

## **The Hybrid Designer**

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## abstract

Between September 17 and December 14, 2007, I observed third year design students enrolled in a course at Emily Carr Institute in Vancouver, British Columbia. The course, titled *Interaction Design*, was taught and devised by Louise St. Pierre, an Associate Professor of Industrial Design. The purpose of the course was to learn and apply co-creation as a method for both graphic and industrial design students. My main question while researching the classroom was whether primary research (such as co-creation) could create new avenues to inspire the designer's creative process; and if these personal connections could be transferred onto the design itself. In other words, I wanted to see if the designer felt compelled to create design solutions that directly reflected his/her specific audience.

My report is informed by both qualitative analysis and the work of other researchers and psychologists (Dr. Elizabeth B.-N. Sanders, Dr. William Gaver and others). While Sanders promotes a participatory mindset, she has studied the landscape of different research methods and offers a wide sample of research ideas for designers. Gaver, on the other hand, emphasizes the importance of subjective design. Throughout this report, I focus on potential outcomes and benefits from applying different mindsets during the design process, ranging from an expert to a participatory mindset. While being as objective as possible is crucial at times, it is also important to be aware of the role subjectivity plays during the creative process.

As a result, I discuss the emergence of the dual researcher/designer—referring to him as a hybrid designer. There are three characteristics that I would encourage in a hybrid designer: a humble and participatory mindset; an open-minded approach to research and design; and a strong reliance on intuition. I contend that the hybrid designer's solutions could be noticeably holistic, personal, and sustainable compared to those obtained by other design methods that do not

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## preface

The research presented in this paper was directed fundamentally by a qualitative process. I offer my findings as a personal interpretation, from my perspective as a graphic designer, fully knowing that another researcher could have arrived at different conclusions. While quantitative data was unavailable, I have tried to be as balanced as possible by making my methods apparent (in the following pages and appendices), and by including all major documents that have informed my research.

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## introduction

The bulk of this paper discusses the experience of observing a third-year design course taught by Louise St. Pierre at Emily Carr Institute. I actively observed, recorded and interacted with the undergraduate class over the duration of the semester. The students were to conduct participatory design research as a method to enhance the creative process. This method of working with non-designers, namely those who benefit from the design solution, is also known as co-creation.

My background as a graphic designer and as a design researcher greatly influences my perspective on design and research in the following paper. My initial question at the beginning of the observation was whether there would be an emotional connection deriving from the personal engagement of the designer with the co-creator, and how this might transfer onto the design product. I wanted to know specifically if emotional connections between the designer and the participant would influence the designer to the point of decidedly creating an outcome that would best suit the participant. In the end, I observed that St. Pierre's students were in fact able to locate specific information owing to the personal nature of the research, and create design outcomes that reflected their participant's lifestyle. This was not true for all design outcomes in the classroom, however, and what I have further discovered is that—perhaps because of the designer's "people skills"—the level of interaction directly affected the quality of information that was gathered during the research. This, in turn, influenced how personal or impersonal final design was.

While there are vast fields of psychology and psychoanalysis yet to be explored in relation to design, the scope of this paper discusses design in the context of research as a qualitative tool for inspiration and emotional insight. It is beyond the scope of this paper to discuss the precise details of emotion and design, the psychology of affect, or transference. Nor do I mean to claim that the methods I discuss in this paper are the only or best methods to use. I merely offer the potential qualities and benefits of various first-hand, qualitative methods that celebrate collective creativity and personal engagement as a designer. My hope is to connect primary research with qualitative outcomes.

Furthermore, I do not contend that all forms of research, which may include questionnaires, phone interviews, focus groups, market research and analysis of statistical data will inevitably lead to anti-humanist designs. The aforementioned methods also seek to involve the user or audience in some kind of role for the design process, but they do not necessarily seek to explore the personal and intimate

lifestyle contexts of the audience that primary research—such as co-creation—can offer. Some will even say that focus groups can skew outcomes to the point that accurately predicting the audience’s response becomes problematic. Participatory research, on the other hand, could offer a deeper and wider context to which the designer can refer during the brainstorming phase. By getting to know the audience first in their life and context, before product development, one could avoid flooding the marketplace with unwanted solutions that fail to meet the real needs of users.

I focus on the findings of two individuals who have been published extensively on their own research methodologies for designers: Dr. Elizabeth B.-N. Sanders and Dr. William Gaver, who are both widely known among groups of industrial designers and architects. However, their work does not overtly relate to the field of graphic design. Sanders practices and promotes participatory design methods, highlighting the importance of working closely with non-designers to inform the outcome of the designed object or system. Gaver, too, works with people, but his approach largely investigates design as a research tool to provoke and inspire. I appreciate Sanders’ approach to design, since it requires the designer to see everyone as “creative.” This outlook can seem disquieting to the practicing professional, since it contradicts how designers are typically taught—to think of themselves as creative leaders.<sup>1</sup>

Cognitive psychologists label the traditional designer’s outlook as an example of an “expert mindset”.<sup>2</sup> Sanders argues, however, that with a “participatory mindset”, designers are able to gather interesting and generative material.<sup>3</sup> Sanders’ map of differing mindsets refers to the varying degrees of possible attitudes or dispositions one holds about him- or herself while conducting research. The mindset can often imply the researcher’s intentions or inclinations during the interviews. For instance, a researcher with an expert mindset seeks to validate a premonition or previously devised hypothesis, while a researcher with a participatory mindset seeks to discover the questions and answers with his participant during the interview. Through hands-on interaction between the designer and the co-creator, new and interesting information is gained, feeding the design process in novel ways.

Gaver, too, provides a fresh perspective that challenges the current role of design. He maintains that design shouldn’t always focus on “solving problems” as this

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1. McCoy, *Education in an Adolescent Profession*, 4.

2. Schon, *The Reflective Practitioner*, 300.

3. Sanders, “Collective Creativity,” 1.



only promotes functionality and efficiency. While this is nothing new, Gaver insists that the qualities of fun and play must also be intrinsic to the design outcome.<sup>4</sup> He maintains that the design we surround ourselves with should value the playful and peculiar side of being human just as much as we value the logical and efficient. What is new, however, is the importance he places on valuing both sides of humanity—the rational and irrational—as they should both be given equal weight in the design process. Typically, his final design solutions critique current design. Most of his designs fall within the realm of critical or ambient design—objects that are made to make one think, play or ponder. They are made to delight and interact with the environment instead of serving a purpose. In short, they equally engage our eccentric and quirky side just as much as our logical and efficient side.

My experience as a research intern at Ziba Communications in Portland, Oregon, also influenced my viewpoint on this research. For three months, I studied and worked as a designer in the research department. It was an experience that opened my eyes to the life and viewpoint of social researchers who have built their careers largely on rigorous academic discourse and study. Many of my co-workers held doctorates in psychology and anthropology, and often provided a wealth of information. Because of my time at Ziba, I realized that researchers and designers have much more in common than I previously thought—research can be a creative process that requires sensitive observation skills. The research process is similar to design in many ways and this revelation has largely influenced my analysis.

## goals of the research

As I've previously stated, the bulk of my thesis centres on the observations of a classroom conducted in the fall of 2007 at Emily Carr Institute. The class was a mixture of graphic and industrial design students. The course, *Interaction Design*, was both taught and conceived by Louise St. Pierre, an Associate Professor of Industrial Design. St. Pierre set the course so that teams of students would interact with non-designers, to interview and gather information that could then become fodder for the creative process. The goal was to devise and create a design outcome that would fit into the life of the co-creator(s). This method, also called co-creation, falls within a subcategory of participatory research methods, in which the designer and the participant create something together with equal creative status.<sup>5</sup> During my research, I began to notice differences in how the teams approached

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4. William Gaver and others, *Subjective Approaches to Design for Everyday Life*, 11.

5. Sanders, "Collective Creativity," 1.

their research method assignment. Those who incorporated a receptive mindset with their co-creators proved able to create design outcomes that embodied humanistic qualities—those pertaining to a specific person, namely the user, by valuing or dignifying him/her and his/her welfare; whereas those who appeared to lack confidence—that is, a belief in oneself and one’s abilities, with an emphasis on self-assurance—seemed to lack rich and insightful information from their research process.



**FIGURES 1–3**  
Examples of the distributed surveys

My objectives for the research were to examine the connection between the designer’s mindset throughout the research and design process. I was specifically interested in how personal interaction inspired the designer’s analytical and form-giving process. By shifting the focus from gathering quantitative information or statistical data to gathering qualitative information—the character or the essence of the data—the students were able to cull personal and meaningful insights directly from people who would benefit from the final design. Through this personal interaction, the findings not only enabled the designers to “problem solve”, but also to be personally inspired, and potentially to feel compelled to create specific design outcomes that reached their audience not only on a functional and needs-based level, but also on an emotional level.

10 I simultaneously investigated other sources and authors who have written extensively about creative process, the mindset and social research. This secondary research reinforced and influenced my analysis of the classroom observations—that designs which are personal and humanistic could potentially be longer lasting and more sustainable than those that are based on secondary research. These results led me to wonder if designers could be encouraged to adopt a practice that values both the humanistic and efficient qualities of the design practice. A designer who is confident, socially tactful, creative and reflective is more capable of successfully

working as both a researcher and a designer than one who is not. Throughout the paper, I will refer to this designer/researcher as the hybrid designer.

In the conclusion, I cross reference other authors who have led me to pinpoint three important aspects that seem to be necessary to a hybrid designer's methodology: they will need to be self-aware, humble and confident; they will have to value other people's creativity; and they will have to learn to rely on their intuition. The outcomes of these methods could potentially bring about human-centred design solutions that are meaningful, personalized and holistic.

## influences and other related material

Although participatory design research has been in place since the sixties, the type of co-creation I am discussing was chiefly pioneered by Dr. Sanders.<sup>6</sup> Her approach to research has been praised and critiqued by many practicing designers, mainly because her method challenges the notion of authority and authorship in the process of design. Even though designers have challenged many roles over the course of time: designer-as-author; designer-as-critic; designer-as-business-consultant; they are facing new and complex challenges today. In short, designers are not the only ones shaping culture, nor are they the only ones "designing". Designers that learn research methods similar to those proposed by Sanders, can become collaborators with non-designers, and can learn to work together as creative equals. This collaborative process will only strengthen the design profession, not compromise it.

Dr. Sanders adamantly states that all people are creative.<sup>7</sup> Her co-creation methods focus on working with people immediately, at the beginning of a design process. Her model challenges the traditional notion of research in which designers produce prototypes first and then test the almost-final designs on the public. While validation is an essential part of the design process, I would argue that the mindset of the designer in this scenario is troubling. The traditional approach does not see everyone at the same "creative" level. Design research coupled with a human-centred approach assumes that other stakeholders must influence the end result of

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6. Laurel, *Muscular Design*, 28.

7. Sanders, "Collective Creativity," 1.

the design. An expert mindset does not necessarily integrate others' views into the final design; and I would argue that this is a detriment to the design practice.

William Gaver is a cognitive psychologist working as a Professor of Design at Goldsmiths College in London. In 1999, Gaver first presented his research tools in *Interactions* magazine, calling them “cultural probes”.<sup>8</sup> The tools highlight subjective and peculiar interactions—probes provoke people to act through various designed tasks and events. The cultural probes were invented as a tool to allow Gaver to research a group of people, but instead of collecting and analyzing the statistics, he asked his subjects to merely play—to collage, to write postcards, to take personal photographs and then to return the results to him. As Gaver says, probes allow one to imagine new possibilities by understanding people intuitively through quirky and personal engagements.<sup>9</sup>

What is particularly interesting about Gaver's research is the value he places on the personal and the subjective. Gaver's reflections on research and design are refreshing: to be as playful and subjective as possible is not a detriment, but an advantage to design and research.

. . . the danger of seeking to find design opportunities that are clearly relevant for the widest possible range of people is that the results are not very interesting to anybody. As an alternative, it can be useful to focus design efforts around the particular needs and interests of one or a few people. The resulting designs are likely to embody a strong point of view or narrative, which like a powerful story will find widespread appeal despite being focused on a particular time and place.<sup>10</sup>

12 In many ways, Gaver's attitude upholds socially sustainable practices; his work focuses on designs that enhance the human experience. His designs provoke people to think twice about their world, as they often tend to critique or make a statement about their own function. He emphasizes the importance of play while also contradicting notions of efficiency—defined as the ability to do something for a specific purpose or to achieve a desired result without wasted energy or effort. I consider Gaver's methodology a holistic one, since he places equal weight on all aspects of humanity, saying that we should focus on the “wide range of experiences we share as humans—not to restrict ourselves to those aspects of our experience that are relevant for work, or those that can be measured empirically, but to attend as well

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8. William Gaver, Anthony Dunne, and Elena Pacenti, “Cultural Probes,” 21–29.

9. William Gaver and others, *Subjective Approaches to Design for Everyday Life*, 21.

10. *Ibid.*, 16.

to the individual, the quirky, the speculative and the subjective.”<sup>11</sup> Continuing, he says that we, as human beings, are always equally engaged in efficiency and play. One is not more important than the other.<sup>12</sup> I appreciate Gaver’s take on research as a dignifying approach that embraces the entire spectrum of our human tendencies.

## the importance of the research

The research and the findings could not be any timelier; as global issues of consumption and waste have grown, the cycle as it currently exists cannot be sustained for much longer. Long-term solutions for day-to-day dealings must be reconsidered, not only in the interests of the environment but also for the good of society. Now is the perfect opportunity to redefine how designers work and think.

Sanders’ view is that designers could help become part of a positive solution. She insists that, in the near future,

Designers will be the creators of scaffolds or infrastructures upon which non-designers (such as users) can express their creativity. Designers will learn how to access and to understand the dreams of ordinary people in order to create scaffolds on which everyday people will come to experience their dreams.<sup>13</sup>

Sanders’ premonitions are not too far off. Silje Kamille Friis recently studied and analysed four companies that worked differently from the traditional service-based practice, and wrote about it in her doctoral dissertation, *Conscious Design Practice as a Strategic Tool*. By observing companies like Humantific and IDEO, Friis suggests that design can be broken into three different areas:

‘*Design as Product*’, ‘*Design as Process*’, ‘*Design as Transformation*’. ‘*Design as Product*’ refers to the traditional way of thinking about design: as an outcome or solution to a particular problem, whether in the form of physical products, communications, interactions or experiences. ‘*Design as Process*’ broadens attention from what is designed to how it is designed. Stakeholders are invited onboard the process, contributing with knowledge and experience and learning from the process. Design processes are explicit and the consultancy devotes effort to rethink and rearrange processes to suit a wide variety of design tasks, acting like facilitators of process. ‘*Design as Transformation*’ [focuses] on the proactive innovation capability of the organization. Advocates of ‘*Design as*

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11. Ibid., 13.

