

# Facilitating Democracy: Concerns from Participatory Design with Asymmetric Stakeholder Relations in Health Care

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## ABSTRACT

This paper addresses how facilitation can implicate what, whose and how perspectives and values become embedded in the results from participatory design activities. Inspired by Donald Schön's reflection-on-action theory, an analysis of our facilitator performances in three design activities involving health care stakeholder groups with asymmetric relations has been performed. The analysis highlights the often subtle and unforeseen ways by which facilitator actions influence who "has a say". The results emphasize how continuous introspective analyses and reflections may improve the facilitator's attentiveness to actions that may inadvertently impede the disfavored party. In the long-term, neglect may threaten the integrity of participatory design as a democratic and empowering design approach. The shift towards a practice-perspective on facilitation goes beyond the efforts of the individual practitioner. The cultivation of *the reflective facilitator*, a concern of relevance for the Human-Computer Interaction and Participatory Design community as a whole, is considered.

## Author Keywords

Participation; facilitation; asymmetries; reflection.

## CSS Concepts

• **Human-centered computing~Interaction design;**  
Participatory design.

## INTRODUCTION

The active involvement of users and other stakeholders is considered best practice in the design of digital technology [22]. Facilitated activities, such as focus groups, interviews, workshops, and prototyping, play key roles in accounting for stakeholder perspectives and priorities and in informing the design of appropriate solutions. In participatory design (PD), stakeholder involvement is not only considered a means to ensure useful and usable design solutions, but is regarded as

fundamental in enabling stakeholders to influence how new technologies and services affect their lives [24, 32]. The strong commitment to giving stakeholders a voice in the development of technologies and services has led to PD being considered a democratic and empowering design approach [4, 30, 32].

Nevertheless, stakeholders involved in participatory endeavors do not necessarily think with one mind or speak with one voice. Especially in processes where multiple stakeholder groups are represented, interests, perspectives, and values may differ and sometimes give rise to tensions (e.g., [10, 13, 14, 18]). While tensions can be seen as an integral and vital part of any negotiation, participants do not always engage on equal terms [3]. Asymmetries between partakers—i.e., differences in professional background, knowledge type, social standings, experience basis, eloquence, etc.—risk biasing the design outcome. Taking into account PD's democratic underpinnings, the question of *what*, *whose* and *how* perspectives and values become embedded in emerging design solutions is highly relevant.

In this paper, the focus is how the facilitation of PD activities can play a central, yet often *subtle*, part in the answer to the above question. In particular, the way the difference between being "given a voice" and "having a say" (i.e., taking part vs. genuinely influencing the outcome) can intimately rely on specific aspects of facilitation is examined.

Drawing on Schön's [35] notion of *reflective practice*, it is argued that careful and continuous *reflection-on-action* by the facilitator—including his or her own actions, those of the participants, and their interrelationship—is essential for understanding the implications of facilitation on partakers' possibilities for influence. Such a perspective suggests that democracy, empowerment, and equality are not inherent properties of PD. Rather, these values are viewed as potential outcomes, which in addition to the constraints set by the broader participatory context [7], are closely dependent on the skills of the facilitator and his or her mindfulness of the influential power associated with the role.

This argument is substantiated empirically by examining three cases from the authors' previous health care-related PD projects. In the projects, we have worked closely with

different stakeholders both in designing technology and services for health care purposes and in developing methods that can help such endeavors. Using the specific events from the cases as a basis for reflection, a critical view has been adopted on our own role as facilitators. In doing so, we raise the issue regarding whether the influence of disfavored or weaker participant groups on the produced result would have been different if (seemingly minor) aspects of facilitation had been altered. The intention is not to provide a step-by-step “recipe” for facilitators on how to successfully facilitate democracy in design cases involving asymmetric stakeholder relations (if such at all is possible); instead, the main contribution is a set of emerging overarching concerns that the facilitation-as-practice perspective gives rise to.

## ASYMMETRIES, INFLUENCE AND DEMOCRACY IN DESIGN

### Asymmetries

This work is especially concerned with how aspects of PD facilitation can affect discussions and negotiations between stakeholder groups with asymmetric relations. In this context, *asymmetry* refers to inequalities between participants in communicative encounters that can impinge an individual’s communicative conduct or otherwise reduce possibilities for genuine influence. As such, asymmetries are context-dependent, i.e., relative to who is taking part in the communicative encounter. Sources of asymmetry, for example, in the interaction between a health care professional and a patient include professional knowledge, institutional knowledge, experiential relevance, and power relations [9]. Other typical sources of asymmetries are social status, language, and eloquence [40]. These asymmetries, which are of particular relevance for the cases analyzed later in the paper, are further explained and exemplified below.

Asymmetries in professional knowledge refer to the differences in a lay person’s and a practitioner’s understanding, or mental model, of a particular phenomenon (e.g., the differences between a patient’s and a practitioner’s understanding of a medical condition). Institutional asymmetries describe differences in the understanding of routines at a particular institution. For example, while the routines for dealing with a medical problem may be predictable and transparent for a health care worker, they are often not for a patient. Experiential relevance refers to differences in how a phenomenon is perceived by a person. The experience of living with an illness is different than for someone treating the same illness. Power asymmetries relate to the authority one party may hold over another, such as due to an existing work hierarchy. A doctor is in a more powerful position than the patient being treated because the doctor can make decisions that affect the patient. Asymmetries in social status are culturally conditioned and describe perceived differences in the relative position of two or more parties in a community or society. Finally, language asymmetries and asymmetries in eloquence refer to differences in language proficiency and abilities to conduct discourse in a forceful and persuasive manner. A person who is less proficient in the

language used by the majority of parties, or the stronger parties, involved in a communicative encounter or who is less practiced in using language with fluency and aptness risks being at a communicative disadvantage [40].

