Conference Paper

Who is the Designer? - The B-VOR Process of Participatory Design

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The B-VOR Process of Participatory Design

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1   Introduction

The application of traditional methods for product or work system design is often confronted with the problem of end-user's acceptance because of misunderstanding of the implemented changes, mismatching of needs and requirements and a misappropriate allocation of functions between the users and the system. At last but not at least: the users have to grasp the underlying rationality in the predicted system changes. Those well-known problems of expert driven approaches leaded to new methods of user involvement and of cooperative or participatory design to reach a better comprehension about the system's problems and to improve the problem solving with the user's knowledge about their work processes.

But those methods are also confronted with the well-known problem mentioned already above: the end-users, in this case the traditional designers or ergonomic consultants has to understand the rationality behind the new methods for to adapt them to his own context of work as a basis for success, acceptance and further development in their work, i.e. their design processes.

Therefore it is the aim of this study to develop a general model of a participatory design strategy, which shows the underlying principles and the interactions between designers and users. The name of this model is „B-VOR", with the two meanings of the German abbreviation: Beteiligungsorientierte Vorgehensweise (Engl. Participatory Method) and the German word „Bevor" (Engl.: before) to point out the importance of a certain process of mutual comprehension between designer and users before problem solving starts.

2 Method

The conception of the B-VOR model follows three steps:
1. Analysis of co-operative and participatory design methods in work systems
2. Structuring of principles, characteristics and related user reactions-actions
3. Model of designer-user processes, their roles and the related project phases

3 Results

3.1 Analysis of participatory design methods

Experiences of certain participatory design projects (Noro and Imada 1991, Held 1998) shows a structure of four principles: simplicity, confrontation, game and overview. In contrary to complex methods of analysing or measurements, participatory tools are often simple, robust and have a direct alignment to the participants to relieve their approach to the process of co-operation. Therefore inhibitions, as they are usual, when people of different social and professional context shall work together, can relieve and gave those tools the name of „Ice-breaking" devices (Noro and Imada 1991, Held 1999).

One further difficulty in designer-user interactions is the lack of problem awareness, especially on the user's side. Used to do their work in the usual surrounding over a long period of time, they get in a certain way indifferent toward their familiar work situation. To improve this, participatory tools tries to change their point of view by the confrontation with unusual perspectives of the usual. (figure 1).
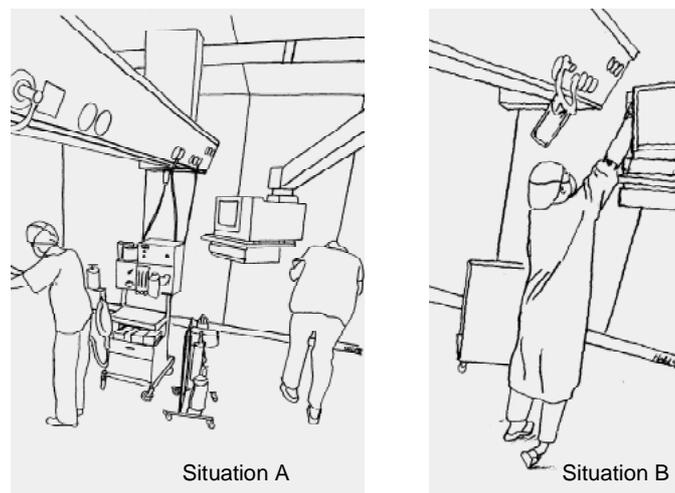

Figure 1: Photo-Confrontation: Users saw themselves for the first time in those situations

Users knowledge, imagination and anticipation is a valuable source of design information but often difficult to elicit. During the work most of the user's attention is bounded to the work process. In designer-users discussions beside the work, the important context of the situation and the concerned activities are missing. A game of the work procedures, playing at the workplace and with the support of improvise equipment and prototypes can have a positive impact for problem recognition, knowledge explication and the users imagination of possible improvements (Held 1998).