12. Ibid., 13.

13. Sanders, “A New Design Space,” 1.

*Transformation*’ emphasize the importance of teaching design process skills across the organization and build cross-disciplinary leadership.<sup>14</sup>

Friis’ order of definitions can run chronologically as well; where ‘Design as Product’ is the oldest method, and ‘Design as Transformation’ is the newest. This new field of ‘Design as Transformation’ is exciting since it incorporates a multitude of cross-disciplinary, complex, humanistic approaches and innovative research methods. One of the methods often used, of course, is participatory design.<sup>15</sup> In the near future, the hybrid designer will be a commodity as he combines two complex disciplines:

Designers will be integral to the creation and exploration of new tools and methods for generative design thinking. Designers in the future will make tools for non-designers and designers to use to express themselves creatively. In the future, the designer may very well become synonymous with the design researcher as more and more design-led approaches to design research are developed.<sup>16</sup>

Sanders goes on to say that much of what designers do already can be applied to this new area: “By selection and training, most designers are good at visual thinking, conducting creative processes, finding missing information, and being able to make necessary decisions in the absence of complete information.”<sup>17</sup> To imagine a new model considering the needs and the importance of the hybrid designer opens up an essential and unexplored area of research and design pedagogy.

## the context of research methods

Many, but not all, graphic design programs in North American universities and colleges favour a traditional approach, meaning that they tend not to integrate cross-disciplinary curricula with other non-designers into their design courses. Katherine McCoy explains one popular model:

14 The early luminaries of graphic design that today’s design history books venerate were nearly all self-taught visionaries who relied on their exceptional creative abilities to produce their design solutions—landmarks of originality, power and inventiveness. In fact, this early reliance on the individual’s brilliance remains a significant value among many designers today. Through the years, any education policy discussion at a graphic design professional organization

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14. Friis, *Conscious Design Practice as a Strategic Tool*, 4.

15. Sanders, “A New Design Space,” 2.

16. Elizabeth Sanders and Pieter Jan Stappers, “Co-creation and the New Landscapes of Design,” 11–12.

17. *Ibid.*, 11.

board meeting usually included forceful comments favoring the continuing tradition of the self-trained graphic designer as the best source of innovation and excellence.<sup>18</sup>

Considering recent environmental and economic developments, this model of design could be argued to be dying out against the demands of society. People are more involved than ever before with design—they are designing their own shoes, writing their own blogs—countering the traditional “design” system. Designers have to contend with the growing design literacy rate of a society not formally trained in design, but well-versed in it, nevertheless.<sup>19</sup>

Even though the aforementioned design method has a place, it is not the only method worthy of design pedagogy and practice. Bryan Lawson insists that the future role of designers cannot afford to disregard the benefits of working with non-designers:

The first role is essentially conservative, centred around the continued dominance of the professional institutions. In such a role designers remain unconnected with either clients or makers. They passively await the client’s commission, produce a design and withdraw from the scene. There are already real problems with this approach . . . The opposite to this conservative approach is to actively seek different structural changes in society but which also would result in the end of professionalism as we know it. Such a revolutionary approach would lead the designer to associate directly with user groups.<sup>20</sup>

Some pedagogical models have started incorporating these societal movements into the practice of design; these are often referred to as participatory design, co-creation or ethnographic design research. While designers are beginning to assimilate these methods, it is a slow process. There are also disparities among the community of designers. Richard Buchanan, a prominent designer and educator, discusses how design became so disjointed:

Design was separated from the intellectual and fine arts, leaving it without an intellectual foundation of its own. Therefore, instead of becoming a unifying discipline directed toward the new productive capabilities and scientific understanding of the modern world, design was diminished in importance and fragmented into the specializations of different types of production, leaving its connection with other human enterprises and bodies of knowledge vague and uncertain.<sup>21</sup>

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18. McCoy, *Education in an Adolescent Profession*, 4.

19. Pink, *A Whole New Mind*, 75.

20. Lawson, *How Designers Think*, 29.

21. Buchanan, *Rhetoric, Humanism and Design*, 34.

New methods of design research—where designers work closely with non-designers—could potentially transcend this dilemma. These methods could further promote business models that place importance on customer well-being, overall human welfare and quality of life as positive selling points. The time is ripe for designers to embrace holistic methods throughout their process.

## description of research

Throughout this paper, I link creativity to confidence, discussing the benefits of personal engagement through primary research. Confidence, by definition, refers to a feeling of certainty, self-reliance and assurance; while creativity is the ability to design things that show imagination and originality (as well as skill in the craft). I link the importance of confidence with humility in a designer as researcher. I do not see humility as a weakness; it is the act of having or showing a modest estimate of one's own importance.

A researcher who is sufficiently comfortable with himself to focus on his participant may be said to manifest humility. Through personal interactions, one can gather intimate information about someone, getting to know them in all their eccentricities and distinctive behaviours. I refer to personalized design as something that is not only custom-made, but more importantly, deeply related to the person's life and situation. This could mean emotionally-embedded designs, or designs that speak to a specific audience.

When I discuss a design as being either specific, personal or custom-made, it refers to a design that is distinguished from others—one that is definite and tailored to suit a detailed situation or niche. The result is often innovative, meaning it offers a new way or process of doing things. I speak of a holistic or humanistic approach, which simply means including or involving all of something (in this case, all relevant aspects of being human), especially relating to all of somebody's physical, mental and social conditions, not just to one particular aspect of human needs. I refer to this as a humanistic approach, meaning one that concerns itself with human affairs, seeking to promote human welfare. I do not intend to say that other methods of design do not already achieve humanistic tendencies, I merely offer to discuss this research method as one that can lead to design outcomes with humanistic qualities.



The study involved observing the learning process of sixteen third-year design students—equally split between communication and industrial design. Under the direction of St. Pierre the students were told the intentions of the course: they were to work in teams; they were to meet with their co-creators at least twice over the semester; and they were to learn and expand their understanding of working with non-designers. Some students worked with family friends, acquaintances, or strangers through Internet community posting. The teams were to interact personally with their co-creators, to gather information and insight, and then to create a design solution derived from the research. The outcome was to be open-ended—it didn't have to fit a specific parameter—either as a graphic or industrial design solution. The students were to choose what was appropriate from the research.

Dr. Sanders herself visited the class for a day. In the workshop she led, she disseminated her co-creation tools and taught the students her method of working with non-designers. Although St. Pierre referred to Sanders' methods over the course of the semester, the curriculum and design of the course was wholly a creation of St. Pierre. In the end, the students were to design their own solutions within their groups, relying less on their co-creators at the end of the project than at the beginning.

My field research was conducted between September 11 and December 15, 2007.<sup>22</sup> Over this period, I taped and recorded the discussions held in class as well as outside of class in one-on-one interviews. Sometimes the questions were asked quickly while passing the students in the hallways. Other times, we would meet at a café and discuss at length their ideas surrounding co-creation. I also distributed a series of four surveys over the course; most of the questions were to be ranked on a scale from one to seven. They rated their level of agreement according to this scale. (See appendix, Tables 2–5) By asking the students the same questions over time, I was able to track how their opinions evolved. I oscillated between expert and participatory mindset throughout the course. During the class, I learned alongside the students, trying to be seen and understood as an equal. In my analysis, I assumed a role of expert mindset as I sought to interpret and present the data.

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The students varied in age from 19–24 and were well into their specific fields of study. It seemed to me that they had already started to develop an idea of design

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22. The class was conducted with sponsorship from an outside telecommunications corporation. The participation of this company was enough to influence the outcomes of the design, as well as the students' behaviours. I will say, however, that the students had minimal contact with the corporation, and I did not think it was detrimental to the findings. I do note at times when this outside body influenced the students; but since its impact seemed minimal, I did not focus on this facet of the class, and feel that it is outside the scope of this research.



from two years of previous experience in the school's design program, as many had said that St. Pierre's class was a new frontier in their conception of design.

**FIGURES 4-6**  
Photo documenta-  
tion of the *Interaction*  
*Design Class*

The nationality of the students varied: nine students were from North America or Europe; while the other seven were from Japan, Korea, Thailand and China. For half of the students, English was a second or third language. Many had come to Vancouver specifically for the purpose of studying at Emily Carr Institute. It became clear to me that culture did play a role in how these students conducted their ethnographic research and how they worked in teams, as I will discuss later on.

Some of the students were curious to hear what I was observing and expecting to find, while others were delighted to discuss their own notions about the future of participatory design methods. Since the students were to create their own projects based on the interaction with their co-creators, the students often mentioned how they felt like fish out of water simply because some parts of the co-creation method required learning a different procedure. In general, the reaction was positive as the students commented on how refreshing it felt to learn a new technique.

My goal was to interview and observe the students as they progressed through the semester—watching them move from learning the method, to applying it to a real-life situation and finally to completing their projects. I attended almost every class with them, acting as an active participant and observer—positioning myself in the midst of the experience with them. Sometimes the instructor called on me to share my perspective, but I was mostly involved with the students on their level. They were aware that I was researching them, but that didn't stop them from treating me like a peer instead of as a distant observer. This relationship allowed me to progress alongside the students and have access to their genuine revelations and observations of what they were learning as the course evolved.



## outline of the course

My observations outline the chronological flow of the course *Interaction Design*. For the sake of anonymity, I have changed all names that appear in this paper. The five teams were divided by St. Pierre at the beginning of the course, and they stayed in the same teams throughout the semester. St. Pierre worked hard to divide the members equally between the different design backgrounds as well as personal characteristics. For instance, each group consisted of at least one extrovert and one introvert; one graphic designer and one industrial designer; and so on. I list their names in the order that they appear in my findings: Teams A, B, C, D and E. In my observations, Teams A, B and C were equally creative, confident and socially sensitive to their co-creators. Teams D and E, however, displayed, at times, an approach that appeared to complicate their creative process. Team D focused heavily on practicality, closing creative avenues too quickly, while Team E seemed to dismiss the advice of St. Pierre, preferring to carry out their own desires. As a result, Teams D and E's behaviours displayed expert mindsets.

Because of their personable approach to co-creation, I argue in all likelihood that Teams A, B and C created novel solutions that were both meaningful and specific to their co-creators. The teams' designs demonstrated the strengths of a creative and personal approach throughout the research. Meanwhile, Teams D and E did not devise ideas that were specific to their co-creators' needs. These two teams demonstrated how an authoritative approach could cause significant setbacks, roadblocks and complications in the participatory design process.

St. Pierre structured most of the class time for individual and group meetings in order to discuss ideas with students. She would meet often with the groups individually to discuss concepts and brainstorm. Over the semester, the students were required to:

1. Find at least one co-creator.
- 20 2. Design a workbook and deliver it to the co-creator.<sup>23</sup>
3. Create a toolkit and prototype.<sup>24</sup>
4. Bring the toolkit to the co-creator's house and work on it together.
5. Synthesize the information from the interview and present it in class.

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<sup>23</sup> In Sanders' model, the workbook acts as a primer for the co-creator. It is merely a tool to engage the co-creator's thoughts and memories in relation to the topic—in this instance, healthcare. It is simply intended to prepare the co-creator for the interview and toolkit session.

<sup>24</sup> The toolkits are made up of elements to collage/create with—abstract images, phrases and shapes that do not represent anything specific. Because the images are abstract, it is easy for people to provide their own metaphors or meanings for them. In other words, the co-creators find images that represent an idea, which allows them to tell stories and discuss how the images relate to them. The toolkit is an opportunity for designers to access people's aspirations and dreams.

6. Develop three scenarios for potential design solutions arising from the co-creation.
7. Choose the best design solution and refine it.
8. Prototype, refine, and role-play the design.
9. Share the findings with the co-creator.
10. Present the final solution in class.

At every turn of the process, the students worked cohesively as team members and as a class, perhaps because they spent several hours a week together, presenting their experiences/findings to one another. Even though each team experienced its own setbacks and successes, they all seemed to spur one another on in an encouraging environment.

## the teams

What occurred in class seemed to be an intuitive leap for many of the students. Since design is, oftentimes, an intuitive and investigative process, many students adapted their design process into the research process.<sup>25</sup> Design hinges on designers' abilities to dream, conceptualize and imagine how the audience might react to their work. In other words, designers are often intuitively imagining their audience. For other teams, learning to adapt to a new process was not as easy. As I observed each team, I began to notice differences between those students who were more socially skilled and those who were shy. As well, the level of engagement the students had with their co-creators began to be reflected in the depth of information they received from the interviews. This meant that the quality of the research also seemed to relate to the quality of the design concept. For instance, the more socially confident the teams seemed to be, the more they were able to

**FIGURES 7-9**  
Prototyping the  
toolkits in class



<sup>25</sup> Lawson, *How Designers Think*, 119.

personally relate to their participants. They were genuinely interested in their audience, and they grew to know them more through personal and friendly engagement. These groups were able to cull meaningful stories from the participants that may have compelled the students to implement into their process. On the other hand, the students who limited themselves in the research process were also less likely to create imaginative ideas. It seemed that the less confident they were while researching people, the less likely they were to research effectively, and the more likely it was for the outcome to fail to be connected personally to the co-creator.

From my experience at Ziba, I have learned that successful ethnographic research requires fundamental social skills—the ability to empathize and to draw out personal stories. (William Reese, pers. comm.) Differences between each group’s use of these social skills became apparent at various times during the semester.

In my analysis, I refer to Schon’s definitions of Expert and Reflective Practitioners. Similarly to Sanders’ definitions, Schon describes the Expert Practitioner as one that presumes to know the answers and views his or her research as a method that will validate what he or she already knows. A Reflective Practitioner, however, does not presume to know any answers before conducting research, and enters his engagement with his users as equals, with the understanding that they will both learn something new from the interaction.<sup>26</sup>

I measured creativity through the students’ abilities to use their imagination and experiment freely amidst uncertainty. I watched as the more creative teams “played” with their projects and looked at the solution from many different angles. I assessed confidence by considering their self-assurance and social poise.

In my summary, I will propose that a participatory mindset is more likely to produce a customized, meaningful and holistic design solution. I will draw a correlation between solution and mindset, pointing to positive outcomes from a creative, confident and humanistic approach. Before I share my findings, I will first discuss each team’s methodologies and outcomes individually.

22

## team A

It seemed that each member of Team A was personally interested in learning the process of co-creation. Over and over again they said they wanted to “get to know

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<sup>26</sup> Schon, *The Reflective Practitioner*, 300.

[their] co-creator.” Team A had high expectations—both for the learning process and the outcome of the design to benefit the co-creator. All of the members of this team seemed to take responsibility for their education, and were personally invested in learning how to conduct design research appropriately. One team member responded, when asked if she thought her perception of design would change during the course, “I’m not sure but I hope that it will because that’s kinda the idea behind going to school [*sic*]. I wouldn’t consider my education a success if my opinions/understanding didn’t change dramatically over the span of this program.”

At the outset the team members displayed thoughtful approaches to the class, being aware of the challenge ahead of them yet willing to learn new things about the process and themselves. When asked if they thought self-awareness would be important during co-creation, one member pointed out that “awareness is key—I think it is crucial. You need to be aware to make informed decisions. It might be good to be less informed in some aspects, but I think awareness is key.”

