Empathic Habits

Improving conscious use of professional empathy within design education

Master thesis by
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Colophon

Master Thesis
Empathic Habits -
Improving conscious use of professional empathy in design education

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Contents

Chapter 1 - The final product: a sneak peek

Before going into the research and experiments, this chapter offers a sneak peek of the concept this thesis is working towards: the Empathic Habits program.

lay experience

Empathy is one of the 8 design competences of the study Communication & Multimedia Design at Rotterdam University of Applied Sciences.
However, there is a gap within the curriculum regarding actively teaching students what it means to be an empathic designer, and it has not been completely clear what it actually means to be an empathic designer. That is where the Empathic Habits program comes in.

During the first year, CMD students get introduced to their study. An abundance of new information is thrown at them, and they get to have many first-time experiences regarding, for example, designing, prototyping, and user research. These experiences are necessary to be able to reflect upon during the Empathic Habits program.

introspection

At the start of the second year, CMD-students who join the program participate in their first Empathic Habits workshop. At this point, most students are not aware of what they have yet to learn; they are unconsciously incompetent.
Before the workshop, students do an empathic-abilities-test in which they get rated on 5 empathic sub-abilities. Together, these abilities make up what it means to be an empathic designer. At the start of the workshop they analyse their results: what are their strengths and weaknesses?
In this introspection process, students move from unsconscious incompetence to conscious incompetence.

active listening
- be open-minded and do not judge
- do not fill in someone else's answers
- give the empathee space
- trigger answers

self-awareness
- be aware of own biases and assumptions
- be aware of own behaviour, emotions and motives
- be aware of differences between you and the empathee

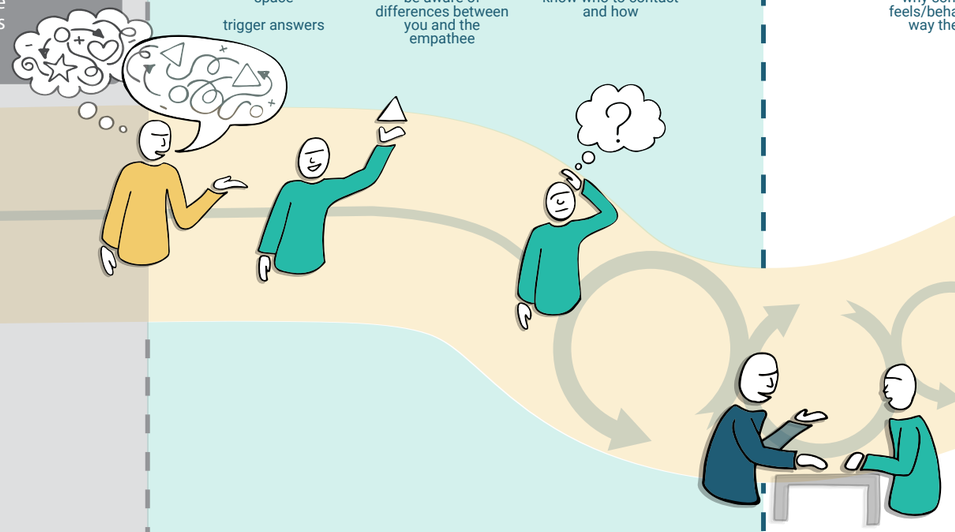
involving stakeholders
- get in contact
- communicate professionally
- adapt to your empathee
- know who to contact and how

finding valueable information
- finding coherence in information
- finding core values
- knowing when you have enough information

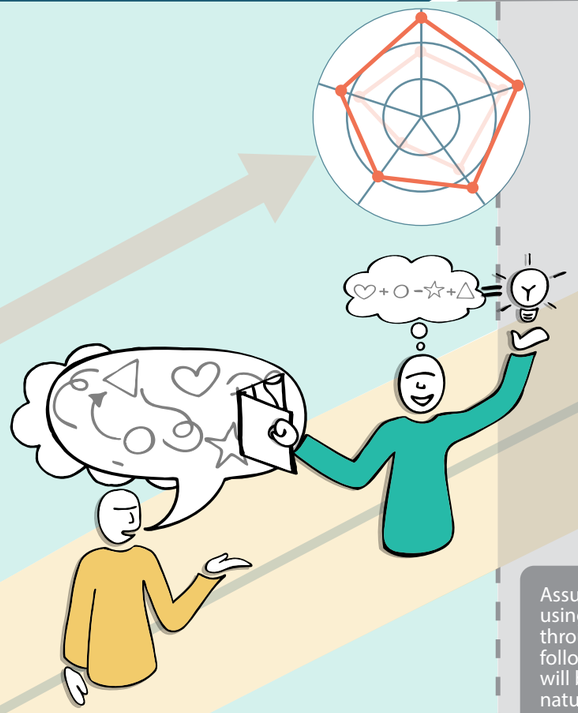
imagining & understanding
- be able to imagine a situation
- be able to imagine how someone feels/behaves
- being able to know why someone feels/behaves the way they do

practise in a safe environment

During the next part of the workshop, students get to practise their weakest empathic ability by interviewing each other. They are to use at least 3 mini-activity-cards corresponding with the empathic ability they are going to practise. These cards contain short, simple assignments which students can use in any user research setting.



reflection & development



At the end of the first workshop, the students reflect upon what they have learned and how they want to further develop their empathic abilities.
For students who join the follow-up program, it continues over the next 6-8 weeks with weekly or bi-weekly reflection sessions with fellow students and a teacher. Every week, they are to try new activities and reflect upon what works for them and why.
By adding mini-activities to their repertoire one by one, they develop empathic habits, making them more empathic designers. They move from being consciously incompetent to consciously competent.

empathic habits

Assuming students keep using the mini-activities, through the years that follow, the mini-activities will become second nature: they will become unconscious habits. In this process, students and/or graduates move from being consciously competent to unconsciously competent.