The examples given above do by no means provide a complete overview of asymmetries that may be of relevance in the context of PD. Investigations that further explore power imbalances between stakeholder groups and asymmetrical influence are described in [1, 21, 29].

### Asymmetries as a Challenge in Participatory Design

Asymmetries such as those described may have a potentially disempowering effect on the weaker party in a communicative encounter, reducing his or her influence on the produced result vis-à-vis the stronger parties [3, 40]. From PD’s principle of *equalizing power relations* [24], asymmetries hence form a democratic challenge that needs to be managed in the design process.

The democratic challenges asymmetric stakeholder relations and conflicting interests can bring about have in many ways become more apparent as PD has expanded its scope over the years. The early PD projects of the 1980s were committed to “democracy at work” [4]. The focus was on empowering industry workers who risked losing their jobs due to increased work automation. For designers, this essentially meant siding with the industry workers [8].

More recently (and in light of the growing digitalization of society), PD has become increasingly employed to address design challenges beyond the workplace as well as in the design of solutions intended to mediate between multiple stakeholder groups with diverse perspectives and needs. This expansion into “new territories” has sometimes required practitioners to make certain compromises that break with more idealistic versions of PD [19]. Health care is an example of an application domain for PD in which asymmetric stakeholder relations have given rise to thorny issues concerning design influence [10, 14, 18].

For PD facilitators, dealing with asymmetries in multi-stakeholder design cases can be challenging; however, if PD is to remain true to its democratic principles, the question of how facilitation affects the power balance between stakeholder groups demands attention.

## PARTICIPATORY DESIGN FACILITATION

### The Facilitator Role

We use the term *facilitator* to refer to a person responsible for planning and leading PD activities and for reporting the results to the rest of the design team or others. Depending on how a project is composed, a facilitator may lead the entire PD process (involving multiple, iterative participatory activities) or may be responsible for conducting only one or a limited number of activities in which the results are deliverables to an external client.

A central part of facilitating PD activities is to assist partakers in expressing their views, to promote reflection and

constructive problem solving, and to help reach a consensus on disagreements (e.g., [11, 42]). Often, this involves the use of personas, scenarios, low-fi prototyping, role-play, and other tools and techniques to bridge communication and to develop an understanding between participants by concretizing problems, perspectives, and design ideas [11, 17, 39].

### The Myth of the Neutral Facilitator

Because one of the facilitator's main responsibilities is to lead the participatory activity and to help partakers reach consensus, he or she is often understood to play a neutral or impartial role in design issues [36]. The notion of the "neutral" facilitator is implicit in many existing PD studies because accounts of facilitators' potential agency or role are seldom provided [25]. The neutral stance on the facilitator has been subject to criticism as it arguably fails to recognize how facilitation *as practice*—or the enactment of PD methods—can affect participation. Several studies taking a practice-perspective on facilitation have provided relevant insights in this regard. For example, Light and Akama [25] investigated relations between context, facilitation, and outcomes in designing with communities. The study highlighted how aspects such as facilitation style, scoping, structure, and control can affect participation and also how facilitation practice needs to be considered in light of the context in which it takes place.

Luck [27] studied how the level of facilitation expertise, particularly differences in conversational behaviors between experienced and less experienced facilitators, affects opportunities for user engagement in PD.

Another example of facilitation-as-practice is described by Lindsey et al. [26]. They report how through careful use of various facilitation strategies and techniques, they developed an empathic relationship between designers and users of safe walking technologies for persons with dementia. The authors conclude that fostering such a relationship is essential in order to design technology that accommodates the perspectives and values held by the user group.

The studies cited and others (e.g., [28, 31, 39, 43]) focus on how various aspects of facilitation impact the design process. This paper contributes to the existing body of literature on design facilitation by investigating facilitation practice in relation to asymmetries between participant groups involved in PD activities, i.e., how the actions of the facilitator implicitly reduce or increase the effect of asymmetries.

While the focus in this paper is on PD facilitation as practice—calling into attention the skills and habits of the facilitator—this is not to imply that the facilitator alone dictates the impact different parties execute over the design outcome. Often, the wider context in which design takes place, including project priorities, organizational structures, management decisions, economy, etc., can set limitations that go far beyond the control of the design practitioner [38]. Investigating power relations in PD, Bratteteig and Wagner

[6] highlighted the dynamics and multiple parties—project internal and external—that can play a part in PD decision making. The same authors also emphasized how the participatory context of a project may be bound by structural elements [7]. Restricted access to resources, which again limits the extent to which a given stakeholder can take an active part in decisions, is an example of such a structural element.