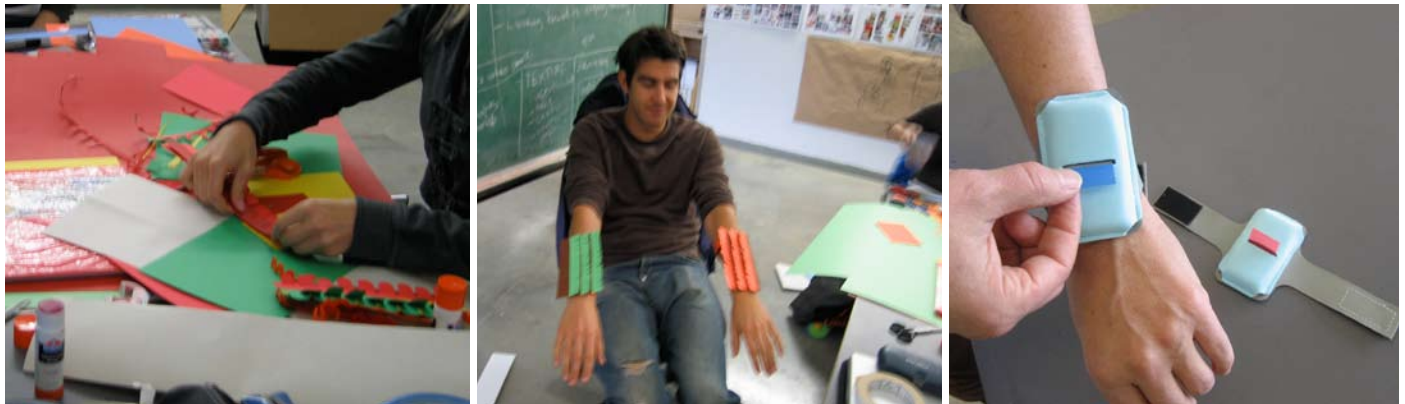
Another member discussed how he saw the process as a benefit, although he was scared of working with people. He saw that the overall goal of the research was to “bridge us and them,” meaning that the process integrated the relationship of the designer with the co-creator. Continuing, he says, “Originally, you wouldn’t even think about doing something with someone else and being able to relate it for real to someone; as opposed to getting a bunch of information from the Internet, and then creating something from that. [Prior to learning this process] I would have read about it or looked on the Internet—just about anything instead of going straight to the source. I don’t know why. I think I would have been too scared. Interacting with people can be troublesome, they don’t give you the facts straight up, they take ambiguous sides. It’s hard.”

23 Team A’s focus was on caregiving. They started working with a man named Chris,<sup>27</sup> who was diagnosed with multiple sclerosis. Chris was confined to a wheelchair and had lost some of his cognitive and mental abilities. Through the team’s engagement with Chris, they met several times with his caregiver, Steven. By the midpoint of the semester, Team A ended up with two co-creators: Chris and Steven. Meetings with both men happened frequently—probably the most frequently of any group—since they had many complications and design parameters to work around. Perhaps because of the number of times that they visited Steven, this team formed a personal relationship with both men, but mostly with Steven.

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27. All names have been changed for anonymity.

Team A realized early on that they would have to be creative in designing the workbook, since Chris's cognitive disabilities would interfere with complete understanding of the questions, let alone with writing down answers. Even the simple "primer" became a massive design hurdle. Team A wanted to learn about Chris's ability to communicate his needs and wants. They wanted to ask him if he felt understood when he communicated. By giving him two 'bracelets', one for each arm, they enabled him to easily pull a tab from the left arm (if he felt misunderstood) and one from the right arm (if he felt understood). The team would then count the remaining tabs on the bracelets to assess whether his interactions were mostly positive or negative. By devising a simple system that suited Chris's abilities and required only limited cognitive skills, the workbook alone was a design feat. (See figures 10–12)



After the workbook sessions, Team A realized they needed to focus more attention on the caregiver, since Chris was not able to clearly articulate or convey his thoughts. More meetings with the caregiver helped the team to devise a few successful scenarios. They wanted to design something that would help Steven understand Chris better. Team A set out to devise a system that would transmit emotional readings through biofeedback between the caregiver and the client.

**FIGURE 10**  
Team A making  
prototypes

**FIGURE 11**  
Student demonstrat-  
ing a paper prototype

**FIGURE 12**  
The final wristband  
for Chris

24 At the end, Team A presented *Sensimo*, a device that reads emotions and displays them through changing colours. Figure 13 shows how the device would look: the caregiver and the client would each wear a bracelet. (See appendix, Table 6) Through these two bracelets different colours that coincide with an emotion would be sent and displayed. The device offered a one-way conversation between Chris, the sender, and Steven, the receiver. The sender's emotions would be discreetly displayed on the receiver's device. Team A continually said that they did not want Chris to feel like a science project—they were intently interested in both of their co-



creators' health and well-being. One of the members said during class studio time, "The primary motivation is to enable Steven to do a better job—or have a better relationship. It's about communication and relationship—so it's more than just communication. It's to feel a connection, [I want] to be clear that [we aren't just] finding out if he's hungry or not."

By the end, Team A team had created something very personal—which was a criterion they had prioritized throughout the course. They consistently agreed (through surveys) that empathy was an important part of the process. One of the members wrote, "I feel I've gained insight to the emotional state of the co-creators that I couldn't have gotten otherwise and will hopefully be able to generate more personal and empathetic solutions. I could probably have gotten some idea of the emotions surrounding the relationship but it would have been mostly based on my assumptions."

Teams A's ability to think imaginatively and confidently about their process was of utmost importance. Not only did they work hard; but they also worked as equals. It is one thing to be able to create something that is beautiful. It is yet another to create something that is appropriate, imaginative and enjoyable for someone else. I would even argue that by working intimately with Chris and Steven, Team A could possibly have improved the quality of their relationship because of this simple device. The group had a good mixture of imagination, confidence and creative ability (and the dedication to complete and succeed at the assignment).

**FIGURE 13**  
Sensimo: Team A's final design



Of all the groups, Team A's creative process skills were demonstrated most often over the course of the semester—they were highly devoted to sketching, brainstorming, and role-playing their co-creators' situations. Ultimately, they designed a device that emphasized relationship instead of efficiency. Team A's solution significantly underscores Gaver's point about applying a personal and subjective design method. Even though the team only worked with two co-creators, their solution, *Sensimo*, could easily suit a larger group of people with various needs.

## team B

In their toolkit session, Team B discovered that Kathy, their co-creator, had recently received her certificate as a nutritionist. Throughout the course, they continually demonstrated a humanistic approach to the design research method as they engaged and interacted with Kathy in ways that were both fun and playful, but that also resulted in insightful and rich information. At the midway point when the teams were to present some scenarios from the information they had gathered, Team B truly outdid themselves. They presented extremely creative scenarios, from a diet device that would display nutritional content just by photographing the food, to a T-shirt that showed the action of the digestive tract after each meal.

By the end of the design process this team focused on a product that would fit into their co-creator's life as a new business tool. They accordingly proposed a software

**FIGURE 14**  
*Elsa*: Team B's  
final design



application that would allow Kathy to communicate with her clients on a personalized basis through a software application. The application would be tailored to each of her clients and their specific nutritional needs. (See appendix, Table 7)

This group remained adamant that their goal was to meet and suit the needs of their co-creator. It was encouraging to see to what extent they maintained this position in their work. They, too, continued their connection with their co-creator almost as frequently as Team A—even role playing a scenario in public with her.

When asked if the interactions with their co-creator affected the creative process, one member wrote, “Kathy really helped with a general direction for the project, and also opened up the way for a new course of action.” Another member said that his creative process was positively influenced by the co-creation: “I think it allows me to really experience who the user is—and therefore become more connected with the design process.” Whether co-creation helped to generate new ideas, he said, “I absolutely agree, with a co-creator it’s easier to see scenario situations because you can visualize real people.”

## team C

Although they seemed shy, Team C proved socially adept over the course, which was not initially apparent. They extensively researched ways of communicating with their co-creator, Amanda, who had only eight percent vision. The workbook consisted of instructions printed in Braille and a recording device that Amanda could speak into, which made completion of the workbook tasks easy for her.

When Team C approached this project, they, too, commented on the personal understanding and relationship with their co-creator. The team opened up to Amanda, remarking repeatedly that visually impaired people are more independent than they had previously thought.

27

After the workbook, Team C devised the toolkit to incorporate textures and stickers instead of visuals. Amanda quickly adapted and used the textured stickers as metaphor to tell her stories. For instance, a sticker (instead of an image) would represent an emotion or experience. Amanda would pick a certain texture, perhaps something rough like sandpaper that could be used to describe her day as being difficult or bumpy. A glossy heart sticker could conjure up ideas of hope, love,



**FIGURE 15**  
Team C's workbook  
in Braille

**FIGURES 16 AND 17**  
Various textures and  
stickers for Team C's  
toolkit session

or something that was smooth or easy. What Team C learned from this interaction was not what they were expecting. In fact, this was a high point for them—Amanda presented herself as very “normal”; she was able to do many things on her own, even without the guide dog. After this meeting, Team C realized they were approaching Amanda with preconceived notions. They once commented in class that Amanda was surprisingly capable of living independently. By the end, this team had a very different view of the blind community, making fewer assuming comments. Team C challenged their own assumptions to prevent themselves from hindering the creative process.

The most successful of their various scenarios turned out to be a signage system that would be placed around town as a personal posting reference for the visually impaired. Amanda had frequently commented how she could not walk around at night because of her difficulty seeing, even with her guide dog. Despite her limited vision, she still relied heavily on it during the daytime. As a result, Amanda would often have to plan her day so that she was home by sundown. Team C referred to their idea as a “Hansel and Gretel” signage system—referencing the fairy-tale where the two children, Hansel and Gretel, leave a trail of bread crumbs behind them in order to find their way home again. In the same vein, the signage system would allow for the visually impaired to post personal notes on the signposts.

28

These could consist of various personal or community reminders concerning a specific neighbourhood or directions for themselves to find their way home. (See appendix, Table 8)

Even though the signpost became their final design product, they went through several iterations. At one point they wanted to take away the posting system and include a generic city map instead. I thought this was a slight derailment from the original purpose, as the posting system was poignantly effective in empowering the visually impaired community to become more independent. Team C even went



as far as to prototype a model that disregarded the posting system. It resembled the sort of urban map one might find in any city. The more the posting system incorporated everyone's needs, the less meaningful and powerful it seemed. Other students commented on how mundane the post looked without the personalization aspect. St. Pierre nudged the students to consider what it meant to design something that empowered those who were generally disregarded and overlooked. The entire class encouraged them to remember their co-creator, and Team C eventually went back to their original idea.

**FIGURE 18**  
Team C presenting their finished toolkit to class

**FIGURE 19 AND 20**  
Team C prototyping their ideas with the rest of the class

Like Team B, Team C tested a prototype in public with their co-creator. Amanda enjoyed the interaction and had helpful tips to improve the design, which Team C did implement. In the end, when asked if co-creation was a generative tool for her thought process, one member agreed that the experience positively affected the outcome, exclaiming, “because we’ve learned more details about her specific issues! Maybe some only apply to her but some do apply to others. Then we also learned the cause and effect according to her experience. I think our design should be specific to her.”

29

The same member also said that a designer should be a “people person”, adding, however, that “It doesn’t really matter as long as they are adaptable . . . Being able to talk to strangers about random things and make them comfortable is a very important skill for a designer who wants to work with participatory design research methods.” She also had very insightful comments about the learning outcomes of this course. In one of the last questions of my survey, she wrote about what makes a good designer: “someone who can turn simple things into meaningful objects.” In her opinion, the point of participatory design was “to not make a ‘crap’ product, but to make something that actually works, something that is useful.”



**FIGURE 21**  
*Braille Track: Team C's final design*

Meanwhile, another member of the group agreed that the information from the toolkit session helped him generate new ideas that he never would have thought of before this process. He added, “Amanda gave us specific problems and helped us pinpoint the design to a certain extent.” He also responded that he felt very strongly that co-creation was a worthwhile experience. He further agreed that the information gathered could positively affect the creative process saying, “All the problems for the design process are found from the co-creator’s words.”

When asked if the relationship affected the result, the last member said, “Yes. We had a good time with Amanda. We felt comfortable contacting her and enjoyed chatting with her.” I asked what she thought the point of participatory design was, she responded, “It’s more humanistic, so it’s more about the person, not the numbers or the data. Also, it’s more personal and specific.” I asked her if a designer had to be a ‘people person’. She replied, “Yes, because you’re designing for people! You don’t have to be extroverted or a social butterfly, but you have to care about others. Be passionate about your work and envision that the product will help people in a big way. Design is for people.”

30

## team D

The most striking characteristic about Team D was the unbalanced dynamic of the group. Even though there were four individuals, they did not work equally. One member in particular seemed to control most of the decisions. This dominant per-

sonality kept the members focused on practicality, feasibility and budgets, which quickly derailed the creative thinking.

The same student also had a specific agenda, which often enough would contradict the intentions of the course. When asked why she decided to take this class, the response was apathetic: “I was moved up to third year after the first week of school and there weren’t many classes I could get into. The head of design recommended this class because I have a strong background in sociology and psychology.” I also asked if she thought she’d get along with her co-creators, to which she responded, “Does it really matter whether I like them or not? I think it comes down to whether we will be able to get some good information or not.” Over time, this mindset became alarming, as I watched it become a hindrance to the entire group.

Frequently this group discussed how “everything has already been designed in the healthcare world.” In order for this group to feel that their idea was worthwhile, it had to appeal to as many people as possible. Somehow they did not see the importance of making something specific for one co-creator. At times the team appeared in danger of drowning in their own limits.

I wondered if their short-sighted approach prevented them from getting to the heart of the matter—by getting stuck in the details, by trying to meet as many needs as possible and by assuming that the toolkit session was not an important part of the process. They hardly ever talked about specific life stories or examples they could have gathered from the toolkit session. The dominant student commented, “I somewhat agree that our group can now see how important aspects of healthcare may be to some people, so it gave us an idea what we should focus on. But I don’t think it was [a] revolutionary thought.” This statement reflected her mindset in general: resigned to the process, but pessimistic about its effectiveness.

**FIGURES 22 AND 23**  
*Health Avenue: Team D's final design*

31



After many iterations and changes, Team D presented a kiosk called *Health Avenue*. In their own words, “*Health Avenue* is an interactive user experience that allows people to build their Healthcare Team based on personal preferences and locate services in their neighbourhood. It can be found within the community or accessed through the Internet.” While it was a thoughtful design, such a system was not tailored to one individual. (Refer to appendix, Tables 9.1–2)

One of the quietest members of Team D who rarely shared in class, had expressed views in written surveys that reinforced my suspicions. She wrote, “although our group has gathered a lot of information from our co-creators, I keep feeling that we are not really focusing on specific ideas from our co-creator for brainstorming.” She then explained how they formulated their final idea: “it was when our group went back to think more about our co-creators. We came back to focus on them and the results we got from the toolkit, instead of going everywhere.” The same student said how she could see co-creation as an essential tool for the design process, that it could help her to create something new and different.