To take into account of participatory system design in small concrete steps of change has the effect, that the users can overview and anticipate future changes. They profit from stepwise and small success („small wins", „creating change" Noro and Imada 1991) and can take responsibility for the design process as well as for the future implementation and further development of changes.

3.2 Structuring of principles, characteristic, and related user reactions-actions

With regard to the conception of the B-VOR model the four principles can structured in sections, described by characteristics and related to the reactions or actions of the concerned users. The main idea is to divide the design process in the two sections of comprehension building and problem solving (figure 2).
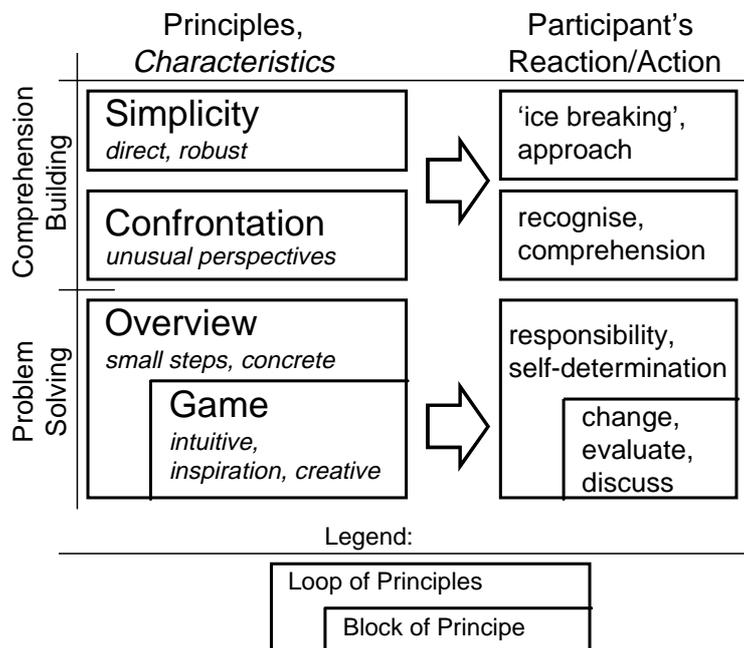

Figure 2: Principles and participant's reaction/action in a participatory design process

3.3 Model of designer-user processes their roles and the related project phases

The first section (comprehension building) of the B-VOR model, include the principles of simplicity and confrontation. The designer starts with observation and interviews, he tries to recognise, interpret and understand the user's work processes. In the following phase he reflects his interpretation to the users side. Now vice versa the users are in the position to recognise, to interpret and to understand. This can pass through several times until a consensus of both interpretation is reached (figure 3).

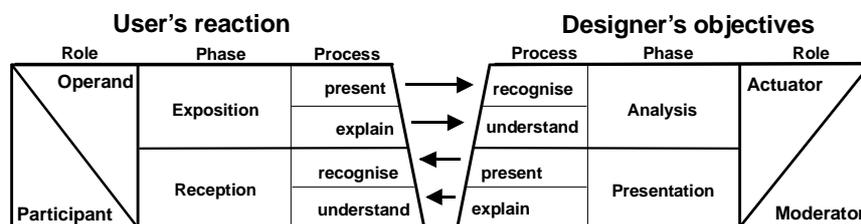| User's reaction			Designer's objectives		
Role	Phase	Process	Process	Phase	Role
Operand	Exposition	present	recognise	Analysis	Actuator
		explain	understand		
Participant	Reception	recognise	present	Presentation	Moderator
		understand	explain		