However, if it is acknowledged that the facilitator is one of several influential "forces" in the shaping of PD results, then from an ethical standpoint, this power requires the facilitator to be consciously aware of and reflective about his or her influence. Such a perspective is in many ways in line with the conceptualization of facilitators as *ethical leaders* [20]. Similar views concerning the ethical responsibilities of the facilitator are also expressed in [23].

Given the ethical responsibility that accompanies the facilitator role, self-reflectiveness can be considered a powerful tool for enhancing the facilitator's ability to see the relationship between his or her practice and the outcome of PD activities and processes. The current work aims to bring attention to the added value of self-reflection with respect to improving one's facilitation practice. With reference to the existing body of PD literature (including a recent TOCHI special issue on current and new trends in PD [2]) we consider the general lack of in-depth investigations of how participatory methods are practiced to form a significant knowledge gap. One of the main goals of this paper is to help close this gap.

### DESIGN FACILITATION AS REFLECTIVE PRACTICE

This paper offers a practice-perspective on how facilitation can affect influence and power relations in a PD process with asymmetric stakeholder relations. The practice-perspective in this context involves paying attention to contextual and situated aspects of facilitated PD activities and using incidents from practice as a basis for constructive reflection and learning.

### The Relevance of Schön's Reflective Practice Theories

The current work takes much of its inspiration from the pioneering work of Donald Schön [35]. In his 1983 book, *The Reflective Practitioner*, Schön brought *reflection* into the center of an understanding of what professionals do. In particular, he defined two components relevant for understanding the character and development of professional knowledge: *reflection-in-action* and *reflection-on-action*. The first component, reflection-in-action, refers to the capacity to momentarily use one's tacit knowledge to make effective decisions in response to immediate events. This capacity is characteristic for on-the-spot responses executed by trained professionals (i.e., "thinking on your feet" [ibid, p. 54]). For example, a (skilled) facilitator who notices the negative response a participant may express towards a design proposal and immediately views the incident as an opportunity to gain deeper insights into the participant's

perspectives as opposed to letting the incident pass is an example of in-action reflection.

The other component Schön describes, which is the focus of this paper, is *reflection-on-action*. Reflection-on-action refers to the consideration on how practice can be developed, changed, or improved *after* an event has occurred. For instance, when a facilitator reflects on what has taken place during a recent PD workshop and realizes that steps need to be taken to encourage more open reflection among participants the next time they meet, this is reflection-on-action. Lindsay et al. [26] offer a good example of how on-action reflection in their PD work with persons with dementia led the design team in making strategic changes in their facilitation approach:

*An issue that arose from the [empathic facilitator-participant] relationship that we had not anticipated was that sometimes participants were unwilling to critique the designs that we placed in front of them. We speculate this is because they were concerned we would be offended if they were too critical. When the consistent point of contact emphasized that the devices were prototypes and downplayed the effort placed into developing them, the participants were much more willing to criticize. [ibid., p. 529].*

A retrospective contemplation such as the example provided typically implies a reconstruction of an experience in which the practitioner steps back into the experience, explores it, and identifies specific incidents that are organized with the purpose of understanding what has happened and to draw lessons from the experience.

In addition to turning information into knowledge, it has also been argued that on-action reflection challenges the theories and concepts a person holds [5].

We found the reflection-on-action concept particularly intriguing as it premises that in order to improve practice one first needs to question one's actions.

### Reflective Practice in HCI and PD

This paper is not the first to investigate how critical reflection can improve design practice in HCI and PD. For example, existing research suggests that reflective thinking is a critical component in helping practitioners form an understanding of the relationship between the PD method and its enactment [25] and for engaging with the particularities of situated design practice [31]. In recent years, there are also examples of relevant work that has proposed conceptual frameworks to help support the design practitioner's reflective process [16, 37]. This work aims to contribute both to advancing the understanding of the consequences of enacted PD methods, and to some degree, to also support reflective practice-thinking. The first objective is accomplished by investigating the relationship between the performance of the facilitator and possibilities for genuine influence for all. The second objective is achieved through the lessons learned from each of the cases presented, which are analyzed later in the paper.

The current work extends the studies cited above by drawing particular attention to asymmetric stakeholder relations in PD and how the facilitator plays a key factor in evening out asymmetries. The paper also adds new insights by attending to the details of facilitation, which again underscore that facilitation is a skill and, hence, needs to be trained. By taking a practice-perspective on facilitation, we highlight how continuous introspective analyses and reflections may improve the facilitator's attentiveness to actions that may inadvertently impede the disfavored party. Furthermore, the paper goes beyond the cited literature in the sense that we discuss the implications of the facilitation-as-practice perspective on PD as a design approach

## METHOD

### Identification of Cases for Reflective Analysis

To investigate how aspects of facilitation implicate the extent to which a given stakeholder group is able to influence the produced outcome, we turned to our own PD research projects in the domain of health care. Common for all our projects in the domain was that they were related to the design of health care technology intended for heterogenous user groups (e.g., patients and their professional care providers, or various groups of health care providers). To identify cases suitable for reflective analysis, the following steps were performed.

First, the transcripts and facilitator debriefing notes from the project-related participatory activities were analyzed deductively in search of *critical moments*. A critical moment in this context refers to a particular event, which initially triggered our attention toward an aspect of our own facilitation practice and how it inadvertently may have affected the influence of the weaker stakeholder group vis-à-vis the stronger group. Each candidate critical moment was given a primary keyword (i.e., a code) and was combined with some words describing its meaning as interpreted by the analyst. We then reviewed the descriptive codes for consistency to ensure that the same code was used for describing similar events.