Another team member agreed with her, saying, “Gathering only information and experiences from others allows you to look at things from a different angle and consequently come up with new/different ideas. Some of them you may have come up with on your own and others, no... it’s hard to say; but I absolutely agree that it is helpful and valuable.”

The biggest setback for this group was the approach to the design process. If the group had worked equally, valuing the participatory research interaction with their co-creators, they could have been more confident about the design outcome. They also could have learned to see the value of pleasing a smaller number of people, speaking to their specific needs. Instead, the group placed value on appealing to as many people as possible, which diluted the importance and meaningfulness of their design solution.

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## team E

Team E seemed to be almost the exact opposite to Teams A, B and C. Whenever the instructor asked them to do something in a particular way, they would do it differently. For instance, the team split up to interview each of their own co-creators individually. As with Team D, this team had unbalanced dynamics, with one dominant member often speaking on behalf of the other group members. Even



when they met as a group with the instructor, it was easy to see that a lot of the decisions made in this group resulted from the influence of one student.

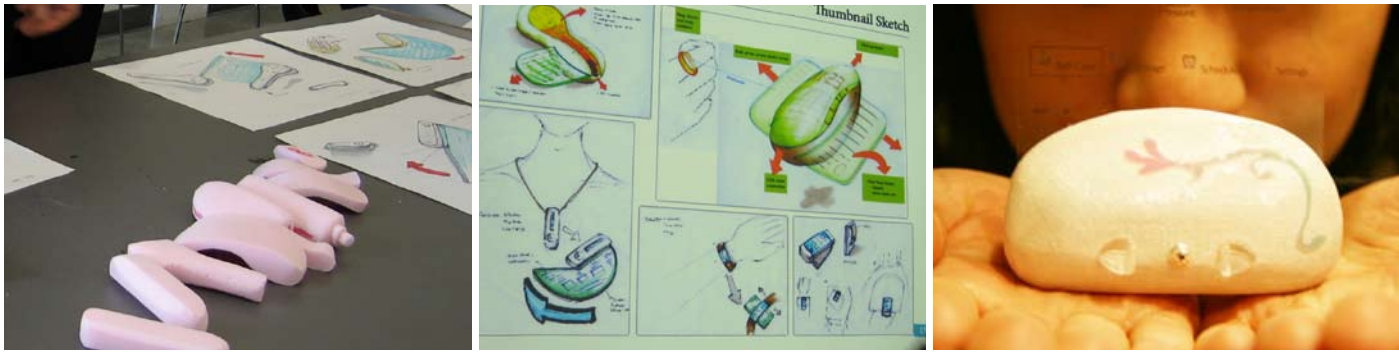
When initially polled about why he took this class, he replied, “I thought we were going to be making devices for [the outside company].” After this comment, I started to notice how his notions of design clashed with those of the instructor, often resulting in lengthy debates. From my perspective, he wanted to design a gadget that was “cool,” whereas the structure of the classroom demanded that he think deeply about user scenarios. After St. Pierre began to see what was happening in the group, she put more pressure on the other members to contribute to the design process. While this tactic helped, it did not radically change the outcome of the design.

At the midpoint presentation, when the groups showed their three scenarios, I began to see a link between this group and Team D. Both groups presented ideas that did not embody the personality of their co-creators. It’s as if they didn’t know how to integrate the information, or that they didn’t get enough information from the interaction in the first place. At this point, Team E was visibly showing signs of confusion, lack of interest and inflexibility.

As a result, Team E’s solution was both impersonal and outdated. St. Pierre bristled when the dominant student said the device would act as a surrogate friend for their co-creator who was too busy to have a social life. She responded, “We are too smart to think that a device can replace human beings.” Despite her continued debates with this group, they kept working on the same prototype. At one point I could tell that St. Pierre was frustrated with them, “I’ve seen thousands of these [objects] before. They’re called blobjects.” She asked them to go back to the notes from their toolkit sessions to make sure that the design resonated with the life of the co-creator. To no avail: the group showed up the next day with the same device.

33 In the end, Team E created *MeNu* (“Me and You”), a personal health device that would monitor one’s health statistics and transmit the information to a selected friend. As a result the device would rely on the power of social accountability as a tool for improving the person’s quality of life. (See appendix, Tables 10.1–2)

Although they were skilled formgivers, they seemed to lack the imagination and reflection needed for this method. The successful groups were able to interlace the co-creator’s personal information into the design brief, but Team E did not.



**FIGURE 24 AND 25**  
Team E's prototype and sketches

**FIGURE 26**  
*MeNu*: Team E's final design

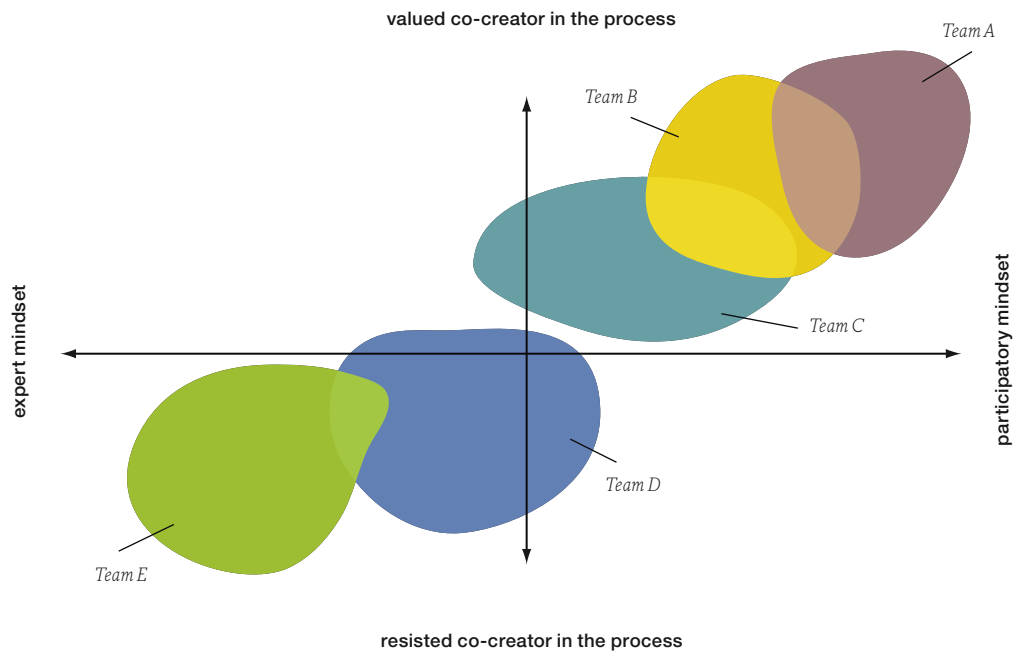
In the written surveys, the dominant student of Team E strongly disagreed that he would like to try co-creation again. The other members, however, both strongly agreed that co-creation was an important part of the design process. One member said that the knowledge gained from the co-creator was helpful. She wrote, “the brainstorming process is very useful to improve my concept. Our group is still thinking and narrowing down our broad ideas... the life of the co-creator gives us a chance to think [about] more ideas.” She strongly agreed that co-creation was an important part of the design process, but also stated that she felt neutral about trying co-creation again.

overview

Over the duration of the course, I observed the teams along the following two spectrums: 1) their mindset (along a spectrum of expert to participatory mindset); and 2) their method (along a spectrum of valuing to resisting the co-creator during the design process). At first, I wanted to investigate empathy between the designer and the co-creator, to see if the designer felt compelled to create something because of a connection with the co-creator. What developed, instead, was a realization that the mindset, confidence and approach of the designer to research is in fact more important when working with a co-creator.

34 The students revealed to me the two most important qualities of a successful hybrid designer: a participatory mindset (see figure 27); and confidence—in one's own capabilities and in the method. In other words, the hybrid designer must maintain a strong sense of self in order to appreciate his co-creator(s), to invest in them, and to positively implement their feedback. As well, the hybrid designer must learn to see his co-creator as creatively equal, in order to draw out the best possible insights. Otherwise, an insecure designer could easily feel threatened by the method of co-creation, resist the process, and rely on his own expert—and limited—understanding.

Figure 27 charts the teams according to their design methods and personal mindsets. (For a detailed overview of my analysis, see Table 1 in the appendix) For instance, Team A demonstrated confidence with a participatory mindset, valuing their co-creator in their design process. Conversely, Teams D and E seemed uncomfortable with the research method, and as a result held an expert mindset during the creative process. The teams in the upper right corner successfully tailored the designs to suit their co-creators. Meanwhile, the teams on the bottom left corner, although they produced well-crafted design solutions, were unable to create designs that were either innovative or uniquely suited to their audience.



**FIGURE 27**  
Graph representing each mindset over their approach to co-creation

I studied various articles that related to the mindset of researchers—analyzing how thought process affects creativity and confidence. By relaying what I gathered from the research, and backing up my findings with other resources, I will discuss how these methods can potentially improve the field and practice of design.



## the characteristics of a hybrid designer

The observations I discuss in this paper can be beneficial for both industrial and graphic designers, as they deal with a productive mindset during the research process. By shifting the focus during research onto the co-creator's life and personality, the designer can garner meaningful insights that could indeed relate to a particular group of people. For the hybrid designer, the two most important qualities that should be maintained are a participatory mindset and creative confidence.

Various outside sources informed my analysis, and I often presented and discussed the findings of the class with outside professionals such as Dr. Elizabeth B.-N. Sanders; Bill Moggridge, the co-founder of IDEO; Dr. William Reese, the Consumer Insights and Trends Director at Ziba; Dr. Abby Margolis, a Research Analyst at Ziba; Ashley Deal, an Analyst at Carnegie Mellon University; and Dr. GK VanPatter, the co-founder of NextD and Humantific.

With support from these sources, I will suggest three qualities that are central to the formation of a hybrid designer: 1) nurturing an open, humble, yet confident mindset; 2) maintaining a positive and imaginative approach to research and design; and 3) relying on intuition during research in order to interpret the co-creator's needs and wishes appropriately during the design process.

## the mindset

As was witnessed in the class, Teams E and D were still gifted in the act of form-giving, meaning that what they created was indisputably designed with good intentions in terms of form, but not necessarily appropriate. These two teams significantly deflected the importance of the research method and chose to create what they alone deemed to be relevant as a design solution. From my observations, I have reported that the outcome was noticeably generic and impersonal. In light of this, I am led to believe that a robust social method incorporating fundamental skills of sensitivity, confidence and receptivity could positively influence the relationship between design and research. Knowing that research is an important aspect of the design process could result in beautiful and deeply meaningful design outcomes.

Researchers will tell you that their mindset and approach can greatly affect their findings. They base their ability as researchers on their self-awareness—as if the body and mind were a finely tuned instrument—reading others' emotions and constantly comparing them to one's own. (William Reese, pers. comm.) Daniel Goleman, author of *Emotional Intelligence*, writes, “Some psychoanalysts call it the ‘observing ego,’ the capacity of self-awareness that allows the analyst to monitor his own reactions to what the patient is saying, and which the process of free association nurtures in the patient.”<sup>28</sup> The researcher delicately performs social observation while being aware of his own “baggage” that may influence his findings.

Confidence and humility also play a large role in research in a process similar to method acting. The researcher allows the participant to be the “centre” and empathizes with him. (Abby Margolis, pers. comm.) Through this method, the researcher gains an intuitive and experiential kind of information. This is how the body and subtle processes of mind work as a tool for research. Generally speaking, industrial and graphic designers implement a variation of this process through role playing or prototyping near the completion of a project. By empathizing with the co-creator during research, the designer can benefit from emotional insight throughout the entire creative process—from the beginning of the project to the end.

## creativity

It is important to foster personal and emotional confidence since they are necessary for creative decisions. Don Norman makes a telling distinction between confidence and creativity, and offers corroboration for my experience:

Positive emotions are as important as negative ones—positive emotions are critical to learning, curiosity, and creative thought....Happy people are more effective in finding alternative solutions, and as a result, are tolerant of minor difficulties.<sup>29</sup>

38 The students who showed more confidence were indeed more creative. They were also able to tolerate minor difficulties. Guy Claxton, author of *Hare Brain Tortoise Mind*, underscores Norman's point by citing the corollary, a lack of confidence:

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28. Goleman, *Emotional Intelligence*, 47.

29. Norman, *Emotional Design*, 20.

There is a wealth of evidence to confirm the common impression that when people feel threatened, pressurised, judged or stressed, they tend to revert to ways of thinking that are more clear-cut, more tried and tested and more conventional: in a word, less creative.<sup>30</sup>

The disparities between the Teams A and E in terms of their confidence and creativity were clearly obvious. If we consider how this knowledge might improve learning, it could help instructors encourage and even teach students how to be creative researchers/designers. Integrating confidence-enhancing methods into design pedagogy, instructors can positively change the dynamics of the class, the curriculum, and the design process. Similarly, companies could look into improving their employees' confidence and satisfaction at work.

A creative and confident designer also conducts research differently, being more capable of gathering personal information because of strong social skills. Norman suggests that a positive attitude (which aids creativity) is needed in order to help the researcher focus on the person she is researching:

Positive affect arouses curiosity, engages creativity, and makes the brain into an effective learning organism. With positive affect, you are more likely to see the forest than the trees, to prefer the big picture and not to concentrate upon details. On the other hand, when you are sad or anxious, feeling negative affect, you are more likely to see the trees before the forest, the details before the big picture.<sup>31</sup>

Not only does a healthy mindset greatly influence the research findings; it also improves the creative process. The confident designers were better equipped to interpret and intuit the needs of their co-creators. In other words, the interviews filled in holes that quantitative research tends to overlook, creating connections and revealing a more nuanced context.

39 At times, it seemed that Teams E and D were focused on details of the design instead of the big picture, which signaled to me that they perhaps struggled to feel confident about the course. For whatever reason, they were not able to rise above the details; whereas Teams A, B and C could, by taking into account their co-creators' contexts and creatively interpreting the results.

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30. Claxton, *The Hare Brain Tortoise Mind*, 76.

31. Norman, *Emotional Design*, 26.

## intuition

Intuition is arguably one of the most important tools for a designer. I refer to intuition as the state of being aware of, or knowing something, without the use of rational processes. It's almost as if instinct kicks in without needing actual evidence, but one is still able to gather immediate knowledge of something. Being able to decode one's intuition is a skill that designers can learn. Malcolm Gladwell, author of *Blink*, makes a case for intuition, saying that not only is the ability to "listen to your gut" important but that a person can train himself to understand and read his "gut." This ability results in better decision making, since the intuition is greatly influenced by qualitative, not quantitative circumstances.<sup>32</sup> The "gut" can thus be viewed as a qualitative research tool, which is what makes co-creation so compelling, for graphic and industrial designers alike. It could become an increasingly important method for the design process, since it enables designers to use their intuition for making holistic and human-centred decisions.

