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PARTICIPATORY DESIGN FOR WELL-BEING

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ABSTRACT
Participatory design can meet the needs of the individuals' well-being in hospitals; however constraints occur in such a complex context. A case study of exploratory participatory design processes with health professionals were done at a geriatric department in mental health care. An analysis was done to disclose the structures to an analytical tool: *Levels of Participation*. It visualizes strategies for activation of participants to health promoting environments in hospitals, thus supporting strategies of corporate social responsibility. Design methodology was used to enhance internal consistence. Solutions and consequences were evaluated in relation to external consistence. Four levels of participation were identified and described: Formal recommendations, institutional strategies, professional practices and influence between patients and their personal space. The *Levels of Participation*-tool can support multiple and alternative processes of participation with health professionals and patients in the aim for products of well-being.

Keywords: Healthcare environment, multi-disciplinary communication, corporate social responsibility (CSR)

1 INTRODUCTION

Participatory design has evolved from currents in sociology-research where the individual needs and dignity as facets of a design process were elaborated [1]. The movement was partly rooted in the Scandinavian tradition of dialogue between union workers and employers initiated to achieve constructive approaches towards sustainable solutions [2]. As a participant in making the environment that surrounds us, awareness of ethical perspectives is important in the processes of creation and construction [3]. The participatory design approach complies with the needs of the individuals' well-being in a high technological society. The approach has therefore been recognized as a fruitful towards complex environments that involves people as for example hospital settings.
Historically in a care perspective Florence Nightingale had an influence on hospitals and their environment [4]. She stated that the patient's aesthetical experiences had to be strengthened during the recovery period, in order to be inspired back to life through nature and beautiful surroundings. This view was eventually set aside as the tendency to design hospitals from a rational perspective that came to be the valid approach. In recent years, however, health and environment has been the subject of a revived interest, also from a health standpoint [5]. By inviting patients and others involved in hospital processes to partake in design processes, multiple perspectives that contribute to a more nuanced and creative process where multiple needs are met have emerged. The involvement of hospitalized people in research must be done in such a way that integrity and particularly situations where the patients feel vulnerable are handled in a proper and ethical manner [6]. Hence the participatory process often presents a dilemma. The projects depend on the patient's voice on one hand and patient considerations on the other, a situation that might even rule out the possibility to include patients in research projects. The researcher is left with the question of how much the patient can be involved, and how this should be done.

1.1 Personal space

An interdisciplinary study within health, sociology and design research about hospital clothing can serve as an example of how patients can be involvement in research [7]. The research which objective was hospital clothing included interviews about patient's sentiments towards setting aside private clothes in favour for hospital garbs. Some of the respondents felt they were deprived of their identity,

while others had a positive experience with hospital clothing through the elicited feeling of affiliation. Hospitals clothing in this setting can be regarded as an individual's personal space, a that patients in the hospital, clothes are a part of their surroundings. In the study, patients received their views on various forms of alternative solutions of the hospital gown. Design researcher on the team could address and identify issues to be examined more concretely, with follow up possibilities with suggestions for alternative solutions. The conclusion of the study was that there was a need for further research studies on the design of hospital clothing.

1.2 Levels of participation

Although the inclusion of the participants' voice in creative processes is widely recognized it also represents a possible conflict due to different personal values and interests, a situation that might lead to reluctance towards the inclusion of participants into research and design projects.
A study on participatory design showed that conflicting views increases the propensity for new concepts to emerge if the disagreements are dealt with constructively. The researchers used improvised theatre to enhance the degree and quality of the conversation [8]. The participants represented different levels of decision-making in society while performing the improvised theatre. The process facilitated by the researchers engendered the concept of adopting national tax regulations to flea markets, and to develop the necessary payment systems. The conclusion of the study was that the dialogue between the participants is important to facilitate and that the use of creative approaches like improvisational theatre can engender of the dialogue as well as conflicts and finally the development of new concepts.

1.3 Learning outcome

Consequently it is an aim for designers to learn how to implement ethical considerations in a complex, participatory process. A general competence for design students is to be able to engage collaborators in developing ideas and new products through professional communication and interdisciplinary co-design processes. This learning outcome enables the students to contribute to corporate social responsibility. Furthermore collaborative explorations with health professionals can contribute to expand this competence because ethical guidelines are an essential part of health practice.
The aim of the study was to develop an analytical tool for communication between designers and health professionals based on the research question: how can collaborative explorations between researchers in design and health contribute to expand corporate social responsibility (CSR)?
From a teaching perspective a tool can be used pedagogically to inform students about the complexity in working with products in a hospital. By seeing the product as a part of a larger system it will guide the students in their problem solving process in a different way than if they did not know about it. As an example if the students are not able to get in touch with a patient to do user studies, there are alternative routes for influence which is also in the interest of the patient. These might go through other levels of participation.