Second, a selection of critical moments among the candidates was performed to serve as the focus of the on-action reflection. This involved grading the candidate critical moments using scores from 1 (lowest) to 3 (highest) according to the relevance and the potential for new insights as initially perceived by the individual facilitator (author).

Third, the five candidates that had been graded highest were reviewed, and the three found to be the most unique were selected.

### Reflective Approach

The three selected critical moments were then analyzed in-depth (using the transcripts and debriefing notes as a basis) with the intent to better understand the implications of various facilitation aspects and to learn from possible mistakes. As Schön offers little guidance on how reflective processes can be carried out [33], we decided to use Rolfe et

al.'s [34] *reflective practice cycle* for this purpose. The cycle is based upon the following three main questions: What? So what? Now what? While we were aware of other, more fine-grained models for reflection on practice, we chose the above mainly due its simplicity and to avoid becoming too restricted by a specific format. Below, we briefly sum up what each of the three guiding questions implies.

**What?:** This step involved investigating the action taken (and not taken) by the facilitator either as part of the planning of the PD activity or during the specific critical moment. By carefully reviewing the transcripts from the activities, we hoped to identify effects of our facilitation that “slipped under our radar” when the critical moments played out.

**So what?:** The “So what?” step involved identifying and discussing potential and plausible consequences of our actions as facilitators with respect to unintentionally affecting the output of the activity.

**Now what?:** Lastly, we sought to concretize important lessons to be learned from our missteps. This involved addressing aspects related to both the planning and the implementation of future PD activities.

## RESULTS FROM ON-ACTION REFLECTIONS

As described, we identified three cases from our previous PD projects in health care to use as a basis for our analysis:

- Case 1: Division in digital competence
- Case 2: Patient–provider relations
- Case 3: The medical worker hierarchy

In the following, we account for the results of the reflective introspective analysis per case. For each case, we briefly provide relevant background information about the project to which the case is related. For example, this includes the aim of the project, our role as facilitators, participant groups, and central asymmetries in addition to the central structural elements of the project. Next, we describe the critical moment from the case (i.e., *What?*) before we provide on-action reflections regarding how various aspects of facilitation potentially affected stakeholders’ influence on the generated output (i.e., *So what?*). We also discuss some possible future facilitation measures to be taken to avoid repeating identified mistakes. Finally, we sum up what we consider to be the key facilitator lessons learned during the critical moment related to the case (i.e., *Now what?*).

It is important to note that none of the critical moments described provide “hard” evidence of the effects of facilitation in the sense that the consequences can be categorically identified or verified (nor should they be regarded as such). Instead, they open up interesting questions about how the result of the PD activity *might* have been significantly different if certain aspects of facilitation had been altered.

Table 1 provides an overview of the weaker and stronger part involved per case along with relevant asymmetries in play.

Case	Central asymmetries	Weak party	Strong party
1	Digital competence	Care residents	Nurses, activity manager and other non-residents
2	Medical and institutional knowledge; experiential relevance	Patients	Response call center personnel
3	Power (work hierarchy)	Nurse	Physician

Table 1: Case overview.

### Case 1: Division in Digital Competence

The facilitator’s methodological “tool kit” consists of a number of tools and techniques intended to support communication and understanding between participants during a PD activity. In the first case, concerns regarding the implicit assumptions that may be embedded in tools and techniques and how (rash) decisions concerning when to employ risks “alienating” specific groups and reducing their influence on the end result were addressed.

#### Background

To exemplify how PD tools and techniques can limit the possibilities for specific participants to have a genuine influence, a study conducted as part of a (small-scale) pre-project (the study is fully described in [12]) is discussed. The aim of the study was to explore how interactive technology can help form socially active environments in residential care settings. Specifically, this involved generating ideas for design solutions, which later could be developed into functional prototypes as part of a full-scale project.

Given the wide variety of relevant stakeholder groups in this case (e.g., care residents, nursing assistants, activity coordinators, department managers, etc.), a participatory approach was followed. To improve the understanding of the context of use, we first performed a preliminary study of one of the welfare centers taking part in the project. This involved identifying areas that were used for or could serve social purposes and where technology potentially could help socialize care residents. It also involved interviewing the activity manager at the welfare center to form a better understanding of current steps taken and perceived challenges the center faced with regard to socializing care residents.

Next, seven representatives (including two care residents) were invited from different stakeholder groups to take part in a co-design workshop. The aim of the workshop was to generate design ideas and to provide insights regarding key design consideration. To provide participants inspiration for the co-design exercise, they were first given the opportunity to try out a body-controlled, wall-projected interactive game with possibilities for two simultaneous players.

As part of the workshop, the participants were asked to select one specific area in the nursing home (among the candidates identified in the preliminary study) and to co-design mock-ups representing their visions of how interactive technology could contribute to social interactions in the specific area. One of the main reasons for opting for a low-fidelity co-design approach was the previous positive experiences from using similar techniques in other health care-related design cases (e.g., [11]). The participants were given a set of pre-prepared props (printouts of various objects and symbols, post-its, markers, and tape), which they could use as building blocks and representations of interactive elements in their mock-ups. Before the exercise commenced, the participants were given a demonstration of how to “think aloud” during the activity and how the props could be used to concretize and to demonstrate design ideas.

