeholders that have been participating in the workshops are mostly the people necessary in the development and production processes, i.e. service providers, manufacturers, designers and sales people. They are necessary actors in order for the artefact to get developed, produced and reach the market (or at least the users).

The video prototypes are design artefacts that can be recycled in the design process. Since the descriptions are made with scenarios and simple prototypes they do not rely only on spoken language. They are rich descriptions in action that reveal needs, desires and constraints that are relevant for the product that is developed. But at the same time they are reduced from irrelevant information.

FUTURE WORK

There are many ways to explore the use and development of the method. One approach that I would like to explore more is to have the participants prepare themselves in advance in ways that Liz Sanders does [10]. If the workshop method should be conducted in other settings than in our lab if this is relevant this could lead to very precise descriptions of the desired future situation of use. There are also other approaches to the analysis that can be conducted.

CONCLUSIONS

It seems that by acknowledging that people provide different accounts of their theory of action in speech and by doing and

making we get more information to analyse. By designing the workshops in a way that they enable the participants to express themselves not only by talking but also by acting and constructing artefacts we experience both their espoused theory of action and their theory-in-use. Since the results do not contain a list of abstract requirements but instead prototypes which the participants show how they would want to use, the result is very suitable for further design activity.

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Bo Westerlund is a researcher at the Human-Computer Interaction department at CSC, Royal Institute of Technology (KTH) in Stockholm, Sweden. He is also a professor in Design methodology at the School of Design at University of Kalmar. His current research interests concern both the design processes and artefacts in the broadest sense, but also a focus on user involvement. He holds a Master of Fine Arts in Industrial Design from Konstfack, the University College of Arts, Crafts and Design, in Stockholm.