2 METHOD

The research question is of such an nature that a case study is appropriate [9, 10]. A methodological approach to this was to explore case studies of design processes in close collaboration with health professionals. The participatory processes was analysed to disclose the structures in the case into a synthesis of elements in an analytical tool [11]. Design methodology from participatory design [8], design of hospital clothing [7] and levels of mass customization [12] was used to enhance internal consistence and structure of the model. Solutions and consequences in practice were evaluated in relation to external consistence. A case study was done through a participatory design approach. Consideration for the individual patient is important and needs special attention. However, it will not be possible any time to accommodate all individuals' different requirements. Standardization will necessarily occur. It is interesting to examine is to what extent has anything been standardized, and at what price. The standardization has often come at the expense of the participants' real influence. It is therefore important to be aware of all levels of potential impact and how it is done with a comprehensive and complex perspective, the use may contribute to increased value creation (well-being) for the patient and other participants.

3 LEVELS OF PARTICIPATION

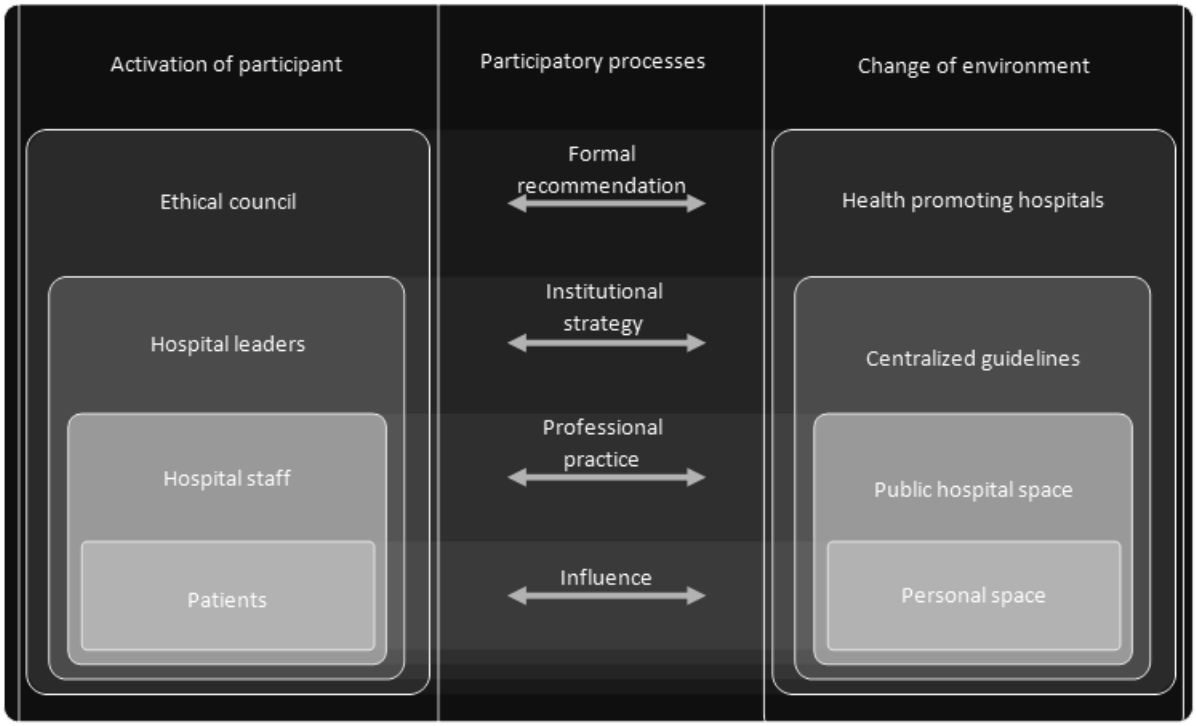

Figure 1. Levels of participation: an analytical tool of communication in participatory design: Four levels of participants are activated to contribute to well-being at hospitals

A creative use of improvisational theatre had been used to generate specific qualities of information in the dialogue in the participatory process [8]. Similarly in this case study a creative use of material based art was used in a real hospital context to generate data about the participant's dialogue how it influenced to the new environment. The dialogue was organized as a cooperative experiential inquiry[13] in a geriatric department in mental health care. To enhance the experiential qualities of the dialogue, material based art objects were brought into the processes. Based on the hospital case, the tool "Levels of participation" (Figure 1) was developed to support the decision process in hospital environments in order to acquire CSR in a health institution through participation. The construct of the analytical tool is an adjustment of the model of Jørgensen *Levels of Customization* [12].The tool has a dual view with activated participants at one side and change of environment on the other side. By activating all or several of the participants listed in the tool different ways of changing the environment towards the experience of well-being will emerge.