#### Critical Moment

The critical moment in this case occurred towards the end of the workshop. Before wrapping up, each participant was given the opportunity to summarize his or her experience of the co-design work and to comment on how they perceived the approach followed. As part of the concluding event, one of the participating care residents commented that despite the simple tools (props) provided to help the participants concretize design ideas, his general inexperience with digital technology (quote) “*made it a challenge to understand what possibilities [interactive technology] has to offer.*” The care resident further explained that his inexperience made it particularly challenging for him to reflect on the role the technology could play in promoting and supporting social encounters at the welfare center. The other participating care resident expressed similar concerns.

#### On-Action Reflections

While we (the facilitators) took note of the care residents’ expressed concerns, it was not before we were given the opportunity to go through the transcripts in detail and to collectively reflect on the critical moment that we were able to determine its broader implications.

Examining the transcripts from the co-design activity, it was found that care residents made several statements as the mock-ups were built; however, the discursive nature of their statements were typically personal judgments about the solution being constructed (e.g., “*I don’t think this [solution] is something for me, but others may like it*”) and questions aimed at clarifying design suggestions made by other participants (e.g., “*What happens when someone steps on this [interactive element]?*”). Notably, the transcripts did not show incidents in which the care residents themselves offered concrete design suggestions. What the transcripts revealed about the “passive” participation of the care residents in many ways substantiated the concerns they raised toward the end of the workshop.

Given the challenges described, what could (and should) we have done differently as facilitators to increase the care

residents’ engagement during the workshop and the potential impact on the design solution?

In retrospect, paying more attention to the passive form of participation indicated by the comments of the care residents could have made us more mindful about actively engaging them (e.g., by motivating them to share suggestions); however, the main problem of the approach—particularly in light of how the care residents summed up their co-design experience—was that we underestimated how challenging it can be for people who have had little exposure to digital media to conceive how an interactive solution could benefit their social lives. Even if the participants only worked with abstract representations of technology (i.e., low-fidelity props), this in itself does not remove the need to think in interactive terms or to be able to envision interactivity—both when offering design suggestions and when evaluating the suggestions of others. In other words, we essentially failed to take into account the practical consequences of the “digital divide,” or the division in digital competence asymmetry, between the care residents and the other participants. Effectively, the generated design proposals, although being intended to fit the existing physical and social setting of the welfare center, were dominated by the perspectives of the participating care providers and the other non-residents.

Rather than “fast-forwarding” into a co-design activity, in hindsight, it would have been highly beneficial to first validate that the representatives of the main user group (i.e., the care resident) possessed a basic understanding of interactive properties. This could potentially have been achieved by first exposing the group to simple interactive examples and asking them to verbalize their experiences. Simply offering the care residents the possibility to try out an interactive game to motivate creative thinking was not sufficient as a validation.

#### Lessons Learned

Drawing on this discussion, three key lessons were learned:

- Concluding a participatory activity (e.g., co-design workshops, focus groups, etc.) by allowing partakers to sum up their views on the selected approach can give important clues about its appropriateness. In particular, it is recommended that facilitators are attentive to perceived challenges participants may have had concerning the use of tools and techniques for expressing their views.
- Examining the (transcribed) discourse from participatory activities can reveal valuable information regarding the extent to which a given partaker played an active or passive role in the discussions, i.e., the *quality* of their participation.
- There is no “silver bullet” when it comes to which tools and techniques to employ in a PD activity to support communication and understanding. Although many tools employed for such purposes (e.g., low-fidelity props) aim at avoiding complexity, which the facilitator may consider irrelevant given the objective of the activity, participants

still need to understand the abstraction between the representation and its real-world counterpart. Failure to comprehend the abstraction risks pacifying, or “silencing,” partakers. It is therefore recommended that facilitators verify that participants understand the tool abstraction before the PD activity commences.

### Case 2: Patient–Provider Relations

The second case addressed concerns the asymmetric relations between patients and their professional health care providers defined by differences in medical and institutional knowledge, for example, but also by experiential relevance (i.e., living with a disease versus treating people with a disease). In terms of facilitation, the case highlights potential implications of how stakeholder participation is organized, i.e., who interacts with whom.

As opposed to the previous case presented, in which the disfavored party (i.e., the care residents) ended up having little genuine influence on the produced result, the current example describes a situation leading to a somewhat opposite outcome. However, as is elaborated, the eventual influence of the patients (the weaker party) is higher due to a *coincidence* of facilitation rather than due to the result of conscious decisions made by the facilitators.

#### Background

The overall aim of the related project was to design a prototype telecare service and to enable technology use for community-dwelling patients with chronic obstructive lung disease (COPD). The service was envisioned to prevent exasperations in the patient group and to reduce related hospital admissions. As per contract, the project would redesign an existing hospital service where patients provided self-reports describing cardinal COPD symptoms using paper-based forms. By replacing the paper-based form with a digital solution (i.e., a self-reporting app), simplifying the original questionnaire, and moving follow-up responsibility from the local hospital to a municipal response call center, several benefits were envisioned. From the perspective of the response call center personnel (i.e., the service providers) the main benefit was related to the possibility for the daily monitoring and follow-up of patients in cases of reported aggravations. From the perspective of the patient group, the main benefit was perceived as added safety in the patient’s daily life (i.e., knowing one was being safeguarded).

