

EDUCATIONAL MODEL FOR IMPROVED EMPATHY “THE PLEASURABLE MASK EXPERIENCE”

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ABSTRACT

Improved empathy and direct contact with users can provide a valuable resource for designers, who often design products that are meant to be used outside of their own experience. This is especially true for products that have a strong emotional impact on both their users and observing bystanders. This paper reports the results of a User Experience Design Project, in which 60 third grade bachelor students in Product Development at the Artesis University College of Antwerp participated. During this project, students were challenged to design a pleasurable dust mask experience for four specific target groups, in which the negative connotations often connected to dust masks are eliminated. To ensure the integration of emotional awareness and empathy in this user experience design, a three-step framework was used, where each step covers a different phase of the overall empathic impact. Each step of the design process consisted of a divergent and convergent phase.

The overall set-up of the design exercise, the empathy enhancing activities together with the implementation of a qualitative and quantitative research phase, boosted the students' creative and research skills. Many of the assumptions that they had incorporated in their first design concepts, proved to be against the expectations of the target group. The integral focus on the user experience and empathy enhancement gave our students something that went beyond the notion that empathy with the user is important; it created an empathic awareness.

Keywords: Design education, co-creation, user experience design, stigma

1 INTRODUCTION

Contemporary product development goes beyond finding innovative ideas and designing well-shaped functional products. Consumption societies have become oversaturated markets. According to the theory of product phases [1] and as defined in the hierarchical pyramid of Maslow (1970) [2], basic needs are fulfilled for the greater part of the population in western societies. Affective, emotional and other abstract product attributes are becoming more important.

The focus on user experience design as a discipline within the field of product development, anticipates on this changing consumer attitude. Redström (2006) states: “If design used to be a matter of physical form, its subject the material object, it now increasingly seems to be about the user and his experiences”. [3]

Different authors point to complementing ideas on how to implement affect and emotion in product design. According to Norman (2004) user experience demonstrates three emotional processing levels: the visceral level, the behavioural level and the reflective level. Good products perform well on all three levels. Through research, Norman (2004) concludes that there is now evidence that aesthetically pleasing objects enable better work. Moreover, products and systems that make people feel good are easier to deal with and produce more harmonious results. [4]

It is important to notice that merely adapting the design of the hardware to the taste preferences of the target group is not enough. The design of the hardware contributes comparably to the emotional pleasure of use, and apart from that, interface and usability aspects have to be integrated seamlessly to complete the overall user experience.

To train our students in this ‘more abstract’ way of thinking about product concepts, a user experience design project was initiated under the general theme: ‘Design a pleasurable mask experience’, that eliminates negative user connotations regarding (wearing and using) dust masks. A fascinating challenge, since dust masks can be classified in the category of medical or protective devices that are often obligatory to wear, do not provide any emotional benefit to the users, and make them stand out

in undesirable ways. On top of this ‘stigmatizing impact’ these products are often unpleasant to use and uncomfortable to wear.

2 STRUCTURE OF THE USER EXPERIENCE EXERCISE

2.1 General educational principles

The user experience design project represents a workload of 4 ECTS (European credits) and is compulsory for 3rd year bachelor students. The project focuses on the development of competences in user experience design as well as the integration of applied research. A qualitative and quantitative research method using statistical data processing based on a concept test was incorporated in the project. A multidisciplinary team of four staff members provided educational guidance. Design input was given by an assistant teacher and a PhD researcher of the institute, whose research focuses on ways in which a product designer can positively influence the acceptance of potentially stigmatizing near-body products, such as dust masks. A philosopher gave an inspiring perspective on the challenge ahead. A market research teacher assisted with the consumer research and a design professor coordinated the overall design process.

Sixty design students participated and were evenly divided over four target groups: ‘Bike couriers’, ‘Yourself within 40 years’ (active retired people), ‘Children age 3 to 7’, and ‘Children age 8 to 13’. For each of these target groups the students had to develop a mouth and nose covering dust mask that was fitted with existing filtering technology.