If you are reading the pdf version of this thesis, you can click on the image below to go to a user experience video of the workshop:

or use this link:
https://youtu.be/HnJED9P702k

Chapter 2 - Introducing the Project

This chapter introduces the original objective of the project and goes into the design approach. First the project is introduced, then the assignment is explained, and lastly, the design approach is laid out.

2.1 Introduction

Empathy is a term most people tend to have an idea about, but when asked about a definition the answers tend to remain ambiguous. Empathy is said to be about stepping into the shoes of another person, but what does that mean?

The ambiguity of the term empathy is also reflected in literature. Throughout the past century, empathy has been incorporated in many different fields such as art, healthcare, and business, its meaning evolving constantly (Lanzoni, 2018). In the 1990s, empathic design was introduced, because there was a need to find better design solutions, serving latent needs of users. Techniques were needed for collaborative skills, open-mindedness, observation and curiosity (Leonard & Rayport, 1997; Mattelmäki et al, 2014).
Within design, empathy is used to understand and communicate with the users and other stakeholders. Everyone has different needs and requirements, and empathy is needed to communicate with them, understand them, and design for them.
Within my thesis, I focus on the type of empathy a designer has with their stakeholder(s), especially their target group. I define empathy within the context of design as "The ability to step into the experiences of the people you are designing for, imagine what they are thinking and how they are feeling and behaving in certain situations, and find out what their motives are." It is used to anticipate what it is the prospective users most likely need. This understanding is then used in the design process in regards to designing and communicating.

A designer's
empathic understanding of users can be enhanced by training and practical experience (Kouprie & Sleeswijk Visser, 2009) and it needs to be actively developed (Gómez-Valdez & López-León, 2017).
However, just like the ambiguous definition of the concept itself, the way empathy is taught design students remains ambiguous. Design education tends to lean on the process of formation (Sutphen & de Lange, 2015) in regards to empathy: by learning about empathy-related abilities like human-centered design techniques and communication, students will simultaneously become more empathic.
The downfall is that some students might miss these learnings, because they are not explicitly taught and consciously experienced, resulting in delayed development or even underdevelopment of empathic skills (Gómez-Valdez & López-León, 2017). This means methods need to be developed to teach students empathy skills within design education. This leads to my design brief.

2.2 Design brief & goal

The bachelor Communication & Multimedia Design (CMD) at Rotterdam University of Applied Sciences is a design program that challenges students to contribute to solving social problems. During this 4-year bachelor, students are to develop eight design competences (see figure 1). One of these competences is empathy.

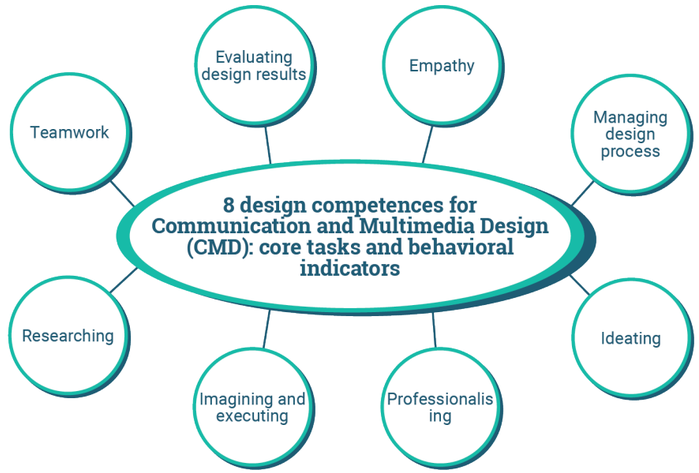


figure 1 - eight design competences for Communication and Multimedia Design (Competenties - Kerntaken en Gedragsindicatoren CMD 2019 — 2020)

My graduation project supports an ongoing research by knowledge center Creating010: “Improving empathic skills through introspection in design education.” This research is part of an overarching goal to improve the way empathy is taught and used in design education.
Knowledge center Creating010 is an initiative of Rotterdam University of Applied Sciences. They research social transformations associated with digitisation and developments regarding information- and communication technology. My graduation project is a continuation of research conducted by J. Mulder and P. van Waart, both educators at CMD. Mulder was granted a Comenius Teaching Fellowship to support her innovation initiative for CMD.
From February to July 2020, Mulder and van Waart tested a didactic educational concept which was designed to teach CMD students to design in a more empathic way, and teach them to reflect and act upon culturally sensitive factors in social problems. The intervention was focused on strengthening introspection in the context of the students’ design assignment: designing something for a more healthy lifestyle for students. Within this context, they were able to use introspection techniques to analyse their own behaviour regarding a healthy lifestyle whilst going to school. The idea was that insights in their own lifestyle would make them able to reframe health problems within the social context. Their increased awareness was hypothesised to increase engagement between the students and the design problem, and in turn increase empathy with the target group, resulting in more empathic design solutions.
Half of the students started the project with the introspection intervention. The other half did another, regular introduction assignment. The differences in these groups were analysed throughout the project through quantitative data based on questionnaire(s). Afterwards, the dataset was further analysed.
The first findings inspired many new questions and research directions. In my graduation project I addressed one of these directions:

how to improve empathy awareness and competence?

Based on this question, I came up with the following design goal:

to help students use empathy consciously throughout their design projects.