Figure 3: The change of processes in the section of comprehension building

The further problem solving and production and tests of design solutions has to be done under the requirements of the principles: overview and game. Consecutively the procedure is an iterative cycle, i.e. a trial and error process of the stepwise changes. The users became active participants, the designer role is to moderate the process of change and further more and more to facilitate changes until the consensus of acceptance. (figure 4).
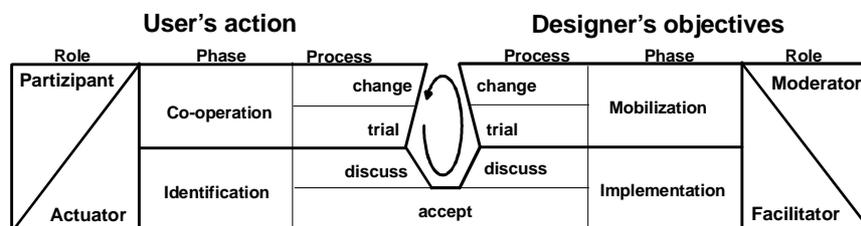
User's action			Designer's objectives		
Role	Phase	Process	Process	Phase	Role
Partizipant	Co-operation	change	change	Mobilization	Moderator
		trial	trial		
Actuator	Identification	discuss	discuss	Implementation	Facilitator
		accept			

Figure 4: The cycle of problem solving

4   Conclusion and Discussion

Since the first systems approaches in project management derives in the 60th, the field of design has been flooded with design methods, procedure flow charts or models for systems design. Beside some authors (Huerlimann 1981) collected systematically over 3000 methods for problem solving and efforts for international standards (DIS/ISO 13407:1998) document reason and ratio to involve the end-users in an early stage of the design process. Overall it seems, that problem solving is no longer the problem in design, but problem definition -

that might be the problem and causes further problems over the entire process! Than the question is, if the end-user involvement in the early stage of problem solving is as reasonable as it seems to be, and leads to the need of a better comprehension between designer and users before the definition of the problem. The latter is naturally the start of a project, but has to be seen as a section of interactions-recognition and interpretations-understanding. It is the objective of the B-VOR model to communicate this importance of mutual interpretation presenting. But who is at least the designer in participatory design? It is as before the designer, as a designer of the co-operative process (Figure 5)!
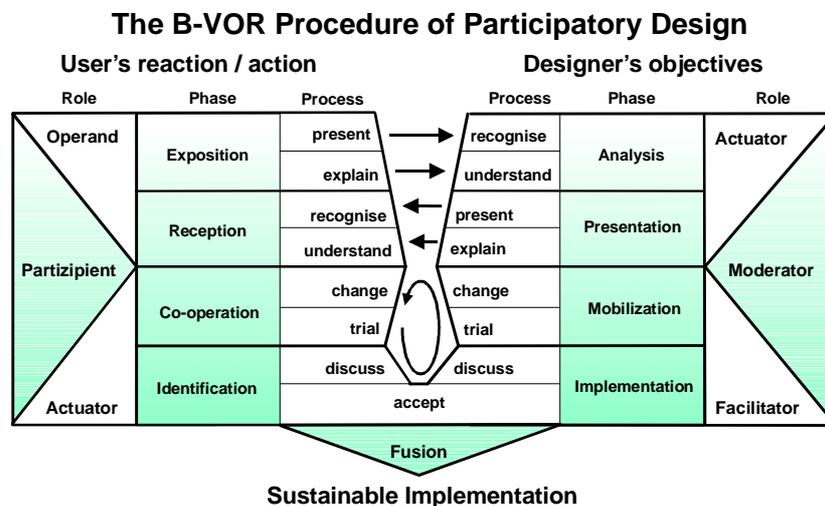
The B-VOR Procedure of Participatory Design

User's reaction / action			Designer's objectives		
Role	Phase	Process	Process	Phase	Role
Operand	Exposition	present	recognise	Analysis	Actuator
		explain	understand		
Partizipient	Reception	recognise	present	Presentation	Moderator
		understand	explain		
	Co-operation	change	change	Mobilization	
		trial	trial		
Actuator	Identification	discuss	discuss	Implementation	Facilitator
		accept			

Fusion

Sustainable Implementation

Figure 5: The B-VOR model of participatory Design

5   References

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