Designers often report sensing and intuiting who their client is. In fact, many designers will say that meeting the client is just as important as the design brief. This sense of *knowing*—intuiting—grows stronger through prolonged and intentional personal interaction. The more time the designer spends with her co-creator, the more she can intuitively project the person's likes, dislikes, etc. Simply put, intuition becomes strengthened through personal interaction (such as co-creation).

As Schon says, a competent practitioner is "dependent on tacit recognitions, judgments and skilful performances."<sup>33</sup> Most designers are able to quickly recognize the skill of another designer; they've built up sensitivities to distinguish what is or isn't a well-crafted object. Likewise, building up a skill of empathizing with others could perhaps develop into an implicit trait, one that doesn't require conscious thought or much effort.

Schon reinforces the importance of intuition, an attribute he calls knowing-in-practice:

When a practitioner reflects in and on his practice, the possible objects of his reflection are as varied as the kinds of phenomena before him and the systems of knowing-in-practice which he brings to them. He may reflect on the tacit norms and appreciations which underlie a judgment, or on the strategies and theories implicit in a pattern of behavior. He may reflect on the feeling for a

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32. Gladwell, *Blink*, 183.

33. Schon, *The Reflective Practitioner*, 50.



situation which has led him to adopt a particular course of action, on the way in which he has framed the problem he is trying to solve, or on the role he has constructed for himself within a larger institutional context.<sup>34</sup>

Just as personal interaction feeds intuition, storytelling can also offer an expanded viewpoint. The mere act of co-creation seems to open up ways for the designer to empathize and get to know the co-creator on a subtly personal level.

When the co-creator talks about himself during the toolkit sessions, the designer is able to also gather a collage of personal stories. These stories can build connections emotionally for the listener: stories can reveal intentions behind an action; they can reveal patterns that would otherwise remain invisible; they can explain motivations; they can deepen meaning through sentiment or memory; and can allow one to make connections that relate to a specific context. This is the part of storytelling that reveals much more about what is happening behind the scenes, which is helpful and very insightful for a designer. In other words, stories can also help the designer to empathize, which is another method of building intuition.<sup>35</sup>

Pink underscores the importance of story:

When facts become so widely available and instantly accessible, each one becomes less valuable. What begins to matter more is the ability to place these facts in context and to deliver them with emotional impact . . . . And that is the essence of the aptitude of story—context enriched by emotion.<sup>36</sup>

The students who were intent on getting to know their co-creators were able to extract personal stories from the toolkit session. They were able to make connections and to observe how their co-creator reasoned and made decisions. Working with co-creators potentially widens the variety and quality of material upon which the designer can reflect. Through this strengthened intuition and empathy, the designer will have more variables to work with during the process. After all, design is about imagining the possibilities, going beyond the obvious and creating new connections from what *is* to what *could be*.

41

Perhaps the strongest point about working with non-designers is found in a recent article from *Design Studies*. The authors underscore how intuition strengthens research:

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34. Schon, *The Reflective Practitioner*, 62.

35. Pink, *Whole New Mind*, 168.

36. *Ibid.*, 168.

Traditionally, and often successfully, graphic designers have relied on their own intuition to generate design solutions. However, insights culled from observations themselves provide a powerful source of inspiration that often leads to stronger design thinking. These solutions are more appropriate and tailored for individuals for whom the object, service or environment is designed. In classic graphic design professions, research typically relies on a combination of the client's point of view, aesthetic research, and the graphic designer's gut impression and personal design style. However, graphic designers working in an environment that advocates human-centered design need to invest more time developing their design through in-the-field observation of people relevant to the project topic. Simply put, intuition, coupled with insight, gets designers appropriately further in the design process, and gets them there faster.<sup>37</sup>



## making meaning

As Gaver pointed out earlier, personal design solutions that are derived from creative research tools (i.e., cultural probes) will resonate deeply with a group of people.<sup>38</sup> I am not saying that design must cater only to individuals. I am saying that design solutions can become specific to a smaller group of people, who will find these solutions deeply meaningful.

Although the economic ramifications of this practice are beyond the scope of my paper, large-scale and small-scale companies are already employing a variety of participatory research methods. For example, Friis' dissertation discusses four leading companies already involved in participatory research methods as a part of their typical design practice. These companies, and others like them, are not typically applying these methods to make customized designs for one person. With the help of recruiting agencies, they choose co-creators uniquely suited to their research, extrapolating results that apply to a larger group of people with similar needs.

In light of our over-consumption woes, it is imperative that we continue exploring alternatives to the mass-consumption model, much like the D.I.Y. movement. McCoy suggests that, "We seem to be witnessing the end of an era of mass communications: narrowcasting instead of broadcasting, subcultures instead of mass culture, and tailored products instead of mass production."<sup>39</sup> The time is ripe to create personalized and sustainable design solutions.

Sanders' participatory design method represents one model that counters the mass-customization trend. As was observed in the class, Teams A, B and C created design solutions that resonated personally with their co-creators and could translate further to a related group of people. One co-creator's story was enough to generate insightful and rich information, which resulted in innovative and meaningful design solutions—not just for one or two people, but for a specific group.

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As well, Gaver's alternative approach is reinforced through Daniel Pink's prophecy that the world is becoming more and more interested in holistic approaches:

The last few decades have belonged to a certain kind of person with a certain kind of mind—computer programmers who could crank code, lawyers who

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38. William Gaver and others, *Subjective Approaches to Design for Everyday Life*, 16.

39. McCoy, *Graphic Design in a Multicultural World*, 201.

could craft contracts, MBAs who could crunch numbers. But the keys to the kingdom are changing hands. The future belongs to a very different kind of person with a very different kind of mind—creators and empathizers, pattern recognizers, and meaning makers. These people [are] artists, inventors, designers, storytellers, caregivers, consolers, big picture thinkers. . . . We are moving from an economy and a society built on the logical, linear, computer-like capabilities of the Information Age to an economy and a society built on the inventive, empathic, big-picture capabilities of what's rising in its place, the Conceptual Age.<sup>40</sup>

The hybrid designer will become a key player in conducting design and business, and an important investment for businesses interested in building a relationship with their customers.

## emotional durability

Human-centred design research can also be considered to be a sustainable method—socially and environmentally. When the designer becomes engaged in making quality objects that are meaningful to the purchaser, he is also affirming human dignity.<sup>41</sup> Norman argues here that people do not throw away something that they love, especially if it resonates on a deeper, more meaningful level. The longer a design sustains interest and retains meaning, the harder it is for the consumer to get rid of it. The items that are particularly meaningful to us, Norman argues, are in fact the ones that “we construct ourselves.”<sup>42</sup>

By constructing “meaning” together, other positive outcomes could ensue, not just concerning the value of the design, but the value of the person and his relationship to the design. A recent book by Nathan Chapman, entitled *Emotionally Durable Design*, also points to the importance of personal connection to designed objects. Chapman warns that even emotionally meaningful designs have a lifespan, governed in this case by the relationship between the object and the user.<sup>43</sup> He continues, “Waste, therefore, is a symptom of expired empathy, a kind of failed relationship that leads to the dumping of one by the other.”<sup>44</sup> It is the failed relationship that designers must strive to avoid. I do not presume that participatory research is the answer to the world’s sustainability issues, but it is a positive start and a possible method that begs further exploration.

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40. Pink, *A Whole New Mind*, 1–2.

41. Buchanan, *Human Dignity and Human Rights*, 303.

42. Norman, *Emotional Design*, 48.

43. Chapman, *Emotionally Durable Design*, 51.

44. *Ibid.*, 51.

## subjectivity

Ultimately, the designer has to walk the line of incorporating the feedback from the co-creator and making educated decisions based upon her own expertise. I argue against the possible extremes of this design research. If the designer becomes too diplomatic and tries to please everyone, the design could lose clarity of intent, thereby serving nobody.

I do not advocate that the designer relinquish all control and decision-making necessary for the design process. Designers should be aware that they are central to the research, and should not dismiss their own thoughts completely, as to make the design process too democratic:

Designing for subjectivity cuts two ways. On the one hand, it means recognizing and respecting that 'users' have desires, obsessions, passions and fears that provide a valuable basis for design even if they are generally dismissed by research and industry... it means recognizing that we as researchers and practitioners also have our own personal perceptions, beliefs, preferences and intrigues that we can bring to bear in designing new technologies.<sup>45</sup>

My findings underscore the importance of the designer's role as equal to that of the co-creator. It is this equal relationship that informs the design—not a distant relationship but a highly engaged and personalized investment for the designer and the co-creator. What is crucial to remember is that participatory research methods don't simply address form and function, but could also primarily underscore design for meaning and value.

46 This shift from quantitative to qualitative research affirms my own inclinations regarding the specialized role of graphic designers. Since graphic designers are naturally suited to communicating, they would certainly be successful as hybrid designers, by translating and relaying their observations clearly and concisely. They would also work well with other researchers to develop research plans: to help the researcher conduct the personal interviews; to create compelling research tools such as probes, workbooks and toolkits; to visually parse and relay the gathered information at the end of the process; and to implement design solutions from the research. The designer would also be well-suited for bridging gaps in research findings that have to transfer from one discipline to another: by understanding the needs of his fellow designers and relating to the work of his fellow researchers.

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45. William Gaver and others, *Subjective Approaches to Design for Everyday Life*, 1.

When I was at Ziba, I designed surveys that the researchers used during the interviews. These surveys (or tools) were intended to encourage discussion, stimulate interest and inspire engagement between the researcher and their participant. Many co-workers insisted that the tools improved the quality of the research.

There are also many circumstances where these participatory research methods could strengthen the graphic designer's ability to communicate clearly and specifically to his audience. Through personal interaction, the designer could grow to know his audience's dreams and desires, which is an important element for many graphic design solutions. For instance, branding or identity campaigns could speak directly to the clients' customers on a personal and humanistic level. Of course, it is one thing to understand and know the audience's deepest dreams and desires. It is still another to translate these ideas into a communication piece that speaks to them effectively. There is something in this process that must remain a mystery, but intuition and playfulness are certainly important tools along the way.

## conclusion

Qualitative research and subjective decision-making raises questions about how to promote alternative methods in design and research. If designers are to know how to perform research, they will need to learn the skills necessary for gathering insightful and richly contextual information.

Both industrial and graphic designers would benefit from working as hybrid designers: by valuing their intuition; by engaging with their audience; and by implementing design outcomes that speak to all parts of being human—the irrational and rational. Designers should be encouraged to adopt a human-centred practice and to value characteristics of humanity over mere functionality. For instance, designers could engage in playful and absurd design outcomes (similar to Gaver's work) where design becomes more of an art form by critiquing its own function.

47 These design outcomes, although never intended to be mass-produced, can be seen as stepping stones to more effective design outcomes. Maybe over time, these playful designs could be seen as equally important in peoples' lives, allowing them to equally engage in play and efficient function.

As designers begin to work intimately with their audience, they will need to perfect their social skills. These skills that stem from a healthy mindset and approach to research should be a professional priority. Getting to know the co-creator should be

stressed as an essential element of participatory design, since the research will not only be about finding problems to solve, but building necessary social awareness.

Learning when, where and how to engage in participatory research methods remains yet to be fully investigated. Despite this gap, we know that holistic methods and procedures that value product longevity and human dignity should be important for all designers. Norman nicely summarizes my intended desires for this holistic practice:

The trick is to make objects that degrade gracefully, growing old along with their owners in a personal and pleasurable manner. This kind of personalization carries huge emotional significance, enriching our lives. This is a far cry from the mass customization that allows a consumer to choose one of a fixed set of alternatives, but has little or no real personal relevance, little or no emotional value. Emotional value—now that is a worthy goal of design.<sup>46</sup>

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46. Norman, *Emotional Design*, 221.





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## glossary of terms

### Approach

**Holistic approach:** Including or involving all of something (in this case, relevant aspects of being human), especially relating to all of somebody's physical, mental and social conditions, not just to one particular aspect of human needs.

**Humanistic approach:** One that concerns itself with human affairs, seeking to promote human welfare. Something with **Humanistic** qualities exhibits a strong concern for human welfare, values and dignity. Emphasizing secular, individualistic and critical thought; pertaining to human affairs and human nature.

**Confidence:** Full trust, belief in one's self. Self-assurance, certitude, self-reliance or boldness.

**Creativity:** The ability to design things that show imagination and originality (as well as skill in the craft)

### Design

**Personal design:** Through personal interactions, one can gather intimate information about someone, getting to know him/her in his/her eccentricities and distinctive behaviours. I refer to personalized design as something that is not only custom-made but more importantly, deeply related to the person's life and situation. This could mean emotionally-embedded designs, or designs that speak to a specific characteristic or niche.

**Specific design:** A design that is either specific, personal or custom-made refers to a design that is distinguished from others—one that is distinctly definite and tailored to suit a detailed situation or niche.

**Humility:** The act of having or showing a modest estimate of one's own importance. A researcher who is sufficiently comfortable with himself to focus on his participant may be said to manifest humility.

**Innovative:** Something that offers a new way or process of doing things.

55 **Mindset:** An attitude, disposition, intention or inclination. Sanders' map of differing mindsets refers to the varying degrees of possible attitudes or dispositions one holds about him- or herself which conducting research. The mindset can often imply the researcher's intentions or inclinations during the interviews. For instance, a researcher with an **expert mindset** seeks to validate a premonition or previously devised hypothesis, while a researcher with a **participatory mindset** seeks to discover the questions and answers with his participant during the interview.

**Quirky:** A peculiarity of behavior; an idiosyncrasy. An unpredictable or unaccountable act or event; a vagary. Something about one's character that is unconventional or eccentric.

About the appendix: Table 1 demonstrates the framework for my final analysis concerning each team's mindset and method (figure 27). For ease of use, I have collected the answers to the questionnaires by team (Tables 2–5). Lastly, each team's poster presentations, which describe their final design solutions, are also included in the Appendix (Tables 6–10).