I wanted to reach this goal by designing an (educational) tool which offered structure and clarity regarding the application of empathy in design and the development of empathic skills. My goal was to make students aware of their own empathy style(s) and consequential pitfalls, and teach them how to use and develop their empathic skills throughout their design projects. My design solution is to support Creating010 in their pursuit to improve the way empathy is taught and used in design education.
The primary clients for this project are Creating010 and consequently, Rotterdam University of Applied Sciences. The end users are the (future) students and educators of both CMD and Industrial Design Engineering at Delft University of Technology, because the design solution I came up with (if satisfactory), will be applied to and/or used by them. Throughout the project, my main focus was on second-year CMD students, as they have been involved as participants to generate insights and prototypes, but my design solution is applicable to IDE students as well. Indirectly, future stakeholders of the design students are my stakeholders too, because if I have done my job correctly, these students will be more empathic with them.

2.3 Design Approach

Because empathy is such a vague concept, I wanted to test as soon as possible and as much as possible. I wanted to do research through design and design by doing, whilst talking to as many people as possible. Note that because of the situation surrounding Covid-19, the far majority of my interactions with my stakeholders took place online. I went through three main design phases, which are represented in the division of my thesis: analysis, design exploration and detailing (see figure 2).

In the analysis phase I conducted literature research, and some desk and field research. My goal was to get a better understanding of the concept of empathy itself. In my literature research, I go into the history and definition of empathy, and theories about the development of empathy (see chapter 3). In my field research, I interviewed IDE students to get a better understanding of how empathy is perceived by students both in their private lives as in their role as design students. Furthermore, I read reports by CMD students and talked to CMD educators to get a better understanding of empathy in the context of my project (see chapter 4). Based on this orientation phase, I came up with a more focused design direction, resulting in a list of design requirements (see chapter 5).

Because I went for a research through design approach, my design exploration phase was the longest of all phases. In the design exploration phase, I went through 3 design sprints. I was able to give three (remote) workshops to different groups of second year CMD students. In each workshop I tested a different concept and/or iteration of a concept, using the main takeaways as a base for the next workshop (see chapters 6-8). I also tried to explore the long term effects of my concept by letting a few students use my final concept for a few weeks, after which I interviewed them about it. In chapter 9, I summarized the main takeaways from these workshops and updated the list of requirements.

In the detailing phase, I combined all insights from previous chapters to do a final iteration of my final concept: Empathic Habits. The detailing chapter starts with my final takeaways and the resulting iterations. Then, I make some recommendations regarding the further development of my concept. I describe three different scenarios for further development, and I explain one a bit more in detail. Lastly, I go into the bigger picture: where does my concept fit within design education? Can it be extrapolated to other fields as well? (see chapter 10)

Lastly, in the evaluation part of my thesis, I reflect on my design goal; I go into the contributions of my research to theory, practice and education; I talk about the limitations and recommendations regarding my project, and I finish my thesis with a personal reflection of my experiences during this project (see chapter 11).

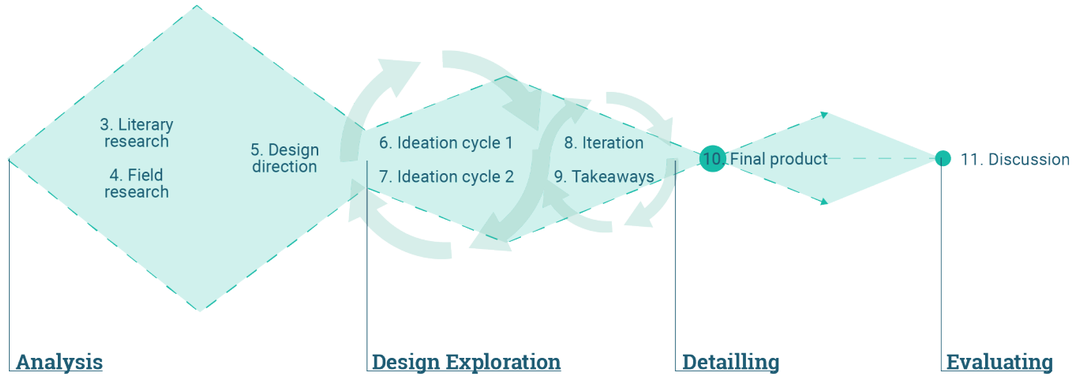
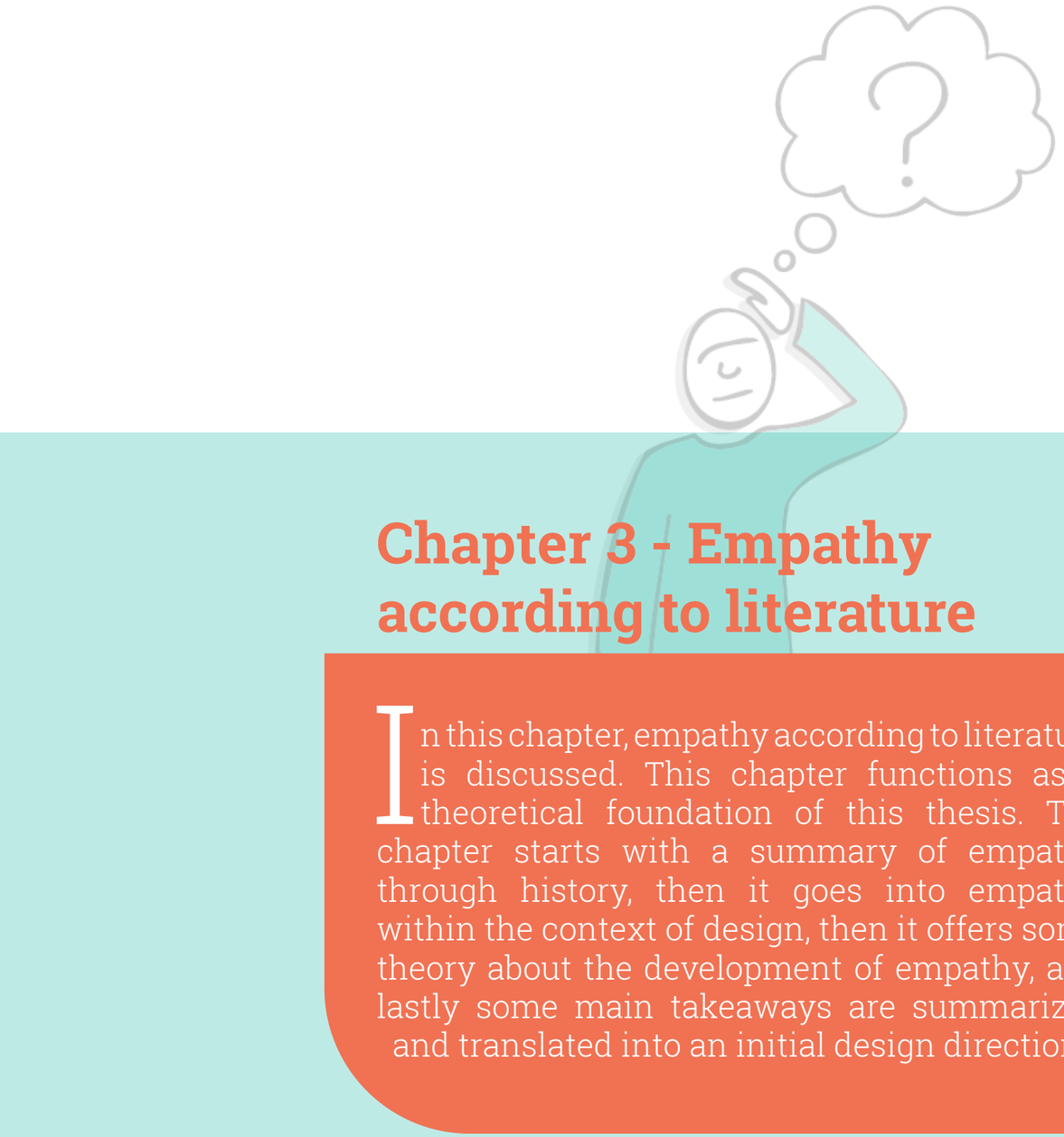