3.1 Participation level: Formal recommendation

To obtain access to the field for the case study the project had to be approved by an ethical council. An application was sent to The National Committee for Research Ethics in Science and Technology (NENT) to get the permission to do research in the hospital which involved patients and the staff's description of patient experiences. This was a strictly formalized procedure with standard forms and specific requirements for the project description. One of the arguments in the project description was: *"usually most use of art and changes in the environment of the patient is done without a research approach. Compared to do an art intervention it can be claimed that it is better to not do anything. But to not do anything is also an action. Elie Wiesel said that "The opposite of love isn't hate, it is indifference." To show a will to expand knowledge about use of art in a hospital would demonstrate an active will to do something good. Environment in a hospital can be important for the life situation of a patient. Existing environment that is seen as neutral can also have a negative effect."*

The response from NENT was that they found the project interesting, but the application needed to be revised. One principle in project description had been *not* to interview some of the patients out of consideration for their integrity due to their defencelessness. According to NENT all patients at the ward should be invited to take part no matter health situation. The assurance had to be clarified, and the letter of consent should be changed. After a meeting with the staff at the hospital, a revised

application was sent. The project was approved by the Regional Committees for Medical Research Ethics (REK 2008:2333) at the University of Oslo. The study was approved by the Norwegian Social Science Data Services (NSD) at the University of Bergen once it was ensured that the data collection followed the Helsinki declaration [14]. When the project was approved it became a part of the documentation about Health Promoting Hospitals - a network which is a part of World Health Organisation with the aim to promote public health.


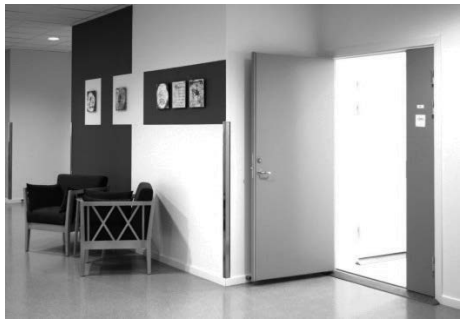

Figure 2 (left). The entrance to the old psychiatric department called the "prison door".
Figure 3. (middle) staff in environment group reserving a place for the visual intervention.
Figure 4 (right). Painted wall framing the art outside a patient room.

3.2 Participation level: Institutional strategy

Although approved by the ethical council there were constraints in the realization of the project on an institutional level. Interventions of the interior at the ward had to follow central interior decoration guidelines. Although the ward was temporarily placed in an industrial area they had to follow the same guidelines as for the rest of the hospital. This meant inter alia that there should be no curtains but shades that not did pick up dust in public places, like the sitting room. It was discussed among the health professionals whether these regulations based on hygienic reasons were necessary or even that they might have a negative effect at a ward in mental health care.

Another subject of discussion was why there was an entrance door that looked like a prison door in a locked ward (Figure 2). According to the medical doctor the art pieces with light blue and white colours would fit the door better. The discussion of why this "prison door" had not been painted earlier arose. The ward manager said that painting the door would require further permission from her leader and that the art project might enable such permission. Furthermore when the entrance was discussed the psychiatric nurse suggested that lines could be painted on the wall and on the floor, horizontally and vertically, where the frame served as a pedagogical guideline for the art. After some weeks of inquiries permission was granted from the management, and the NCS codes for the interior colours was acquired from an external interior architect (Figure 3 and Figure 4).

3.3 Participation level: Professional practice

When the project was approved by NENT, creative solutions emerged with great enthusiasm from the medical staff. Engagement with the staff was stimulated through interaction with material samples in ceramics. Further c*eramic forms for communication* were produced in dialogue with health professionals and patients (Figure 5 and 6)[15]. However these objects with abstract and figurative motifs were not put in the patient department, as some of the staff members were anxious they might trigger violent acts by psychotic patients. The theme was discussed, as they always had access to coffee cups, which also might be used for violating acts. However the stones were placed in a basket in the staff lunch-room. The availability of the stones influenced the staff. One of the nurses reported how a physiotherapist suddenly got the idea to bring the stone basket into an activity session with the patients. She had suddenly remembered taking part in a similar situation when she was a student. The therapist then had used natural stones.