Our role in the project was to: (1) help design the service and the related technology in close collaboration with representatives from the patient group and health response center personnel; and (2) conduct a ten-week service trial followed by post-trial stakeholder interviews with patients and the providers concerning their experiences during the service trial. The results from the interviews, along with suggestions for changes in the service and the related technology, was to be part of a deliverable intended for the municipal project leader responsible for deploying a full-scale version of the service. The study is described in its entirety in [13].

#### Critical Moment

In the design phase, patients were involved both in the service design and in designing the user interface of the self-reporting app. On several occasions (and as we as facilitators had hoped for), it was found that conducting mixed-group workshops led to constructive discussions between the participants regarding how the service could best accommodate the patient group.

What is viewed as a critical moment for the patients’ ultimate influence on the end result took place during the post-trial interviews. Given the positive experience from working with the stakeholder representatives in mixed groups in the design phase of the project, the initial plan was to adhere to the same strategy when conducting the interviews. In this way, the aim was to achieve the same constructive discussions and problem solving as during the participatory activities in the design phase; however, due to the problem of finding suitable time slots for the patients and the providers to meet face-to-face in post-trial group interviews, smaller single-group interviews were conducted. As is further discussed, this likely played a crucial role with respect to patient influence on the service design solution, which the municipality eventually deployed after the project ended.

Of essence here is the contrasting views the patients and the providers shared for what they perceived as the main problem of the trial-version of the service. Several of the patients expressed frustration and perceived stress of having to report symptoms on a daily basis. One of the patients explained:

*Basically, I know both myself and the disease so well that I don’t see the necessity of having to report [on a daily basis]. I feel very restrained [by the service] as it is now...I almost think that it’s a bit uncomfortable to [submit reports]. I’m feeling fine. Darn! I’m not feeling any different [pause]. If you’re feeling sick, then you report!*

In the subsequent group interview with the providers, we learned about the challenges and the dilemmas irregular reporting by the patients created from a provider perspective. The main problem was that failure to report prevented monitoring of changes in symptoms over time. This again severely limited the possibility for the providers to take proactive measures through early interventions:

*There may be a number of patients who report “green” [no aggravated symptoms], but you have to constantly check back [on previous reports]. In order to deliver a good service, [we] need to be capable of providing quality assistance. Hence, I need to know how you [the patient] have been lately. I can’t take it for granted that you’re OK, even if you report you’re OK.*

Irregular reporting also presented the providers with an ethical dilemma:

*When we know that they are experiencing an aggravation... and then it becomes silent [the patient does not submit*

*reports] for three or four days [pause], how long are they supposed to lie dead before we take action?*

Following up on this concern, another provider stated:

*They [the patients] need to understand that if they want to receive this type of service, it also requires them to take some responsibility on their own. In order for us to offer them a good service, they have to report. We need to know that we can have daily contact.*

If the discourses in the transcript excerpts are further considered, what stands out as particularly noteworthy is the “bluntness” that characterizes the experience reports. The directness of the accounts makes the tension between the two stakeholder perspectives clear. From the patient’s perspective, the “flaw” is with the service provider and the unwarranted demands the service puts on its users. From the service provider’s perspective, the “flaw” is with patients who lack compliance to follow the service recommendations.

We (the facilitators and designers) had no possibilities to take any actions based on the feedback collected through the group interviews as our part in the project was over. Based on the report we delivered from post-trial interviews, the municipal project leader decided to make a compromise for the service, which eventually was deployed. Before the service provision, the patient and the response call center would form an individual agreement stating the frequency at which the patient was to report, thus accommodating their need for autonomy. The response center would only contact the patient in case of a contact breach.

#### *On-Action Reflections*

The decision to conduct group-specific stakeholder interviews likely strengthened the patients’ influence on the end result (i.e., the deployed service). As mentioned, the decision was made due to logistical challenges rather than as an explicit step to deal with asymmetries between the patients and the providers (prior to the interviews, we had not found the asymmetries to play a significant role). Taking into consideration the patient–provider tension described, two interesting questions emerged. The first is: Would the experience reports from the interviews be equally blunt had they been conducted with representatives from both stakeholder groups present? The second question is: If the answer to the first question is “no,” how would it have affected the end result? There is, of course, no way of providing a definite answer to the above questions; however, reflecting on these two issues can prove valuable in terms of understanding how aspects of facilitation implicate patient influence.

Concerning the first question, it is not unlikely that both stakeholder groups would have given a more moderate experience report if the two stakeholder groups had met face-to-face. If the asymmetries between the two groups are taken into account, particularly inequality in medical and institutional knowledge (i.e., the providers knowing in detail how the service worked), one likely scenario is that the

providers would give a medical rationale for why the patients ideally should report on a daily basis and that the patients would adhere. Regarding the second question (i.e., the effect of mixed-group interviews on the end result), it is also probable that a less direct account from the stakeholder groups would have made the emerging value tension—between patient safety (or prevention from harm) on the one side and patient autonomy (freedom of choice) on the other—less evident for us as facilitators.