figure 2 - Design Process visualised



Chapter 3 - Empathy according to literature

In this chapter, empathy according to literature is discussed. This chapter functions as a theoretical foundation of this thesis. The chapter starts with a summary of empathy through history, then it goes into empathy within the context of design, then it offers some theory about the development of empathy, and lastly some main takeaways are summarized and translated into an initial design direction.

3.1 A quick history

To get a better understanding of what the concept of empathy entails, I dove into its history. I wanted to find out how the term came to be, because its definition does not seem to be straight forward. First, I go into the development of the definition of empathy over the past century. Then, I go into the development of the definition in more modern times: the past three decades.

3.1.1 Empathy in the past

According to Susan Lanzoni, the writer of the book Empathy: a History (2018), empathy is best understood as "an array of ideas and practices". The term presumably goes back to "the beginnings of philosophical thought" (Stotland et al., 1978, cited in Cuff et al., 2014), but only during the past century has it really made its way into Western literature.
An official definition has yet to be agreed upon, as currently, there seem to be as many definitions as there are writers about empathy.

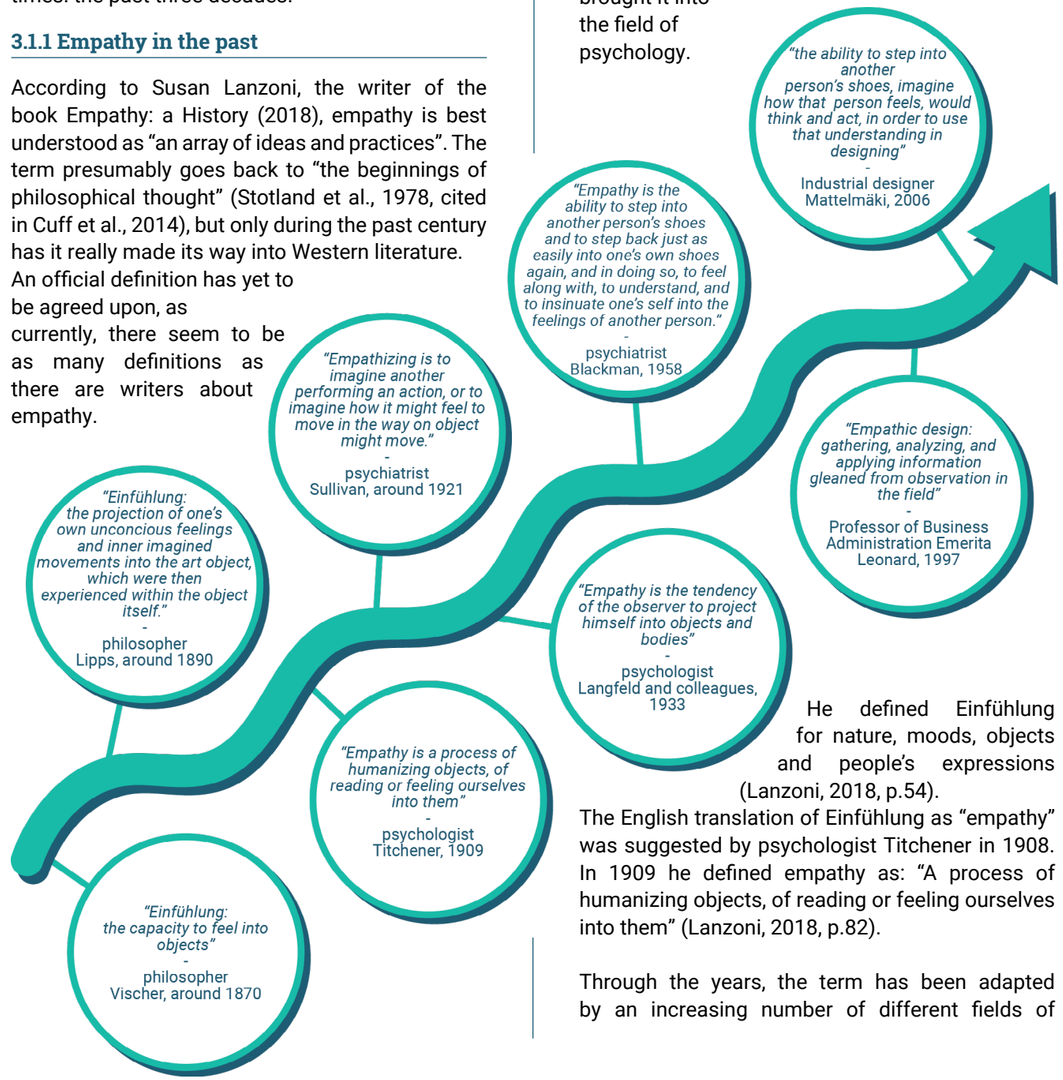


figure 3 - Empathy definition timeline

The first official definition was coined by the German philosopher Vischer in the 1870s when he brought the term into aesthetics. Back then, the term was known as "Einfühlung", and it was explained as a "capacity to feel our way into objects"(Lanzoni, 2018, p.48). It was about extending oneself into the (artistic) object you are viewing, feeling the curve of an arch, or the rise of a mountain. By 1903, Lipps extended the term beyond aesthetics and hereby, brought it into the field of psychology.

He defined Einfühlung for nature, moods, objects and people's expressions (Lanzoni, 2018, p.54).
The English translation of Einfühlung as "empathy" was suggested by psychologist Titchener in 1908. In 1909 he defined empathy as: "A process of humanizing objects, of reading or feeling ourselves into them" (Lanzoni, 2018, p.82).

Through the years, the term has been adapted by an increasing number of different fields of

study, its meaning and applications adapting with it. It has been used as a way of experiencing and appreciating art, a psychotherapeutic tool, an innate human trait, and an essential element of civic responsibility (Lanzoni, 2018). To show some of these transitions, I picked a few definitions that I think represent some of the many transformations the definition of empathy went through. I visualised this in a timeline in figure 3.

3.1.2 Empathy in the present

These days, there is still disagreement on the definition of empathy. Batson (2016) listed eight distinct phenomena that have been called empathy:

1. Empathic accuracy, or theory of mind: knowing another person's internal state, including his or her thoughts or feelings
2. Motor mimicry: adopting the posture or matching the neural response of an observed other
3. Emotional catching, or contagion: coming to feel as another person feels
4. Projection: intuiting or projecting oneself into another's situation
5. Imagine-other perspective-taking: imagining how another is thinking or feeling
6. Imagine-self-perspective-taking: imagining how one would think and feel in the other's place
7. Empathic distress: feeling distress at witnessing another person's suffering
8. Sympathy, or empathic concern: feeling for another person who is suffering

Which one(s) of these phenomena best represent empathy is still debated. My initial thought was that to be empathic as a designer you at least need phenomena 5 (imagine-other perspective-taking) and 6 (imagine-self perspective-taking), and possibly also 1 (empathic accuracy) and 4 (projection). In chapter 4 I dive deeper into this as I decide upon my own definition of empathy, based on the combination of my literature and field research.

