

You are the *real* experts!

- Studying teenagers' motivation in Participatory Design

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ABSTRACT

Participatory Design (PD) engages those who are affected by a future design artefact in the design process. Participatory Design literature mostly describe how users are engaged in the process and tools, techniques and methods for facilitating the process as one of mutual learning. Nevertheless, the study of how users are motivated in engaging users with the design process is still uncovered. This paper examines how PD researchers motivates teenagers to engage in a Participatory Design project. By analyzing the core activities in a PD project, I will present the means used for motivating teens to participate in the design process.

Keywords

Teenagers, Participatory design, motivation, means

1. INTRODUCTION

In this paper Participatory Design refers to the Scandinavian PD, which goes back to from the 1970s [6, 14, 17]. The early PD projects were research projects with workers to analyze the effects of the introduction of IT at their workplaces. PD started from the simple view that those who were affected by a design also should have an impact on the design process. In PD literature it is stated that it is important for the design outcome to involve users in the design process. According to Kensing and Blomberg [15] PD is a concern for engaging users in the design process to ensure a better fit between the future technology and the way the participants want to perform their work. The conditions for user participation in PD have been stated and some basic requirements for participation has been outlined [15]. Ehn framed this as the design of an emancipatory practice [7] emphasizing that democracy, quality for work and skilfulness was at the core of every PD practice. The concerns of the workers involved in the projects were how to keep their jobs [13]. Therefore the motivation for participate was to make sure that their job didn't become unnecessary. As Pelle Ehn[5] states: "*A complementary reason for participation, and in the long run probably the strongest motivation for its use in many organizations, was to ensure that existing skills could be made a resource in the design process.*"

Today the main field of PD is no longer at the workplace and the user group has changed. Today, we are engaging new user groups such as teenagers in the design process. As the user group have changed so have the participants' reasons for participating in the process. The motivation for the participants is not only how to keep their jobs. Given that the political aspect has been moderated in PD, the motivation for participating in a PD-process has changed. Previously, it was the democratic aspect that was the motivation factor for participating. To day it is other factors that are crucial to the motivation to participate. Susanne Bødker [19]

argues that the designer should make the user aware that they have co-determination in designing the product. Co-determination is therefore still a crucial factor for participation in PD processes, but it is no longer the political aspect with more democracy at the workplace. Rather, it is co-determination in development of new technology, which is the motivation for participation. The participants no longer have the same political gain from participating in a PD process. PD is now a matter of mutual learning between designers and participants. The challenges in PD have evolved into how to motivate the participants to take part in a PD process. How do we motivate them to participate? What are the means in the PD toolbox that designers use to engage teenagers?

In the following, I will provide a case study from a recent PD project that engaged teens in the design process. I investigated what means the designers used to motivate the teenagers during the design process.

2. RELATED WORK

The literature that deals with younger users in design processes describes how children can be involved in the design process. There are fewer studies that deal with teenagers as participants. Danielson and Wiberg [3], Mazonne et al. [16] and Iversen [12] are three of the examples. What these projects have in common is that they describe why the designers involve teenagers in the design processes and what some of the teenagers gained from participating. They describe how the teenagers that participated in the projects got a different self-awareness through the experiences they gained through participation in the project but they don't describe what motivated the teenagers chose to take part in the process in the first place and what motivated them to keep participating during the process. Danielson and Wiberg reports on how prospective users may be involved in the design of entertaining educational computer games. In the paper they describe how to motivate the target group by using a pedagogical computer game as an intrinsic motivation, stating that the teenagers who participated in the process participated voluntarily, but they don't explain why some teenagers did participate. Mazzone et al. [16] describe the development of an e-learning computer game that aims to improve teenagers' emotional intelligence and also describes the use of motivation of the target group. Mazzone et al. describes the difficulties of recruiting their participants but don't explain how they did motivate the teenagers to participate in the process. The papers describe why you should use teenagers as participants but holds off from describing how to incentivize them. What did motivate the teenagers to participate in the design process?