The point here is not to address all eventualities. What is essential is that the critical moment described helped us become aware of a value conflict that we did not detect as part of the participatory activities conducted before the service trial. Crucially, we underestimated the asymmetry in experiential relevance, which did not come into play before the service was trialed. In hindsight, it can be easy to point out the flaws of the original idea of conducting multi-stakeholder interviews, especially given the patient–provider asymmetries described. Upon reflection, the tension-free and constructive PD activities in the design phase to some extent made us less attentive to latent tensions related to the asymmetric stakeholder relations.

#### *Lessons Learned*

Based on the reflections, we recommend PD facilitators to be mindful of the following aspects:

- The presence or absence of other parties may affect how participants in a PD activity express their views and perspectives. Providing opportunities for participants to express their views in confidence without members of other stakeholder groups present can help facilitators become aware of potential tensions or conflicting perspectives between groups. This can help the facilitator plan ahead regarding how tensions and conflicts should be approached later, such as during subsequent mixed-group activities.
- Even if tensions between stakeholder groups do not surface during a PD activity, they can still be latent and emerge later in the process under the given circumstances. In particular, we recommend that facilitators are mindful of how asymmetries may play out differently in design-time (e.g., in a co-design activity) compared to use-time (i.e., when a functional prototype is employed in its actual use context).

#### **Case 3: The Medical Worker Hierarchy**

The third case addressed concerns how to facilitate PD workshops to ensure that everyone has a say when there is a power asymmetry among the participating groups.

#### *Background*

As part of a research project on the use of role play and improvisation in participatory design for the health domain, we conducted a number of role-play design workshops with nurses and physicians. Previous research on PD in the health domain made us aware of the challenges related to the power asymmetry between nurses and physicians [44]. Despite



knowing this theoretically, it was more challenging than anticipated to act accordingly as facilitators.

#### Critical Moment

The role-play method is described in [39] and consists of first asking the participants to enact a scenario from their current work practice. Immediately afterward, they are asked to improvise an ideal future version of the scenario using ready-made foam models as digital device props.

We videotaped all the workshops and analyzed them and their related verbatim transcripts in detail to improve the method. On one occasion, a nurse (female/younger) and a physician (male/older) were acting out a bedside situation as part of the medical rounds in which the current practice consisted of using a paper-based medical chart. After having acted out the “current” paper chart version of the scenario, the facilitator asked the nurse about how it is done currently:

Facilitator: *“You took a drawer on wheels with all the medical chart for the patients on the ward with you on the round?”*

Nurse: *“Yes, because we administer medication and have to record it.”*

The nurse then picked up a tablet PC size foam model and started explaining the advantages of using a digital tool instead a paper chart.

Nurse: *“Everything can be registered in this device [referring to the foam model she is holding], and the data would be available at the next pre-round meeting.”*

The facilitator then turned to the physician and asked him when he used the medical chart.

Physician: *“First I have a look at the patient’s medical record on the PC and then I look over his current medications [pause], however, the chart is the document that I really want to keep on paper as long as possible. I believe it is the best”.*

The facilitator then asked the two if they should create a tablet PC solution or keep the current paper-based chart. What unfolds next defines the critical moment in this case:

Physician: *“I would prefer to keep the paper chart.”*

Facilitator: *“Nurse?”*

Nurse: *“Ok.”*

Facilitator: *“Well, let us keep the paper chart.”*

#### On-Action Reflections

When we later analyzed the recorded workshop material, it was quite surprising to see how easily we had accepted the authority of the physician, not even asking him to give a proper argument for his view beyond *“I believe it is the best”* and *“I would prefer to keep the paper chart.”* It also became evident that the nurse accepted the physician’s view not due to any rational explanation but due to his authority.

This example illustrated how “God is in the details” of PD workshop facilitation. Although we were aware of the power asymmetries in the health domain, we had not taken this seriously as a facilitation challenge. In hindsight, and for future similar workshops, there is a need to devise a strategy beforehand for how to handle such situations. Should we allow the participants to make design decisions through their usual mode of collective decision making (the physicians normally make the decisions), or should we challenge the local hacking order and “rock the boat?” In HCI, this illustrates the difference between the “neutral” user-centered design position and the more “political” democracy-at-the-workplace tradition of PD. There are no clear-cut answers to these questions, but as soon as one becomes aware of the ways in which power asymmetries can dictate the design process, there is no “neutral” position as a facilitator. A lack of action becomes a conscious choice of not taking a stance.

One possible middle ground could be to negotiate the terms of the design process beforehand by asking the participants to agree that when they have different opinions, they must present rational arguments for their view, not just “This is what I want...” or “It feels better this way...”.

#### Lessons Learned

Summing up the key insights from this case, there are three important lessons learned concerning facilitation:

- In PD workshops in which there are asymmetric power relations between participants (e.g., a work hierarchy), it is beneficial to establish a strategy for how to deal with emerging tensions before the activity takes place. Not doing so risks biasing the result in favor of the party with the most authority.
- Not taking action as a facilitator—for example, failing to ask follow-up questions when unfounded arguments are made—also risks disfavoring the weaker party in a design activity. Non-action increases the likelihood that the authority of the stronger party vis-à-vis the weaker will come into play.
- Initially agreeing on “ground rules” for rational argumentation can be one way of preventing power asymmetries from taking effect in a PD activity.