In this exercise students worked partly individual and partly in groups of four. The initial analysis, the creation of the personas, the support in the co-creation phase and the final concept test were performed in groups. The specific product concepts were designed individually.

2.2 Educational model for improved empathy

To ensure the integration of emotional awareness and empathy in the user experience design, a three-step framework (figure 1) was used, where each step covers a different phase of the overall empathic impact. Each step of the design process consisted of a divergent and convergent phase.

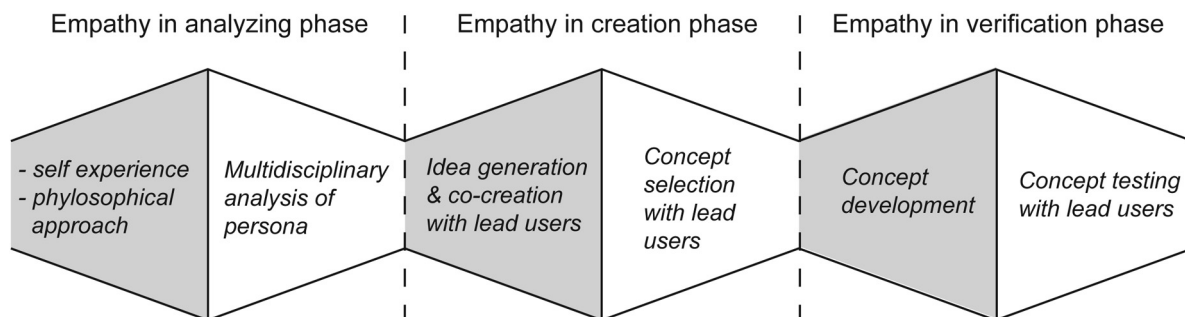


Figure 1. Three-step framework

2.3 First phase: analysis

The first phase incorporated three educational tasks: an immersive mask-experience, an introduction by a philosopher to broaden the scope, and the creation of a persona that encompassed first reflections and experiences.

2.3.1 Physical and emotional immersion in the mask-experience

The first task was introduced prior to the design project, and incorporated in the course ‘usability’. Our main objective of this exercise was to make sure that students would not underestimate the physical and psychological discomfort associated with wearing a dust mask.

To increase overall awareness and empathy, students were challenged to experience the ‘real life’ aspects, by walking around in public and take public transport while wearing a classic white dust mask for at least two hours a day. During these instances they could personally experience the reactions of bystanders and observe and document their various reactions. Students often made their walks in small groups of two or three. One of them wore the mask, while the others observed from a ‘safe’ distance to avoid spoiling the authenticity of the reactions. At the end of this exercise, students were requested to

present an A3-poster with quotes and pictures that portrayed their feelings and experiences. Apart from the emotional aspects connected to wearing a dust mask, most students also visually expressed their frustrations about various usability and comfort issues.

The general conclusion of this first experience was predictable; students did not like the fact that they were stared at, 'like they were bearers of an infectious disease'. The experiment emphasized the issue that most dust masks indeed have a strong stigmatizing effect, and are not perceived as a 'normal' feature on our streets and public places. The personal experience also made students aware of the challenge ahead and the importance of an integral user experience approach.