3. METHOD

The paper is based on a case study [1]. The LiTiRUM project was a PD project where the participants were mainly 6th graders from two different public schools. The participants were used as informants [4] and participated in the design process when the design team found it useful. The participants participated during the project in design workshops in different stages of the process. I have followed the project as a participating observer [8] where I acted as a workshop facilitator in seven of the design workshops and in planning meetings of the project. During the workshops I took field notes as the primary form of documentation. In this paper I group my field notes from the workshops and on the basis of these notes analyze which means the design team used to motivate the participants in the LiTiRUM project.

This paper will investigate what kinds of implicit means PD generally uses to motivate teens to participate in the design process. In the following section, I will account for my understanding of motivation deriving from experimental psychology.

4. MOTIVATION

In this section I will briefly provide my understanding of motivation. According to Csikszentmihalyi all human actions are motivated by a combination of two types of rewards: *extrinsic* and *intrinsic* [2]. An action is extrinsic motivation when the rewards do not come from the activity itself but from the outside. A person is acting in the interest of intrinsic rewards when the performance itself is worth doing for its own sake. For example, most sports games and artistic activities have intrinsic motivated rewards. Apart from a few professionals, many have no reward for performing the activities except of the experience itself. Normally we are motivated by both external and internal rewards at the same time.

In her theory of motivation, Hedegaard [9, 10] distinguish between motivation and motives. Motives are structured in a hierarchy of dominant, meaningful and stimulating motives. The motives are hierarchically organized where the main subjects are the ones who dominate the other and have an impact on the forms they manifest themselves in. The dominant motives are associated with the types of activities that are central and important to a person's life. For preschoolers playing is a motive that dominates, and for school children in schooling age it is the exploration of roles and being like the adults that dominates. For the teenager it is the acceptance by peers and success that are the dominant motives. Dominant motives are always meaningful, but a number of other meaningful motives can be present without being dominant. As an example, teenagers still have 'learning' and 'play' as meaningful subjects, regardless of their dominant motive being social acceptance. A stimulating motive is a motive that makes sense in a different context, but is placed into a new activity in which it will attempt to motivate the new activity. Stimulant motives are often used in school contexts to put an activity, which is not by itself motivating, into progress.

5. THE LiTiRUM PROJECT

The LiTiRUM project was a six-month project that took place in the fall of 2012. The objective was to develop a new social technology application and an augmented school installation to support informal learning in public schools. LiTiRUM was an interdisciplinary research project engaging researchers from interaction design, anthropology, architecture and pedagogical research. Also, LiTiRUM included two industry partners. The development of the 'Narrify' application and two interactive

installations were conducted in a Participatory Design process with seven key workshop activities. The project mainly involved pupils (aged 12-14) from two different public schools. Each workshop engaged 16–80 pupils and 5–10 teachers and school administrators. All in all, about 150 pupils and 25 teachers and administrators took part in the LiTiRUM project for longer or shorter periods of time. The pupils participated as experts in being pupils [11]. The outcome of the project, the Narrify application, is a social technology that runs in a web browser, on tablets and smart phones. The application promotes a knowledge-sharing environment that engages pupils, parents and schoolteachers in a digital context for sharing formal and informal knowledge. Moreover, Narrify is also integrated into two physical installations in which pupils and teachers can engage with the Narrify software through Natural User Interfaces. The LiTiRUM design process is further described in [18] Below, I will present how PD researchers motivated teens to participate and contribute to the LiTiRUM.

6. THE MEANS IN THE PROJECTS

During the project the designers used some means to motivate the participants. I have made a figure where the means are classified and given a headline that is described above (see figure 1). The means are divided into material or immaterial means. The axis of x indicates if the motivation is an extrinsic or intrinsic cf. Csikszentmihalyi [2]. The axis of y indicates if the motivation is material or immaterial. The material was tangible artifacts' that the participants were given to use during the workshops. The immaterial means were social values. In the figure the means is placed based on whether they are mainly a reward in itself or if they need a reward from the outside. Incitements, tools, technology, identification and cooperation did not seem rewarding in itself but the rewards have to come from the outside whereas trust and performance are rewards in it self. In the figure the material means used in this case is extrinsic rewards while the immaterial means are intrinsic.