Figure 5. "Partly vanished", ceramic forms in marble sand made for light therapy room.
Figure 6. "Arctic border" a public art form made in collaboration with nurses to stimulate communication at the ward

In the session the physiotherapist asked the patients to choose one favourite stone each and elaborate about their choice. Hardly any of the patients were able to do verbalize the reason for the choice. A nurse reflection on the situation was that even though the communication was nonverbal by many, they were still communicating through the way the stone was held, and how the patient interacted with the object. It told her something about the patient. One of the patients showed how the flat stone could be used to be thrown on the water surface. Others were only feeling the changes in the form with a finger. Both the physiotherapist and nurse explained thoroughly how important the dialogue with the body was. It created a more intimate communication and another quality in the contact experience. Communication that was nonverbal was observed through materiality and touch as means. The patient's actions were evaluated and explained by health professionals. A nurse professor commented that the experience to be cold on your hands, to be warm on your hands, and to become one with the stone, that was a totally other dimension than to look at an image on the wall.

3.4 Participation level: Influence

The participants influenced the creation of personal space in several occasions. The stone like forms caused much discussion. They seemed to stimulate dialogue but could be unsafe for the interior and people. They were therefore placed in the staffs' lunch room at first. Consequently the staff used to point at the different stones, lift and touch them, and discuss their perforations. Our contact person said that as time passed by the stones gradually disappeared from the lunch room to reappear at the desktops of different staff members. Some of the stone like forms were placed in the light-therapy room for patients. The stones were placed in picture frames filled with sand (Figure 4). This was done to enhance the feeling of mental change and mental stimulation. The stones partly covered by sand could be seen as memories partly vanished. By touching the stones, and turning them around in the sand, new images and signs would appear, in the same way as lost memories might reappear. Placed in the light-therapy room they would be available to stimulate dialogues in therapy.
The larger stone forms were placed by the staff in the public entrance corridor outside the locked ward. Many people commented the placement and the stones, in a curious and positive manner. The purpose of the bigger stone forms had been to enable more people to touch it at the same time in opposition to the smaller forms. Communication would be more likely to happen if two or more people could touch the large stone together as the nurse researcher pointed out. The function of the stones was thus to enable additional spaces for communication on both personal and interpersonal levels.

4 IMPLICATIONS FOR DESIGN EDUCATION AND PRACTICE

Experiences from the cases demonstrated how the design process by the use of aesthetics of materiality contributed to well-being in technological and complex hospital contexts, in accordance to strict ethical guidelines. The approach generated complementary data that differed from the approach with improvisational theatre [8] and hospital clothing [7]. Compared to the improvised theatre the case contributed with a similar approach, not as a set up theatre, but implemented in a real hospital. Formalized procedures thus were activated. Resistances in a system towards change enabled the researchers to learn more about how to incorporate new practices around new artifacts within an

institution. Students may benefit from such practice based experiences too. Compared to the clothing design study it was of similar importance that the creative aspect was an integrated part of the research approach, with possibilities to adjust and design elements to be an active part of the study, contributing to an open and explorative study. Touch, body language and communication beyond words were present in this case and specifically needed in a ward for elderly psychiatric patients with reduced communication abilities. The analytical tool used in explorative approaches in participatory design can support a variety of attuned perception and appreciative awareness in collaboration with health professionals and patients in the aim for products of well-being. The tool can contribute to innovative conceptual developments by an exploratory use of materials and production processes in a realistic frame. With an ethical perspective and seeing the product as a part of a larger system the Levels of Participation-tool thus can help designers to work as skilled professionals in health design and thus contributes to corporate social responsibility and sustainable solutions. The study revealed four levels of participatory processes related to the users, the staff, the institution and the formal requirements. In problem based learning these processes can work a constructive starting point for students who would like to explore how design can be used to contribute to well-being in a hospital. The approach is in accordance with EU directives in the Bologna Process, which emphasize the knowledge triangle; interplay between research, education and innovation, three central and strongly interdependent drivers of the knowledge-based society. The analytical tool can thus contribute to a higher degree of mutual understanding between designers and health professionals, and it can contribute to knowledge transfer into practical learning situations for design students in order to enhance the awareness of creating products for patients' well-being.

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