Besides the aforementioned phenomena, it is said that empathy consists of at least two components: the cognitive and the affective component. The cognitive component is described as "the understanding by the observer of the other person's feelings: Intellectually taking the role or perspective of another person." The affective component is described as the "immediate emotional response of the empathiser to the affective state of the empathy. It is an automatic response to another's emotional state" (Kouprie & Sleeswijk Visser, 2009).

Other sources such as Morse et al. (1992) claim that empathy consists of two other components: the behavioral and the moral component. The behavioral component is described as "the ability to communicate empathic understanding and concern". The moral component is described as an "innate ability, or empathic disposition" (López-León & Gómez-Valdez, 2017). However, other scholars such as Cuff et al. (2014) disagree by saying that empathy itself does not contain a behavioral or moral component, but can result in a motivation to act.

I personally think empathy itself does not have a behavioral component, but in order to use it in design you need to do something with it. Just being empathic is not enough to be able to make someone share useful experiences and to be able to translate those experiences into a concept. This could be assigned to this behavioural component. Therefore, I think the behavioural component is a significant part of empathy as a designer. I would not say the moral component is significant. Yes, some people might have more empathic disposition than others, but I would not call this a component of empathy in the same way that the cognitive, affective and behavioural components are. In the next part (empathy in design), I further define empathy within the context of design.

3.2 Empathy in context

Empathy is applied in many different fields, and for each field the definition might vary. As my goal was to design a tool within the context of design, this report solely focuses on that field. First, I go into a general definition of empathy within the context of design. Then, I go into how empathy within the context of design can be seen as a process.

3.2.1 Defining empathy in design

Empathic design was introduced at the end of the 1990s, as there was a need to find better design solutions by exploring the feelings and moods of their users. Exclusively using questionnaires turned out not to be enough to design successful products. A need arose for methods which could be used to dive deeper into the psyche and experiences of the users.
The goal was to develop ways to meet user needs, even if those users did not mention those needs. It was proposed that techniques were needed for collaborative skills, open-mindedness, observation and curiosity (Leonard & Rayport, 1997; Mattelmäki et al, 2014). The term empathy has been used more and more over the past two decades in the context of business, and is a significant part of contemporary design approaches such as user-centered design (Chang-Arana et al, 2020).
These days, empathy is not just seen as a way to get a better understanding of users, but it is seen as an ability that promotes "people-centered" innovation. It is a way to understand everyone you work with as a designer: e.g. stakeholders, end-users, colleagues, etc., and to use that understanding to come up with solutions to complex problems. (Bohorquez, 2018)
However, it is still not clear when a designer is considered sufficiently empathic. Several attempts have been made to define empathy in design, mostly based on definitions in the field of psychology. Just like in other work fields, there is not agreement yet on the official definition, so for now, I will use the definition that speaks to me most: ***"the ability to step into another person's shoes, imagine how that person feels, would think and act, in order to use that understanding in designing"*** (Mattelmäki et al., 2006, cited in Sleeswijk Visser, 2009, p.59).