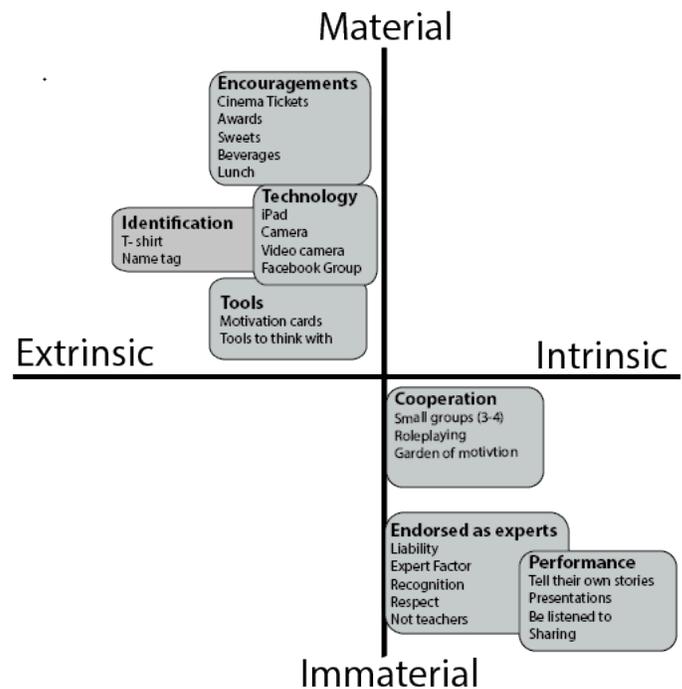


Figure 1: The means categorized on a graph

In the following I will account for the means used in the LiTiRUM project.

6.1 Encouragements

To motivate the participants the PD researchers used incitements as beverages, fruit and sweets. By giving sweets to the participants the aim was to indicate that the workshop wasn't a school situation. The workshops were held at the participant's schools and it was therefore necessary to do something they would never expect in a school situation. For the same reason some participants were awarded with cinema tickets and the participants got a free lunch for participating.

6.2 Tools

The PD researchers applied tangible tools to inspire the participants. Before the first workshop the participants had done some homework. They had to draw a storyboard of a situation where they have had a good learning experience. The participants were given some cardboard cards, where they had to write down what motivated the leaning situations based on the storyboards. The cardboard cards were now used as motivational cards. In some of the workshops the participants had a box full of "tools to think with" that consisted of different types of primitive artefacts that could help inspire the participants to design a new type of product. Participants used their imagination to come up with some new functions for the artefacts or used the artefacts as inspiration for totally new inventions.

6.3 Technology

The use of modern technology encouraged the teens to participate in the process. During the workshops the participants used different types of technology. They used video cameras and iPads to film short video clips that they uploaded in a Facebook group. The participants also used cameras to take photos with, which they printed by AirPrint afterwards.

6.4 Identification

Indenisations were used to motivate the participants by giving them a sense of belonging to the project. Each participant got a T-shirt that indicated that they all belonged to the workshop. When the participants wore their T-shirts they had free access to the workshop facilities. In later workshops the participants were given key hangers to indicate that they took part in the workshops and a nametag. In some workshops the participants acted in a role-play and the key hangers were used to show their part in the role-play. One part in the role-play was to be a 'Toponaut'. A Toponaut was a role invented for the occasion. As astronauts explore outer space, the toponauts were sent off on expeditions to explore the local place, or 'topos' in Greek. The key hangers gave the participants unlimited access to the whole school and the surroundings.

6.5 Cooperation

By cooperating in teams of peers the teens were motivated to take part in the workshops. In every workshop the participants were divided into smaller groups of approximately five participants. In some of the workshops the participants took part in a role-play where they were acting as Narrifyers, Toposnauts, journalists or designers. The role of a Narrifyer was to find a good learning experience and find out what motivated them in this situation. From the specific learning situations the narrifyer had to write down some motivational cards. Each narrifyer presented their motivational card while the others announced whether or not they agreed by making a thumb up or down. The narrifyers placed their

motivational cards on the floor and by doing so; they made "the garden of motivation". In the garden of motivation the participants could walk among the motivations and write down their names on the motivations they agreed with. As a Toposnaut the participants took part in a Toponaut Corps of four group members. The toponauts had the duty to explore the local places. In each Toponaut Corps, there were four roles to play: A photographer, a videographer, a journalist and a captain. The team members took turns being captain, i.e. find a place at the school, which was their 1) favourite place 2) disliked place 3) mysterious place. Each role had its own task: a) the captain marked with a sticker site colour (green = favourite / red = dislike / yellow = mysterious). b) The photographer took a picture of the captain, holding a sign of the appropriate colour in place, with its name and the type of place. c) The videographer recorded a video of 10 seconds where the captain explained why he had chosen the place and d) the journalist wrote captain's explanation down on a post-it.