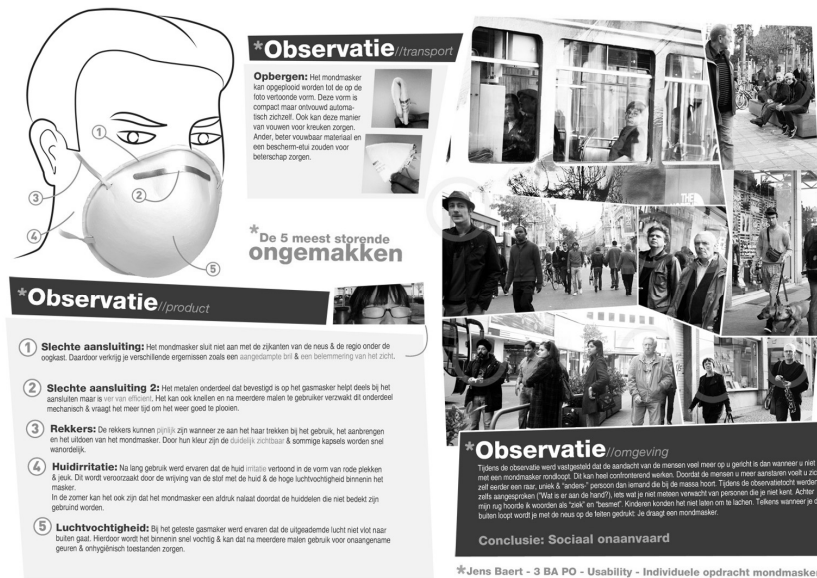


Figure 2. Example of a student poster that represents the 'real life' mask experience (Jens Baert)

2.3.2 The philosophical perspective

To broaden the student's general view on the challenge ahead, one chapter of the introduction was presented by the departments' philosophy teacher who focused on the perception and functions of masks throughout history and the importance of masks in ethnic and tribal cultures. Masks haven't always had negative connotations. Just as much as they have aroused contempt or disgust, masks also have been used to provoke pleasure and admiration. Due to the fact that dust-masks will always cover a part of the human face, they will always have a profound impact on their users and their social environment.

2.3.3 Persona's and mood boards

Students created personas combining the gained insights in order to get a proper insight in the target groups, the user product preferences and motivations. Mood boards, user scenarios, and user's attitudes towards existing dust masks were collected and visually presented in a digital collage. Four specific target groups were chosen: 'Bike couriers', 'Yourself within 40 years', 'Children age 3 to 7', and 'Children age 8 to 13'. This material clearly showed the expected preferences of the target groups from the students' perspective and also served as a visual introduction for our students during their co-creation sessions.

2.4 Second phase: brainstorm and idea generation

In a second phase, the empathy evocation phase (divergent) coincided with a co-creation session. Prototyping material was made available to stimulate designers and end-users in shaping those attributes suitable for a dust mask. These creations were reflected upon and the best elements were presented to a team of experts (convergent phase).

2.4.1 Concept design: Confronting the user in a co-creation session

Designers have been moving increasingly closer to future users of their products. One of the more recent approaches in the changing landscape of design research is co-designing with the end-user. In one of the latest definitions of the term, Sanders and Stappers (2008) describe co-design in a broad sense and refer to the creativity of designers and people not trained in design, working together in the design development process [5]. From their experience as researchers and practitioners, they also state that co-creation practiced at the early front end of the design development process can have an impact with positive, long-range consequences.

The co-creation event with four user-groups

To dig deeper in the mindset of the potential users, and to confront the members of the target group with preliminary design concepts, a co-creation session was initiated in the third week of the project. Potential users of the different target groups were invited to the institute and were asked to discuss the first rudimentary prototypes and concept sketches, which the students had prepared.

In order to make the intervention of the user a successful one, we had to go one step further. As Sleeswijk Visser, et al. (2005) state: users can become part of the design team as 'experts of their experiences', but in order for them to take on this role, they must be given appropriate tools for expressing themselves [6]. In order to empower our users, we provided various prototyping materials (cardboard, foam, textile, staplers, glue-guns and other mock-up material) to alter the shape and function of these early prototypes.

Based on the remarks and suggestions of the potential users, design students and potential users thus co-created advanced versions of their favourite dust masks and new product concepts. During the workshops facilitators observed, what Kingsley (2009) calls: "increased empathy between the participants, a move away from the self towards external and community concerns." [7].



Figure 3. Compilation of images of the preliminary prototypes, sketches and the co-creation session

2.4.2 Concept selection with lead users

After the analysis (desk research, personal experience), the brainstorming, and the input of the co-creation phase, each participating student individually conceived three product concepts. The concept ideas were detailed more clearly taking the concepts of the other group members with which they soon had to collaborate into account. The supervising team selected for each student the concept that they could finalize, considering the design quality and the range or variation of solutions in one student team. Each student received feedback on this matter.

Each student presented his final design on a standard A3 storyboard concept card. Using concept cards forced students to present their ideas in a simple overview, emphasizing the main topics and aspects of their designs. Once the concept cards were finished, each student team contacted 16 respondents to test their 4 final product concepts.