Table 1

**framework for analysis**

	TEAM A	TEAM B	TEAM C	TEAM D	TEAM E	
						<b>TEAMMATES:</b>
						Expressed interest in gathering the co-creator's personal history
						Asked for input from the co-creator
						Reviewed the product with the co-creator
						Implemented changes from co-creator's feedback
						Implemented changes from classmates' feedback
						Met with co-creator more than 3 times
						Met with their co-creator voluntarily
						Expressed genuine concern for the co-creator's well-being
						Expressed genuine interest in the co-creation process
						Brainstormed ideas that related directly to their co-creator's life (not a general application)
						Said they enjoyed the challenges of the course
						Seemed to enjoy their teammates
						Implemented critique from instructor
						Role-played and prototyped the designs with other classmates and/or with co-creator
						Seemed comfortable presenting their ideas to large groups
						Equally distributed tasks and responsibility in the group
						Seemed socially comfortable among their peers
						Laughed at their mistakes and graciously accepted failure in front of their classmates
						Produced a number of potential solutions from the brainstorming process
						Willingly shared their mistakes as a learning opportunity for others
						Emphasized the personal context of their co-creators throughout the process
						Tolerated minor creative difficulties
						Did not seem easily stressed
						Thought broadly and creatively instead of logically or systematically
						<b>DESIGN SOLUTION:</b>
						Was original (the design did not reference other devices that had already been designed, or discussed in class)
						Varied greatly over the course as they prototyped and implemented feedback
						Was specific to the co-creator (Used a specific insight found from co-creation)

Table 2

## questionnaire one

Do you agree/disagree: I feel like my experience and the information I gathered from my co-creator(s) will positively affect my creative process as I start to generate ideas for the assignment. (Why/why not?)

- A Agreed. But, I feel more (right now) that [the] experience of having this different kind of research might have been more important to change my views rather than my current designs.
- A Yes, I feel I've gained insight to the emotional state of the co-creators that I couldn't have gotten otherwise. I could probably have gotten some idea of their emotions surrounding the relationship but it would have been mostly based on my assumptions. And [I] will hopefully be able to generate more personal and empathetic solutions.
- A Right now no, since we didn't find out that much from Chris. But in some ways when we have talked more to Steven, yes.
- B I think it allows one to really experience who the user is—and therefore become more connected with the design process.
- B Agree. Kathy really helped with a general direction for the project and also opened up the way for a new course of action.
- C I agree. All the problems for the design process is found [sic] from the co-creator's words.
- C Yes, because we've learnt [sic] more details about her specific issues! Maybe only some apply to her but some do apply to others, then we also learned the cause and affect [sic] according to her experience. I think our design would be specific to her.
- C Compared to traditional research methods, we rely on our own observations a lot. Every single word our co-creator said, I paid a lot of attention to it. It just made me much more alert about human interactions/behaviors and it became my inspiration.
- D Yes, because it will give me something to work with.
- D Yes, although I still can't see where this project is going (where we'll end up), which is kind of cool.
- D Yes, because this experience will bring me to more thinking [sic] and it taught me how to interact with others for informations [sic] that I would base my creativity on.
- E Why? It allowed [me] to learn how important it is to learn about a co-creator as an example [for a greater] audience for projects.

■ = 1 person

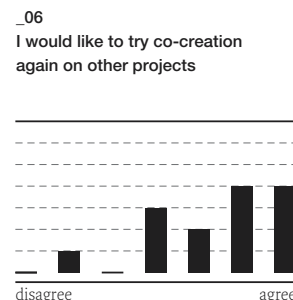
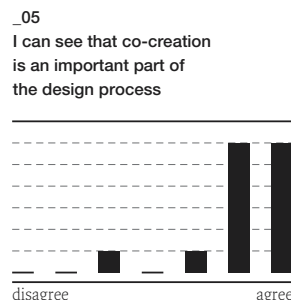
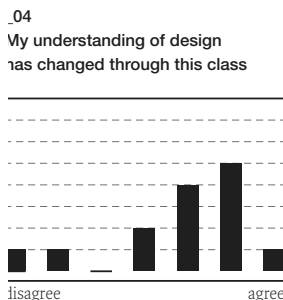
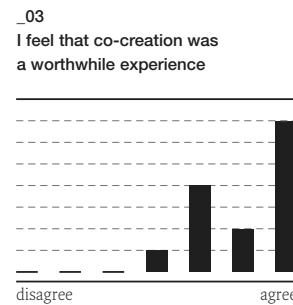
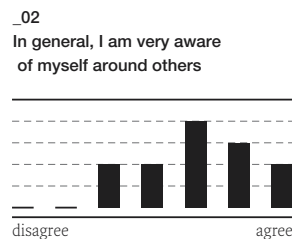
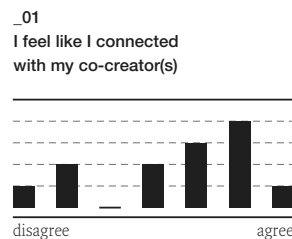


Table 3

### questionnaire two

Do you agree or disagree: I feel like my experience and the information I gathered from my co-creator(s) has helped me generate really new ideas that I would never have thought of before this process. (Please give an example.)

- A For sure. Thinking of something that tracks emotion rather than requiring input. Also, understanding how lack of communication between caregivers can affect the client. Understanding how little control the clients actually have and how much they depend on the people around them to interpret their wants and needs. 2): Agree: I learned the importance of nutrition post-surgery. I don't have an idea yet.
- C For example, we wouldn't have thought of bluetooth luggage system if she'd not mentioned about her trouble handling groceries and [her guide dog] at the same time.
- D Yes it does. We would never [have] thought of a "bluetooth luggage" that followed the owner around (so she didn't have to carry it), if Amanda didn't tell us that carrying and holding the dog at the same time was a problem.
- E Knowing about his daily routine and life helped me a lot! (That's what we wanted to learn [about])
- A Yes!
- D Although our group has gathered a lot of information from our co-creators, I keep feeling that we are not really focusing on [a] specific co-creator for idea brainstormings.
- E Yes, for example I had an idea of creating [a] new device (watch) and all the functions inside of the watch. But the other idea (hologram) popped out from [the] others and [we have] ended up with a watch that has a hologram device on it.
- A New to me. (i.e., things I couldn't have thought of alone). However, they are not new as such to the world (monitoring devices, etc.)
- D Somewhat agree. Because our group can now see how important certain aspects of healthcare may be to some people, so it gave us an idea what we should focus on. But I don't think it was [a] revolutionary thought.
- E Brainstorming process is very useful to improve my concept. [sic] Our group is still thinking and narrowing down our broad ideas. Like, the life of the co-creator gives us a chance to think [of] more ideas.
- B Absolutely agree, with a co-creator its easier to scenario situations [sic] because you can visualize real people—the community kitchen idea.
- D Gathering any information and experiences from others allows you to look at things from a different angle and consequently come up with new/different ideas. Some of them, you may have come up with on your own and others not, it's hard to say, but I absolutely agree that it is helpful and valuable.
- B Yes. One of our first ideas of a community cooking exercise.
- E Brainstorming process is very useful to improve my concept. [sic] Our group is still thinking and narrowing down our broad ideas. Like, the life of the co-creator gives us a chance to think [of] more ideas.
- C She gave us specific problems and helped us pinpoint the design to a certain extent.

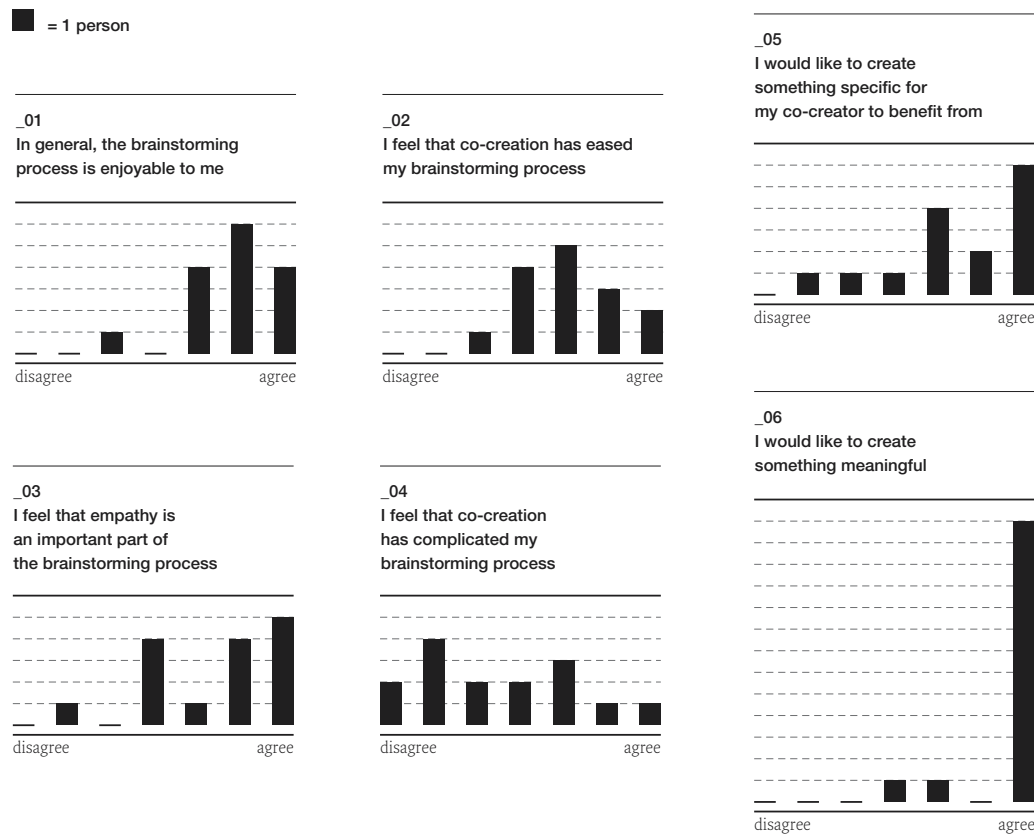


Table 4

### questionnaire three

Can you explain when you knew you had found the right, “final” idea to present? (In other words, how did you know when you were “done”?) Please explain this process: 1) Please give an example: 2) Did your relationship with your co-creator effect this result? How?

- A I didn't really have that moment as far as concept went. It was more a matter of time-restraint. We always saw more and more potential with the project, and it was the clock that put an end to it. 1) Packaging formal resolutions and aesthetic considerations could have been taken further. 2) I guess the co-creator did limit our explorations due to the limited amount of time he had to see us.
- A Sorry, but in my group we are NEVER done! We have to work a bit more on the final. 1) No.
- B No I don't know when we had the right idea, as for being done, when are you that? Tonight? 1) Louise I think slightly nudged the ball in the right direction. 2) No.
- B I was not sure of our “final concept” was finished developing until after we presented and received feedback from the class and Louise. 1) No. Our results were based on intuition and other research (our co-creator helped us establish a direction and kept us on track with that.
- C I am not sure if we are really done? The concept we go with, [sic] I guess you can say that it is done. How did we know we were done? I think it is more like Louise helping us get there. As we kept editing the idea. 1) Also, we believe that it is fully functional by imagining and role-playing it. 2) She helped us refine and show that it works, so yes.
- C We presented many ideas to our co-creator. She basically acted like a judge throwing out lots of ideas that she thought just wouldn't work. And she told us which ones had potential. 1) after brainstorming. We picked [the] top six ideas and took it to Amanda, our co-creator. And she said she liked some of the ideas and told us which ones. And that's how we knew we got the final idea (Louise also helped us a lot to decide which was the right idea). 2) Yes. We had a good time with Amanda. We felt comfortable contacting her and enjoyed chatting with her.
- D Today, when everything actually came together. It was hard to see where we were going all semester, but when we put everything out in front of us, everything came together, we saw the light. 1) Building the interface and the process of the identity of the interface made it real—realistic and tangible. 2) I don't think so. It helped to get to our end result but I don't think the relationship had much to do with it, for our team anyway.
- D When our concept finally seemed to fit well with the key words from our co-creators and group. 1) We had narrowed [it] down to two concepts—the info kiosk and the body scanner. We were going to go with the scanner, but then it just didn't feel right and we realized it didn't match up with our keywords and goals. Then we switched to the kiosk and it felt right. 2) Yes, it made us create something more personal.
- D When our group went back to think more about our co-creators we came back to the focus from going everywhere. 1) We weren't focusing on our co-creators and the results we got from the toolkit. Eventually we went back to focus on our co-creators. 2) I don't think so.

■ = 1 person

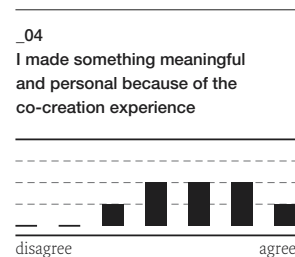
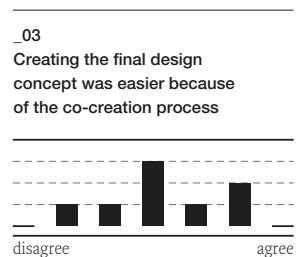
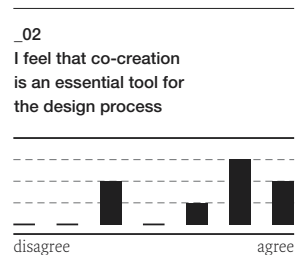
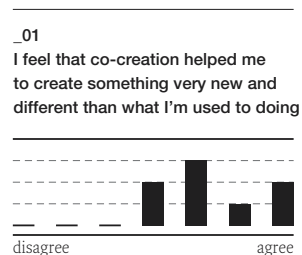


Table 5

**questionnaire four****Age**

20–29 (average 20–23)

**\_01****Why did you take this class?**

- A To learn about interactive design. To work with ID-students in order to get a different perspective.
- A Because I wanted to gain better research and team skills and I also was excited about working with people who were from CommD. [*sic*] I also really liked the idea of working on a project that was more focused on the process than on the product.
- A I liked that it was a group project since I am an exchange student [and] to be able to discuss ideas with students with another background. [Another instructor] recommended it to me.
- B It seems like a good opportunity to try something I might not have otherwise.
- C I thought it'd be useful for me when I graduated. I saw what the previous class did last year and I thought it was very interesting.
- C I want to work with people who are not in my department. Also, the project we do in this class is something that I've never done before. [*sic*]
- D I was moved up to 3rd year after the first week of school and there weren't many classes I could get into. The head of the design department recommended this class because I have a strong background in sociology and psychology.
- D Because I think the role of the designer is changing just like the world is changing and interaction design is a growing and developing area in the job market (Also, I like that it's a crossover with communication design).
- D To apply my experiences working in healthcare; to learn more about the design process and industrial design.

**\_02****Do you think you will like this class?**

- A Yes. Because it will push my thinking into places I've been afraid to go before (group work, 3D design, working with disabled people)
- A Yes. I really would like to see an outcome from it. A 3D object. Even though it's interesting anyway.
- A Yes. I already do. However, I am getting a little nervous because I feel it may have been a little too unclear in the beginning as to what direction we would be going in. I am feeling like I could have made a more informed decision on who a co-creator should be.
- B Yes, I am enjoying it already.
- C I think so, although, I can see there are tons of work laying ahead but the skills I gain from this class will get me somewhere in the future.
- C Yes. I like to try out new things, even though it sounds challenging.
- D I'm not sure. It is interesting and I am learning new things and methods but I'm not sure how it can relate to graphic design, or communication design.
- D Yes, its very different than all the other courses I've taken which is exciting and I think I'll learn a lot.
- D Yes.