3.2.2 Empathy in design as a process

In order to get a better understanding of how empathy works and how it can be applied, some scholars have translated the term into a process. Sleeswijk Visser (2009) has done this in the context of design. She made a framework, based on her own (field)research and previous literature, which divides the process of empathy into four steps: discovery, immersion, connection and detachment:

1. Discovery is about entering the user's world and achieving willingness
2. Immersion is about wandering around in the user's world and taking the user's point of reference
3. Connection is about resonating with the user, achieving emotional resonance, and finding meaning
4. Detachment is about leaving the user's world and designing with user perspective

There are three important elements of empathy in design this framework brings forward: the importance of motivation and willingness to empathise; the notion that empathy in design requires a combination of cognitive reasoning and affective resonance, and that the process of empathy in design requires a structured investment of time. These elements need to be taken into account when designing a tool to increase empathic awareness and skills for design students.

3.3 Developing empathy

To be able to design a tool to increase the conscious use of empathy, an understanding of the development and measurements of empathic skill is necessary. Firstly, I go into different views on increasing empathic skills. Then, I go into different types of learning in general. After that, I summarize a few existing methods that are said to increase empathic skills within the context of design. Lastly, I go into measuring techniques.

3.3.1 Different views on increasing empathic skills

Empathy can be seen as a trait or a state Cuff et al (2014). The state view implies that empathy is stable: it depends on factors such as genetics, anatomy, gender and education, but does not change in different situations. The trait view implies that empathy is variable: it depends on situational factors such as mood, perceived power, cognitive load, etc. By influencing these factors, you influence empathic skills. I personally reject the notion that empathy is stable, because this also implies that it cannot be improved. I do believe genetics play a role in how empathic someone tends to be, but I think anyone can develop empathic abilities with the proper training. I also believe empathy can be influenced by situational factors, if only because I have experienced it myself. More about this in chapter FIXME.

But how does one become more empathic? Based on previous literature, Hess and Fila (2016) describe three different processes that lead to becoming more empathic: development, growth and formation (see figure 4).
Development is focused going from one stage to the next. In this process, empathy would be divided into consecutive steps you can learn to become an empathic person. Hoffman (2000) claims that the development of empathy happens prior to becoming a teenager and he calls “perspective-taking” the most advanced form of empathy. Others claim empathic development can happen throughout one’s life span (Kohlberg, 1976).
Growth is focused on increasing existing skills. Based on this model, the empathic skills are already there, but can be enhanced. For example, Hoffman’s perspective-taking would not be an accumulation of previous empathy forms, but a skill that is grown over time. In this model, empathic skills would be on a spectrum on which you can progress or regress.
A more recent term is formation, which was introduced in the context of empathy in engineering education. Sutphen and de Lange (2015) claim that empathy is a skill that is automatically grown during the process of becoming an engineer: whilst learning about empathy-related abilities such as communication or human-centered design techniques, the student will simultaneously become more empathic.

According to Kouprie and Sleeswijk Visser (2009) a designer’s empathic understanding of users can be enhanced by training and practical experience. López-León and Gómez-Valdez (2017) noted based on their interviews that empathy stays inactive if it is not actively developed.
In my experience and according to the literature I previously mentioned, empathy is a skill that, within the context of design and engineering, is mostly taught through formation (more about this in chapter 4). The downfall of this is that if a skill is not explicitly taught and consciously experienced, some students might completely miss it. This can result in students starting developing empathic skills too late or not at all (López-León & Gómez-Valdez, 2017).

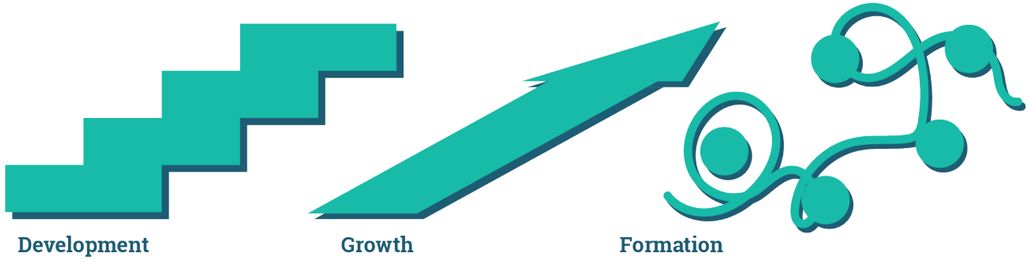


figure 4 - development, growth and formation visualised

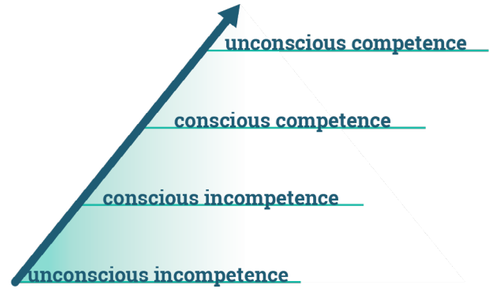


figure 5 - four stages of learning (Burch, 1970)