2.5 Third Phase: Concept development and evaluation

2.5.1 The concept creation phase

Fifteen groups of 4 students were composed, each designing a mask for one of the four target groups. In order to be able to distinguish the consumer product preferences, it was important to control the unsought variance in the research concepts as much as possible. Therefore, the students started from a standardized storyboard concept card per group and added their own product concept and features on this standard A3 formatted card. Using these concept cards forced students to present their ideas in a simple overview, emphasizing the main topics and aspects of their designs.



Figure 4. Example of four concept cards designed by students of the same team (Arnoud Den Besten, Karen Soete, Lucas Standaert, Orlando Thuysbaert)

2.5.2 Concept test with the end-user

Sample and method

When the concept cards were finished, each student team contacted 16 respondents to test their four product concept cards. Participants were invited to a quiet location where the interview could be carefully observed. The research method can be described as semi-qualitative. Most of the questions were open-ended, but a content research on the product aspects was measured in a more quantitative way by using 5 point Likert scales.

Procedure

The four concepts were shown, as a reference, before going into detail on each individual concept card. The qualitative part of the interview tried to capture the evoked product experiences at three levels, as described by Norman (2004). It started with the first impression about the product concept and went on with the product appearance. This first impression refers to the visceral emotional processing level. After the visual aspects, more detailed product features were questioned. The expected user-friendliness of the mask was verified (breathing comfort, embarrassment of wearing it, practical issues...) and gave an idea of the expected behavioural emotions evoked by the product concept. Finally, the reflective emotions were investigated in questions about the consequences of wearing this mask on their self-image and on the benefits for their health and well-being.

The more quantitative part started by ranking the 4 concepts on overall preference. Likert scales measured the degree in which the major product aspects and user drivers were appreciated by the end-user. Respondents had the opportunity to motivate their answers.

The analyses and interpretation of the findings of the concept test resulted in recommendations for the further development of the designs and completed the project.

3 RESULTS

The overall set-up of the design exercise, the empathy enhancing activities together with the implementation of a qualitative and quantitative research phase, encouraged the students' creative and research skills. The initial immersive experience with the dust mask evoked a lot of feelings about the product and empathy with the end-users. The personas were a valid input for the brainstorm phase. The co-creation phase was reported to be very inspiring to the students and amounted to very concrete product attributes and enhancements. Many of the assumptions that the students had incorporated in their first design concepts, proved to be against the expectations of the target group. Although the final concepts confirmed stronger with the aspirations of the end-user; we did detect that some of the student's initial, more innovative and creative, ideas were rejected by the lead-users in the co-creation phase. This assumption is confirmed by a study of the Rotterdam School of Management that states that incorporating co-creation in the design cycle may decrease the level of innovation [8].

4 DISCUSSION

The introduction of the three-step framework guaranteed that the empathy aspects were incorporated in the different phases of the design exercise (analyses – creation – verification).

The immersive experience of wearing dust masks, prior to the design exercise, proved to be an excellent introduction to the theme. In line with Sanders (2008) the co-creation session was important because it stimulated students' insight in concrete product attributes that match with the actual user's motivations, preferences and emotions. It appeared that integrating the users in the design process motivated the students. Remarks on the user aspects of the design, coming from potential users, were considered as more relevant than those coming from staff members.

To increase the efficiency of future co-creation activities, it could be interesting to establish a reference or model that can place narratives of experience on a 'pleasurability' or acceptance continuum. This model should enable designers to establish valid and reliable design specifications, based on argumentations, descriptions and appreciations by the end-user.

The final concept test proved its usefulness in verifying the different design concepts, and in obtaining recommendations for further optimization.

The verification of the final concepts was not performed with realistic product prototypes. Observing and measuring the reactions of bystanders on target groups wearing prototyped dust masks, could provide stronger indications for acceptance or potential stigmatizing behaviour.

The integral focus on the user experience and empathy enhancement gave our students something that went beyond the notion that empathy with the user is important; it created an empathic awareness.

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