#### FACILITATING DEMOCRACY IN DESIGN: EMERGING CONCERNS

The lessons learned from the reflective endeavor by no means cover all aspects a facilitator should take into consideration to deal with asymmetric stakeholder relations in design. It has not been the intention to provide an extensive guide to facilitation. As Light and Akama [25] conclude, giving recommendations as to how PD activities can and should be effectively facilitated risks detaching the method and the practitioner. Instead, the lessons provided are viewed more as examples of how the facilitator, through actions taken (and not taken), can implicitly affect who “has a say” in the outcome of PD activities. Regarding the extent to which the particular lessons can inform facilitation

practice, they are primarily considered to act as potential reflection points in the planning and implementation of PD activities.

Having provided examples of how critical reflection on one's facilitation practices can offer important insights, we now turn attention to what we consider emerging overarching concerns related to facilitating democracy in design.

### The Subtleties of Facilitation

The cases presented illustrate how various aspects of facilitation can indirectly affect what, whose, and how perspectives and values become embedded in results from PD activities. Even if we were aware of asymmetric stakeholder relations beforehand, and despite our intentions to facilitate “genuine” participatory activities, in hindsight, on several occasions, the awareness was lacking. The on-action reflections revealed that there were often subtle and unforeseen factors that implicated the extent to which the disadvantaged party influenced the output of the activities. A central challenge of facilitating democracy in design in a form true to the Scandinavian democratic values that originally shaped PD is the many ways asymmetric stakeholder relations can play out in facilitated activities. Forming an understanding of how a facilitator affects the results of participatory activities and processes requires an attentive examination of one's own practice. Such endeavors generally imply going beyond the facilitator's subjective experiences of activities and require a close inspection of the data (transcripts, video, etc.) collected from the activities.

Given the challenges asymmetric stakeholder relations cause, one might be tempted to avoid the problem by simply avoiding mixed-group activities. While running single-group activities may be beneficial in some circumstances—for example, to allow for more confidential conversation and exchange of opinions (cf. Case 2)—it is not recommended to adhere exclusively to such a strategy. Indeed, many PD-related studies (e.g., [11, 39, 42]) show the constructive potential of allowing representatives of different stakeholder groups to interact face-to-face to discuss and to solve shared problems.

### Threats to PD's Methodological Integrity

One question that emerges in the context of this work is: To what extent is inattentiveness of the design facilitator regarding his/her own performance a problem of concern for the PD and the HCI community? While inattentiveness and failure to see one's own impact as a facilitator can potentially threaten the accountability of produced results [16], this neglect potentially has implications far beyond the immediate PD activity and project. In a broader sense, the “naïve” facilitator can be regarded to also pose a potential threat to the very integrity of PD as a democratic and empowering design approach. With respect to cases in which asymmetries are a concern, failure to take the right actions to “even the odds” will in most cases favor the stronger party (cf. Cases 1 and 3). In the long-term, this risk dilutes PD's values and principles. Similar to how the term *democracy* is

often misused to support political agendas, there is a danger that *Participatory Design* becomes a rhetorical cliché in which the empowering potential is reduced to participatory tokenism.

### Cultivating The Reflective Facilitator

While it is hoped that the concerns raised above can motivate the individual PD facilitator to adopt a reflective practice, the concerns are just as much a call to the PD and HCI community for increased attention as to how we can cultivate reflective design practitioners. Although we have no overview of how facilitation is practiced in the industry, the few detailed accounts of facilitation practice we found in the context of this work ([25, 31] being among the noteworthy exceptions) give grounds for concerns. By adopting a practice-perspective on facilitation, we implicitly call to attention the professional skills of the practitioner (i.e., the facilitator) and how they can be trained or enhanced. Here, the PD and HCI community has much to learn from other practice-oriented fields. For example, video-assisted reflective inquires have long been used as a strategy in teacher education and nursing professional development (e.g., [15, 41]). The use of similar strategies in the education and continuous improvement of interaction designers is to our knowledge far from being standard practice. These steps are essential in the cultivation of reflective PD facilitators.

### CONCLUSION

Inspired by Schön's reflective practice theories [35] and using Rolfe et al.'s [34] framework for reflection, we have conducted an analysis of our PD facilitation practice in activities with asymmetric stakeholder relations in health care. The analysis of the transcripts from PD activities in which we have been among the facilitators suggests that the facilitator, through his or her actions and non-action, has a large impact on what, whose, and how perspectives and values become embedded in the output of the PD activity. Implicitly, the facilitator affects who “has a say” in design questions. A central challenge in facilitating democracy in design is the subtle and often unforeseen ways by which the facilitator may unintentionally impede the disfavored party. Becoming aware of and dealing with such issues requires a reflective approach in which the facilitator constantly seeks to hone his or her professional skills by analyzing one's own practice. An analysis and reflection on facilitator practice is central in maintaining the integrity of PD as a democratic and empowering design approach; however, cultivating “the reflective facilitator” goes beyond the efforts of the individual design practitioner and calls for the attention of the broader PD and HCI community. As pointed out by Kensing and Greenbaum [24] in their reflection on the heritage of PD; democracy does not happen by itself.

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