3.3.2 Different types of learning

Besides the processes mentioned above, I looked at how people learn new skills in general. What inspired me the most for the continuation of my project were the four stages of learning by Burch (1970) (often falsely attributed to Maslow), and the Experiential Learning Cycle by Kolb (2014).
When learning a new skill, there are four stages that people tend to go through (Adams, 2012) (see figure 5):

1. Unconsciously incompetent
   In the first stage, one is not aware of what they do not know. They know so little of a certain skill, that they do not even know they do not possess said skill.
2. Consciously incompetent
   In the second stage, one is aware of the skill they do not possess. They start learning a bit about something, and they are struck with the notion that they know little about it. They become conscious of the possible mistakes they made in the past and the improvements that can be made.
3. Consciously competent
   In the third stage, one is aware of the skill they have developed. They know what they can do and they know what they still can improve upon. They use their new knowledge very consciously and they are aware of what they are doing and why.
4. Unconsciously competent
   In the final stage, the skill has become like second nature. It has become so natural that one does not even notice themselves using the skill anymore. The skill has been integrated in their unconscious behaviour.

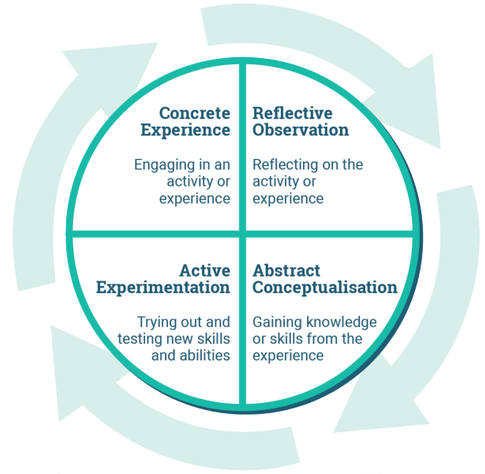


figure 6 - experiential learning framework (Kolb, 2014)

Simply put, experiential learning is gaining knowledge from real-life experiences. Around 1984, Kolb developed a framework for this type of learning, which according to him could be applied to most learning scenarios. This framework is called the experiential learning cycle (see figure 6). This cycle consists of 4 steps which can be repeated endlessly:

1. Concrete experience
   This step is about engaging in an activity or experience.
2. Reflective observation
   This step is about reflecting on said activity or experience.
3. Abstract conceptualisation
   This step is about gaining knowledge or skills from said experience.
4. Active experimentation
   This step is about trying out these new sets of skills and abilities.

Ideally, I would incorporate all of these steps in my tool in order to make the learnings stick, using it to get the CMD students on a higher competence level.

3.3.3 Methods to increase empathy

In his book "The Creative Empathy Field Guide" (2020), Brian Pagán goes into how one can be empathic as a creator. He summarised many different sources into a concise list of methods that can be used to increase your empathic ability. Many of these methods can be applied within the process of empathy within design, as described by Sleeswijk Visser: discovery, immersion, connection and detachment. Furthermore, these methods have been chosen with the creative process in mind. All of this makes them applicable in the context of design. An overview of methods mentioned by Pagán can be found in Appendix B. I have used most of these methods as inspiration for my final concept.
Besides different methods to increase empathic ability, Pagán goes into some pitfalls to look out for and how to avoid them. These are important to keep in mind when designing something that is supposed to increase conscious use of empathy within the design process. We do not want to evoke any of these pitfalls. I summarised them in Appendix C.

3.3.4 Measuring empathy

Measuring empathy has proven to be difficult (Lanzoni, 2015). Nonetheless, there are some instruments that are claimed to measure empathy. I will go over a few examples.

IRI: Interpersonal Reactivity Index
In 1983, Davis published one of the most prominent psychometric measures of empathy, called the IRI: the Interpersonal Reactivity Index, which consists of 28 statements that need to be rated on a 5-point Likert scale (see Appendix D). The statements are based on four constructs of empathy: perspective taking, fantasy, empathic concern, and personal distress. The IRI was the base for the quantitative research that was done during the Introspection research by Rotterdam University of Applied Sciences (Appendix E).

EQ: Empathy Quotient
Even though the IRI is a popular measure of empathy, it has received criticism, mostly based on the four constructs (Hess & Fila, 2016). Baron-Cohen and Sally Wheelwright (2004) for example, did not agree with labeling fantasy and personal distress as empathy. They then made their own psychometric measure of empathy called the Empathy Quotient (EQ) (see Appendix F). The initial goal of this instrument was to measure the differences in empathic ability between males and females and people with and without autism. Because their results were in line with the general consensus that females are more empathic than men, and autistic people are less empathic than non-autistic people, they determined the EQ as reliable.

Empathic Accuracy Method
Contrary to the IRI and EQ, the Empathic Accuracy Method does not rely on introspective ability to measure empathy, as it does not require self-rating (Chang et al., 2020). Within this method, a conversation between a user and a designer is recorded and empathic accuracy is measured. There are three versions of measuring empathic accuracy.

1. Dyadic interaction paradigm
   The user and the designer are to rewatch the video of their interaction. One of them has to pause the video several times and say what they were thinking or feeling. The second person has to pause the video at the same times and say what the first person was thinking or feeling. The results are compared in similarity.
2. Standard stimulus paradigm
   In this format, the thoughts and feelings are guessed by a group of perceivers who do not have direct contact with the user and/or the designer. Both the Dyadic and standard paradigm are measuring cognitive empathy, because they measure something similar to the perspective-taking category of the IRI.
3. Shared physiology paradigm
   In this format, the physiological responses are also monitored in order to measure affective empathy. Its goal is to measure how much one participant identifies with the feelings of another participant.

Personally, I am not convinced that guessing what someone is thinking and feeling in a certain moment, and or comparing if people have similar physiological activity, is a good representation of empathy, especially empathy as a designer. I would much prefer to measure empathy as an understanding of the user's needs and world view. However, it is an interesting method to keep in mind, because it does not rely on introspection, like the methods mentioned before.