**\_02-A****Do you think you will like your co-creator**

- A I have no idea. He's just like any other person I meet. I don't usually hang out with everyone I meet though.
- A Yes! We have already met him and he is willing to tell us about himself!
- A I feel odd saying that I like him (or not). I would say that I worry about whether or not we can communicate and understand each other, as far as communication styles.
- B Not sure, I don't have one yet. Actually, I'm sure I will.
- C I think so. I am excited to learn and see what she will teach us about our project.
- C Yes, if they are friendly and willing to help.
- D Does it really matter whether I like them or not? I think it comes down to whether we will be able to get some good information or not.
- D I don't know yet. We'll see once we get the workbooks back.
- D Yes.

**\_03****What do you like about design?**

- A Multi-discipline, creating, thinking, pondering, making sense of the world, beauty
- A That there are many different ways to coming up [sic] with a good project. It can be target group based, more arty, fun, inspiring, important, helpful, environmentally friendly.
- A Mostly, that it is creative problem solving. I like the solutions aspect more than the form finding side of it. I used to just like making things I like but now I get more excited about things that I did not see coming.
- B Because it is everything at once.
- C I like design in many aspects. I like how it can be useful to people (functional). I like the varieties. I like the mass production aspect of it. I like to see how many products are totally garbage, but they are still sold. I love crazy marketing.
- C It's really logical. It trains you on how to think and its principle can be applied on everything in life, not just design.
- D Everything! I like the way good or great design makes you feel. Either good or bad, happy or sad, concerned or not. The way it makes you think or how well it just blends in.
- D I like that its a creative and visual field and it keeps you thinking.
- D The opportunity to combine art and problem solving; creativity to functional everyday problems.

**\_04****In your opinion, what is the role of the designer in co-creation?**

- A Push/pull—help the co-creator express him/herself in a manner that will help your design (depending on what part you need it for)
- A To understand one person (the target group) that particular person's needs may be suited to many others. Which means the solution for one person's needs can solve problems/make life easier for many people.
- A To listen/observe and interpret what the co-creator says and does. But at the same time [one] should "study" objectively. Nor should they take everything word for word. What is more important is to listen openly and keep your eyes out for patterns.
- B To translate the needs of the co-creator into a usable product.
- C Interpreter and researcher. Someone who can create something to enhance the life of the target user.
- C To learn, to observe, to find out the area that needs to be improved. They direct the whole process of co-creation. They're the directors.

- D To somehow voice or communicate the concerns, opinions, views of that (those) people/person. Using their knowledge and experiences and the designers' abilities to solve a potential or existing problem.
- D To observe and interpret these observations and come up with ways to use the information to create something useful.
- D To be a facilitator to guide the creative process and enable others to apply what they know to creatively solve problems—provide a framework.

**\_05****What do you think makes a good designer?**

- A Every possible trait that you have as a person will inform your design. The designers who learn how to draw on these will understand why the design will be successful or not. And you need technical skills to complement this.
- A Someone who cares about the target group/user and develops a product after their needs. Or someone who makes people think in a different way/a better way, or just makes people interested.
- B The ability to communicate clearly.
- A Someone who can separate themselves from their work as far as personal ideal outcomes.
- C A person who's open-minded. Able to see and listen. A person who is a multi-tasker and adaptable. Someone who can turn simple things into a meaningful object.
- C Explore a wide range of possibility, try out as many things as you can. Good design is generated by hard work. An adequate amount of time spent on the project is necessary. And also, the designer must be a person who is well rounded, has a lot of different experiences, open-minded and always wants to try out new things.
- D Open-mindedness. The ability to dive into uncertainty, knowing that there is a solution to every problem. Hard work, strong work ethic, and being able to meet deadlines.
- D Creativity, knowledge, attention to detail.
- D Open-mindedness; holistic, big picture view; good team worker; empathy; organizational skills.

**\_06****What do you hope to learn from this class and/or co-creation?**

- A To work in teams. To push myself in the physical research aspect of design. To get over my fear of collecting data from real people. To learn about a completely new field. Time management.
- A How to really work with a team not just present to a team. Also how to work through a bottom up

process and sort out all the problems that arise when you don't decide who or what you will be working with (co-creator, project).

- A To learn how to be good team member (you can always get better!) and the importance to trust other team members and to also believe in myself and my ideas.
- B How to interpret the way a co-creator feels about their interactions with products/services and how to translate/transform their experience for the better.
- C How to practice it? How to create a successful product using method? How to make a successful researcher?
- C How to cope with uncertainty, really fuzzy-ended design problems. How to get along with your teammates when you will be working together for the whole semester. How to access resources, especially the ones you're not familiar with (e.g., Braille). How to connect with people who are completely outside of your social circle (e.g., co-creators)
- D To be a better designer.
- D To learn about and explore different ways of approaching design than I'm used to. To be open-minded toward co-creation.
- D About how to use probes/toolkits/co-creation models in design; to learn about the similarities and differences btwn the occupational problem solving process and the design problem solving process. [sic] To learn about different ways within a healthcare setting.

#### **\_07**

##### **Do you think your perception of design will change over the semester?**

- A Yes. If I succeed with the plans above.
- A I guess it always changes a bit the older you get and the more projects you have/the more you see of other cultures, etc.
- A I'm not sure but I hope that it will because that's kinda the idea behind going to school, aside from technical skills. [sic] I wouldn't consider my education a success if my opinions/understanding didn't change dramatically over the span of this program.
- B Yes. I am sure I will discover new methods for design, as well as the experience of working with a co-creator will be a great learning tool [sic] in itself.
- C I think so. I think I would be more open-minded and be more observant. I think I would be concerned about the target user more than concerning [sic] about creating what I like.
- C Yes. Co-creation is a brand new way of doing research for me. Before, I thought all "research" meant was reading a whole stack of books. Now, I wonder whether there are new methods for design, too, not just the divergent/convergent method we have right now. Also, I think now

maybe design has more to do with "finding the problem" instead of "solving the problem".

- D Not sure, probably. I think it may have changed already. I'll probably be more aware of industrial design, which may have an influence on my packaging skills.
- D Yes. Because as I've previously mentioned, I have never taken a design course that was taught this way with this approach so I think there is potential to learn a lot and therefore would change my perception [sic] of design in some way.
- D Yes—I think that I will insight into the application of design to designing of a system or service versus creating a tangible [sic] product/object.

#### **\_08**

##### **What do you think is the point of participatory design?**

- A To get real (first hand) experience to inform your design. All the little input that you can never get from doing it second hand.
- A I guess it means something that has to do with participating? In that case the same answer as number four.
- A To avoid failure. You can't pretend to know/understand the needs, choices or lifestyle of anyone else without talking to them.
- B To better analyze the experience of the user/co-creator.
- C To not make "crap" products. To make some thing that is actually working/something that is useful to the target market/user. To focus on a single person to learn about a particular group of user. [sic]
- C It's more humanistic, so it's more about the person, not the numbers or the data. Also, it's more personal and specific.
- D It may be useful when the designer needs a little inspiration or push. May hit a more specific group or need. Get into the head of the consumer by giving them the creative power, I'm not sure if it has a place in graphic design.
- D To learn from others.
- D To gain a richer understanding of the circumstances, needs you are designing for, to experience this versus only observing.

#### **\_09**

##### **Do you think "awareness" is important as a designer?**

- A Yes and no. In short thinking and considering (although ideal) everything can make your work. [sic] Being "ignorant" and having a really narrow focus can bring out a design that wouldn't otherwise have been possible.

- A Yes. Because designers have a big responsibility to choose the best materials, etc., for their projects that are good for the environment. I miss that in my education, I want to know more about materials.
- A I think it is crucial. You need to be aware to make informed decisions, it might be good to be less informed in some aspects but I think awareness is key.
- B Yes.
- C Yes it is. I think designers should be aware of what they make or decide to do all the time. As well as being able to give up their ideas at any time when they realize the better idea that's more beneficial to the client or user.
- C Yes. Designers need to be able to observe, always knowing the trends and being eager to find out what's going on in the world. The world is changing at such a fast pace, if we want to participate in the change or even initiate the change, then we need to be observant.
- D It is one of the most important aspects of design. Awareness or knowledge. Without these who are you designing for?!
- D Definitely.
- D Yes

**\_9A****Do designers need to have a good level of social awareness to make good design?**

- A Yes.
- A It depends on the application and your approach to the challenge.
- B Yes.
- C Yes, I believe so. I think a good designer needs to have a very good communication skills which can help them get themselves into or out of any type of situation. With that, they would be able to explore and observe the society [sic] at 100% scope.
- C Yes, you need to know what's happening out there, know what kind of technology is available. What are the unmet needs, [sic] don't design something outdated.
- D Agree. Knowledge is power. Social awareness can prevent mistakes, faux-pas, poor design.
- D I guess disagree in the way that it depends on what you're designing. Certain things may only require awareness in a certain niche.
- D Yes.

**\_10****Do you think a designer has to be a "people person"?**

- A It definitely is important since 99% of the time create things to cater to people [sic]. Again, see number nine. Having a different angle than "people" can influence different but equally brilliant designs.
- A I'd like to think [so] not because I have trouble sometimes but I think some aspects are very important. One does not have to be a social butterfly but needs to be aware and adaptable to different social settings and communication styles.
- A Not always. If you spend a lot of time making mock-ups, trying things yourself, putting yourself in the target group's situation and research a lot on the Internet, in books, etc., you can still come up with great ideas.
- B Yes, because they are designing for people and they need to be able to communicate with others to discover the problems that need to be addressed.
- C It doesn't really matter as long as they are adaptable. For example, me, I am not particularly talkative or extroverted with anybody, but I am willing to talk to anyone if I need to, for the sake of my project or whatever reason. I think I've gained this skill from working as a salesperson. Being able to talk to strangers about random things and make them comfortable is a very important skill for a designer who wants to work with participatory design research methods.
- C Yes, because you're designing for people! You don't have to be extroverted/social butterfly, but you have to care about others. Be passionate about your work and envision that the product will help people in a big way. Design is for people.
- D Unless you have someone doing the schmoozing for you, like a marketing person or PR, you need to be good (to a certain extent) with people. If you're a freelancer, you need to be confident and have the ability to sell your solutions.
- D "People person" skills help anyone in life but I don't think it's the most important thing to be a designer.
- D Yes : ) in order to communicate with others/although I think that someone can be a 'people person' and not be understanding/empathetic/open-minded and [sic] vice versa someone can be all of those and be a people person. I think it may be important to be able to speak with other people comfortably and have them feel comfortable with you.



Table 6

team A

# Sensimo

A system to visualize emotions through sensing and interpreting biosignals.

**What** Sensimo is a three-part system that will visualize emotions through color by sensing and interpreting biosignals.



**Why** Sensimo was developed in order to enhance the emotional relationship between caregivers and clients with advanced physical and verbal disabilities.

By providing the caregiver with a visual representation of their client's otherwise unexpressed emotional state, the caregiver can gain an awareness of how their client is feeling and respond with informed care.



By enabling the caregiver to better understand their client's feelings they have the opportunity to develop a closer bond that may not have otherwise been possible.

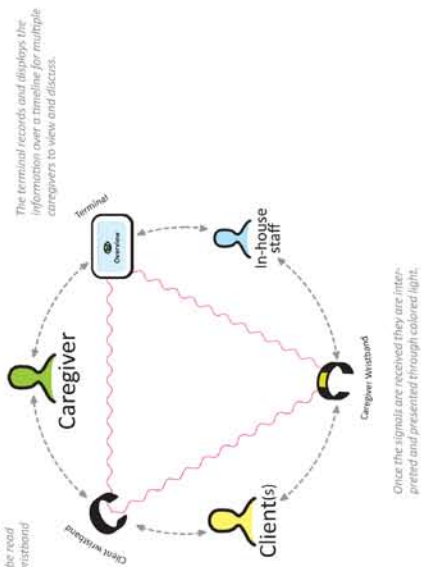


**Valence (positive-negative)**

By sensing several biosignals (signals from the body) a generalized emotional state can be interpreted based on a scale of valence (positive-negative) and arousal (intensity). Readings are non-specific and allow the caregiver to subjectively interpret the meaning behind the colors displayed.

**How** Through several small sensors within a wristband worn by the client, biosignals can be read and transmitted instantly to the wristband of the caregiver.

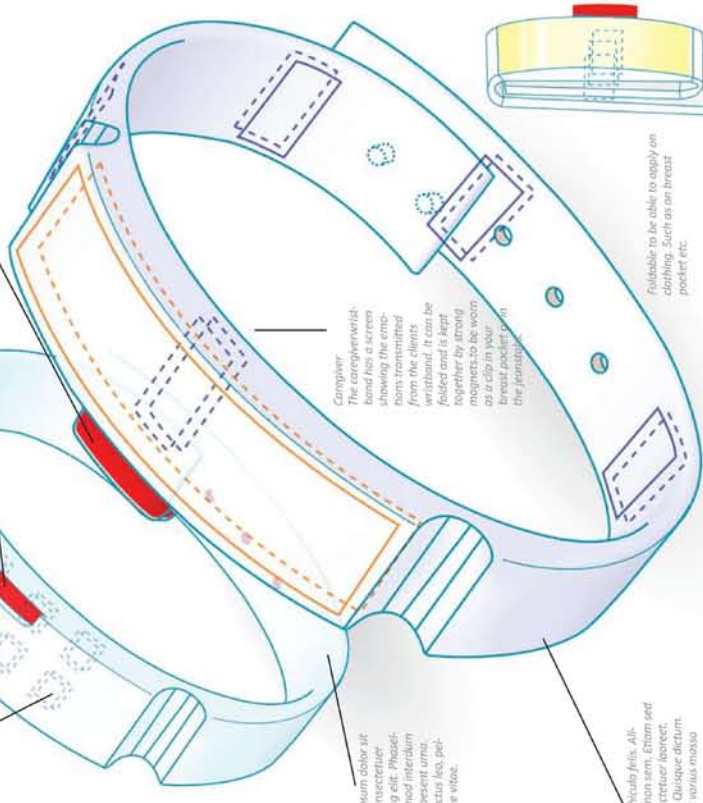
The caregiver becomes aware of changes in the client's emotional state.



**Client**  
The client wristband has the measuring technology on the inside so that it is attached to the skin. It has the same shape as the clients, but is not suppose to be folded.

**Inspiration**  
The inspiration of the shape comes from a broken heart in two pieces. We wanted to give the same feeling of belonging to someone and there.

**Form designed the wristbands**  
so that when they are put together it looks like one emotion shape, and when you take them apart it looks like they are broken. The cause of the tab and the hole where the tab was lying.

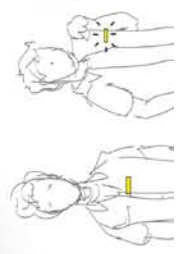


**Complier**  
The caregiver wristband has a screen showing the emotions transmitted from the clients wristband. It can be folded and is kept together by strong magnets so to be worn as a clip in your breast pocket (or in the peritoneum).

**Client**  
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus euismod interdum urna. Proident urna dicta actus leo, pellentesque wide.