6.6 Endorsed as experts

An important motivation mean in every workshop, was that the teens was endorsed as experts. During the workshops the PD researchers continuously emphasised that the participating teens was not invited as 'pupils', but as experts. As stated at the opening workshop by the research manager "Teens are experts in their everyday lives. We cannot design future technology to teens without involving these experts". When the participants shared their point of views the PD researchers treated them with great respect. The PD researchers didn't use pedagogical means to make the teens participate but told the participants that they themselves had the responsibility to gain something from the workshops. In return the PD researchers gave the participants recognition, which in itself was motivating for the teens. The teens were taking seriously, which gave the teens courage to participate.

6.7 Performance

As a motivation factor the PD researchers tried to make clear to the participants that they were being listened to by replying to the participants' comments in verbal and in the Facebook group. In every workshop the participants had to make presentations. It varied if the presentations were verbal in plenum, in writing in the Facebook group or if the participants made a video presentation they posed on the Facebook wall. By drawing the storyboards the participants had their chance to tell their own story and share it with each other.

7. DISCUSSION

As noted by Csikszentmihalyi, all human actions are motivated by a combination of extrinsic and intrinsic rewards [2]. In this project the fact of the matter is that the material means are placed at the extrinsic part of the axis of x and the immaterial means are placed at the intrinsic part. For analyzing the means of the project I will use Hedegaards' hierarchy of dominant, meaningful and stimulating motives [10]. In this paper I discuss the motives she set up for teens. For the teen it is the acceptance by the peers and success that dominates his or her motives. 'Learning' and 'play' are meaningful motives and the stimulus motives is a subject that makes sense in a different context, but placed into a new activity in which it will try to motivate the new. The stimulating motives are not established but may change depending on the teens.

By looking at the means from before, we can see if they fit into these motives. The encouragements such as sweets and rewards are known for motivating in other contexts than in a design

process and can therefore be considered as stimulating motives. Also technology and Identification use elements that are known as motivating from other contexts. The meaningful motives are 'Learning' and 'play'. During the two projects the participants took part in a role-play and they used "tools to think with" that is based on their ability to play. For the teens the social values as acceptance by peers and success are the dominant values. In the figure 1 the endorsed as experts and performance is the social values that represents the participants' social behaviour and how their surroundings think of them.

The means used in the LiTiRUM project are shared among the three different types of motives. In figure 1 the groups of encouragements, technology, identification and tools fits into the stimulating motives. Cooperation fits into meaningful motives. At last endorsed as experts and performance fit into dominant motives. If there is a majority in one of the categories it may be a problem for motivating the teens. If there is a majority of stimulating means it can cause a "here and now" motivation for the participants. It is fun to participate in the moment, but is easily forgotten. On the contrary a majority of the dominant means, can cause the participants not to be able to keep their spirits up to participate. In the LiTiRUM project the means were distributed very evenly in the hierarchy. A small majority of the means were stimulating motives.

8. CONCLUSION

In this paper I have analyzed core activities in the PD project LiTiRUM. I have presented the means used for motivating teenagers to participate in the design process and categorized them into extrinsic or intrinsic motivations and divided them in material or immaterial motivations. Afterwards I used Hedegaards' hierarchy of motives for teenagers and found that it fitted on top of the categorization. The means in the project were distributed very evenly but there were most stimulating motives in the project. They gave a "here and now" motivation whereas the meaningful and dominate motives are more long-term. The project could have used more means that led to meaningful and dominant motives. This would have the advantage of entailing a more sustainable design. The means engaged the teenagers in to participate in the workshops and therefore some effective tools in the PD toolbox.

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