**Form**  
Nam consectetur vehicula felis. Aliquam nonummy sem non sem. Etiam sed ante vitae enim consectetur lobortz. Aenean pellentesque. Quisque dictum. Mauris sapien. Donec varius massa.

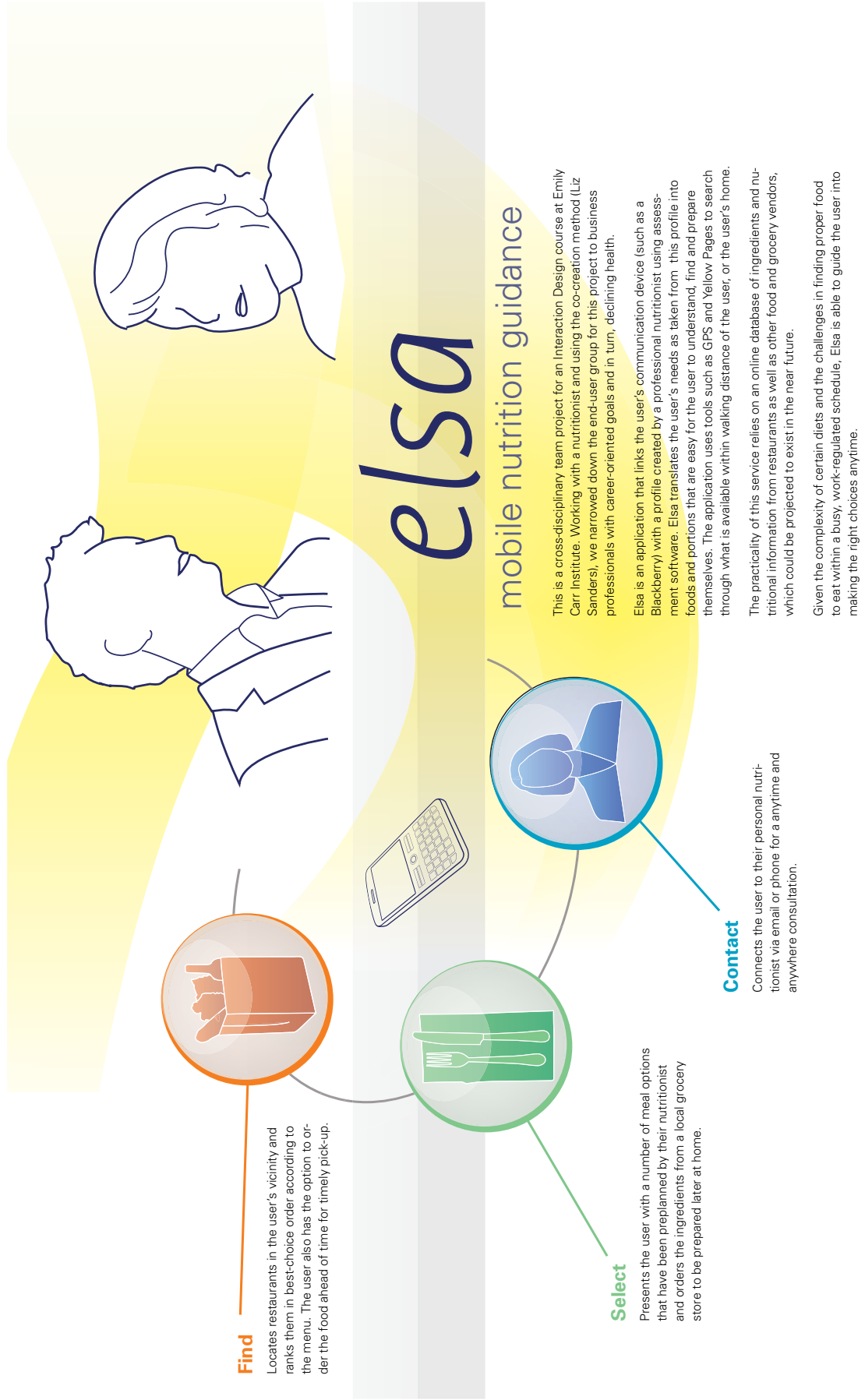
foldable to be able to apply on clothing. Such as on breast pocket etc.



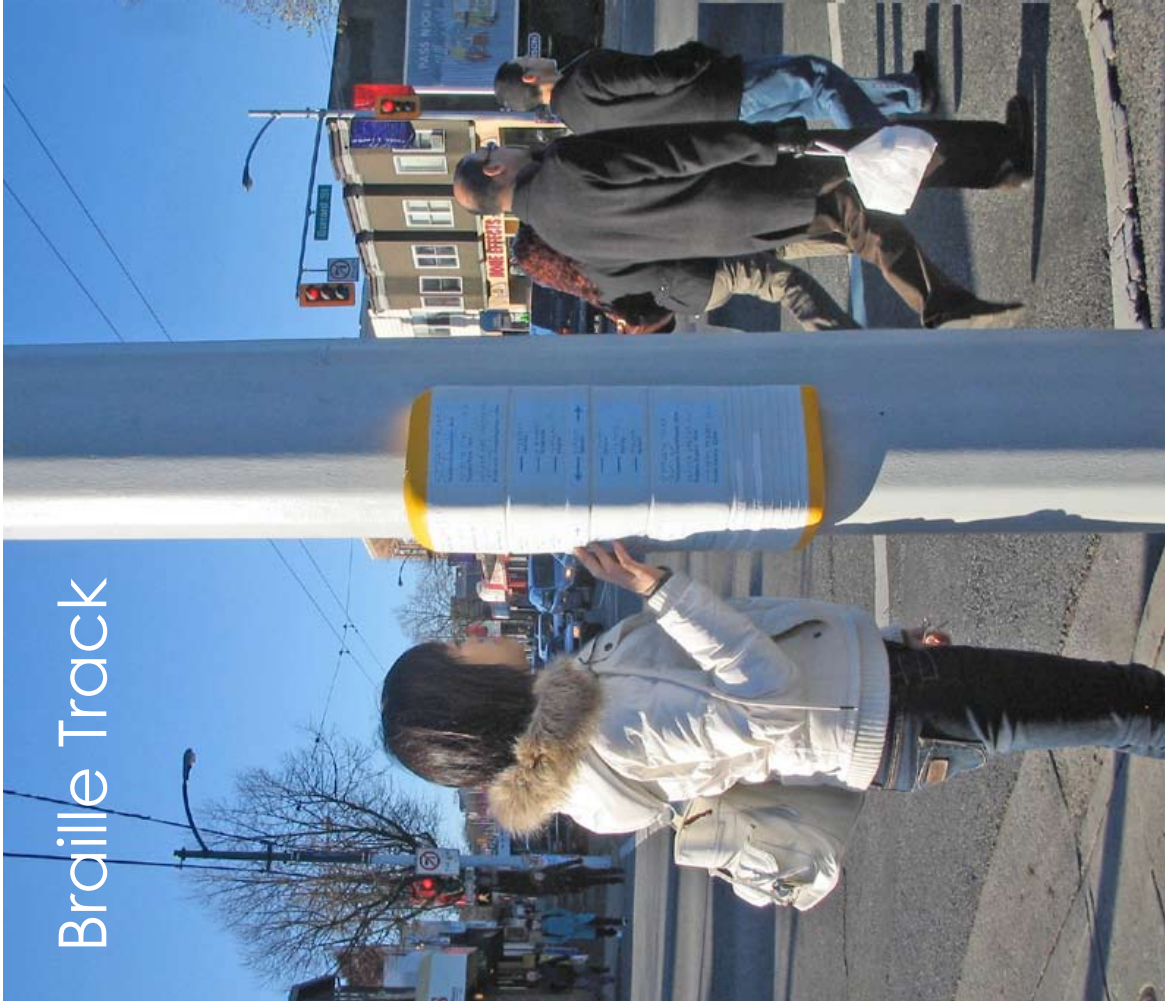
The design consists of two wristbands, one for the caregiver and one for the client. Both wristbands are adjustable to different arm sizes.

Table 7

team B



# Braille Track

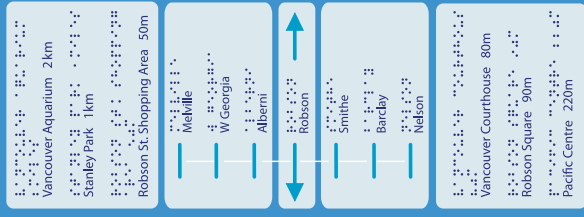


Braille Track is a wayfinding system for the visually impaired. It offers independency for the visually impaired to navigate through the city on their own.

**Braille Track Features:**

- \* Self-empowerment!
  - \* Create dialogues within blind community
  - \* Universal Design: can be used by tourists as well working toward enabling Vancouver to become an accessible city for the 2010 Olympics
- Future possibilities:
- \* Incorporate RFID tag / Audiable

Below: Experience prototype session with our co-creator. She was given a destination and a starting point. And her task was to follow the Braille Track that we set up along the street to get to the destination. And she successfully reached it.

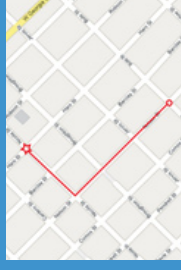


**Interface layout:** The street that you are facing is placed in the middle of the interface on a raised line.



**Sticker modification area / Public announcement:** User-centered modification / bottom up. Visually impaired individuals can stick stickers in this area to inform others about road conditions, their most often visited stores or community events.

**Interface layout:** The street that you are facing is in the middle. Arrows are embossed on both sides of the street name to indicate alignment of the street. The streets ahead of you are listed above the raised line, while the streets behind you are listed below. Important public places are listed accordingly.





# Domain of Inquiry: Community Access to Healthcare

How can we increase awareness of Healthcare services in communities and help people access these services?

Co-Creators



Workbook



Toolkit



Experience Prototype



Key Values

Word of Mouth

Proximity

Quality

Strategies

- It has a physical presence and its own identity in the community
- Accessible through internet
- It can cross-reference with existing databases to keep information accurate and current
- Works in collaboration with community organizations and services
- Facilitates and encourages the notion of sustainable community

Interaction Design



Welcome Package



Visual Identity



## Community Access to Healthcare

Health Avenue is an interactive user experience that allows people to build their Healthcare Team based on personal preferences and locate services in their neighbourhood. It can be found within the community or accessed through the internet.



Interface

"Who are the people in your neighborhood?"  
Explore what healthcare resources are available in your community.

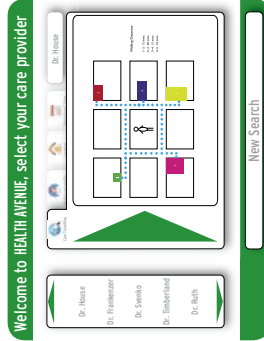


Table 10.1

**team E**

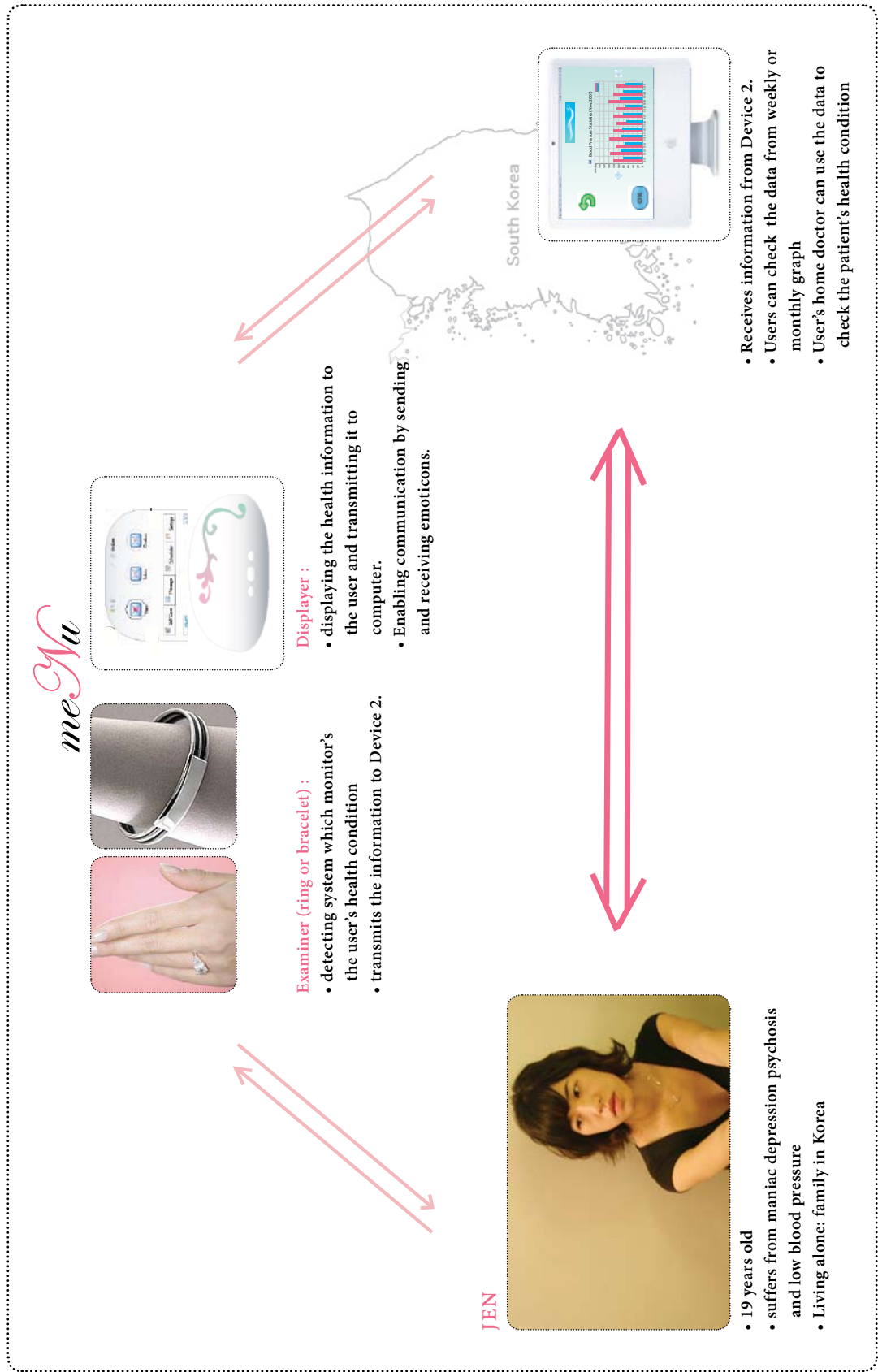


Table 10.2

team E



## Functions on Device

- Examiner detects the user's health condition and send the date to the display.
- Joanne gets constant feedback on her stress levels, blood pressure and temperature measure from the device.
- Family can get detailed information about Joanne's health condition.
- Display also enables friends and family to communicate in codes via emoticons.
- When the user's stress level or blood pressure reaches to the dangerous condition, the ring or bracelet vibrates and the color changes.