Mirror Neurons
Through the discovery of "mirror neurons", neuroscientists seemed to have found a way to measure empathy (Lanzoni, 2015). Mirror neurons are neurons that fire not only when someone is performing an action, but also when someone is perceiving someone else performing an action. Neuroscientists theorized that these mechanisms "allow us to directly grasp the meaning and sometimes even the intention of a perceived action." However, critics such as psychologist Gregory Hickok (2014) say that empathy is more than motor resonance and simulation. He says cognition is a critical part of empathy, which cannot be measured by the activity of mirror neurons.
All in all, there is no officially proven method to measure empathy. However, the findings above do line up with the general consensus that empathy consists of both an affective and a cognitive component. The IRI and the EQ attempt to measure both the cognitive and the affective component through introspection, whilst measuring mirror neurons is a method to measure the affective component. The empathic accuracy method could measure both, depending on what version is used.
The IRI and EQ rely on the introspective abilities of the participant, as they have to assess themselves by rating statements on a likert-scale. Therefore, the results of such instruments might not be as trustworthy as one might hope.
The empathic accuracy method limits itself to comparing thoughts, feelings and/or physiological responses, which in my opinion, do not necessarily represent empathy for designers.
I would say that the IRI and EQ questionnaires are the most useful for my project, because they are easy and quick to fill in, and they tackle more types of empathy, rather than just guessing one's thoughts and feelings at a certain moment.

3.4 Main takeaways

Based on my literary research, I have condensed a list of takeaways that I deemed most useful for the continuation of my project. These resulted in my initial design direction: creating an empathy framework on which students can be plotted.

Definition
What stuck with me most, is that empathy is still a rather undefined concept. Everyone seems to have a general idea of what it means, but an exact definition has yet to be agreed upon. For now, the definition that I am using is "the ability to step into another person's shoes, imagine how that person feels, would think and act, in order to use that understanding in designing" (Mattelmäki et al., 2006, cited in Sleeswijk Visser, 2009, p.59).
It can be divided into a cognitive and an affective component. The cognitive component is about intellectually understanding the perspective of another person. The affective component is an automatic emotional response to another person's emotional state. To be able to be empathic with someone, a designer needs to be able to behave in a certain way. Furthermore, a designer has to actually do something with the results. Therefore, empathy in the context of design also has a behavioural component.

Process
Within the context of design, empathy can be seen as a process, consisting of four phases: discovery, immersion, connection and detachment. A combination of cognitive reasoning and affective resonance is required, and for each of the steps motivation and willingness are essential, because they require an investment of time and energy.

Developing empathy
A designer's empathic ability can be enhanced by training and practical experience. I described three different processes that could lead to becoming

more empathic: development, growth and formation. Currently, design education seems to rely mostly on formation to teach students empathy. However, this unconscious way of learning could result in students developing their empathic skills too late or not at all.
When teaching empathy in a more conscious way, we can use the four stages of learning: unconsciously incompetent, consciously incompetent, consciously competent, and unconsciously competent. The goal is to get the students to a further stage.
I would like to incorporate experiential learning, because I think empathy is something that needs to be experienced to be understood, as the concept is so complex. The experiential learning cycle consists of four steps: concrete experience, reflective observation, abstract conceptualisation, active experimentation.

Measuring empathy
There is no perfect method to measure empathy, but within my project, the IRI (Interpersonal Reactivity Index) and EQ (Empathy Quotient) questionnaires are probably the most useful. They are quick and easy surveys that CMD students could fill out individually, and they go into different components of empathy. The pitfall is that these methods rely on the introspective ability of the participant. However, because they are easy to do and to use for quantitative measurements for many people at once, I think these are the most useful when testing a new tool that is to be applied within design education.

3.5 An initial design direction: an empathy framework

Based on my findings, I thought it would be useful to design a framework to simplify the concept of empathy (see figure 7). By plotting students on a framework, it can be clear at first glance what they need to focus on when developing their empathic skills.
My initial idea was to be able to separate projection from empathy within this framework, because in my personal experience, projection is a weakness of many designers. In this context, projection means projecting oneself within the context of the empathee. The downfall of projection is that the designer confuses their own experience with the experience of the target group. The designer knows how they would experience a certain situation themselves, and they assume the target group would experience the same. This can result in designers basically designing for themselves instead of their stakeholders. In chapters 4 and 5 I explore this theme further.

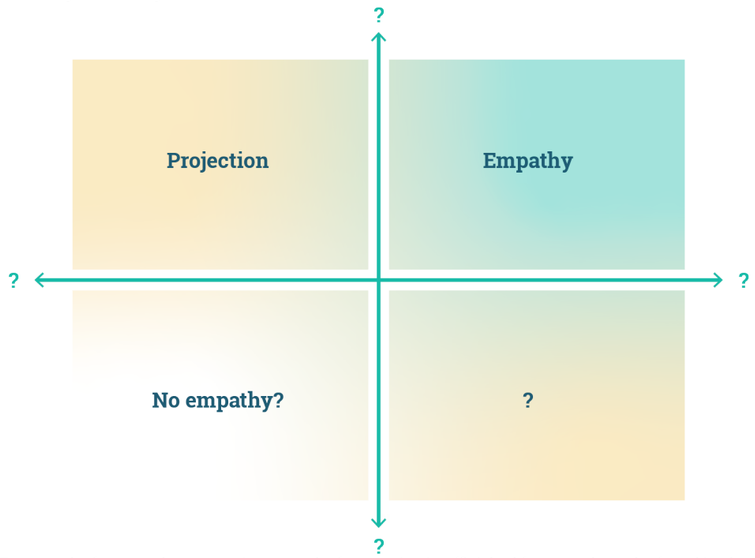
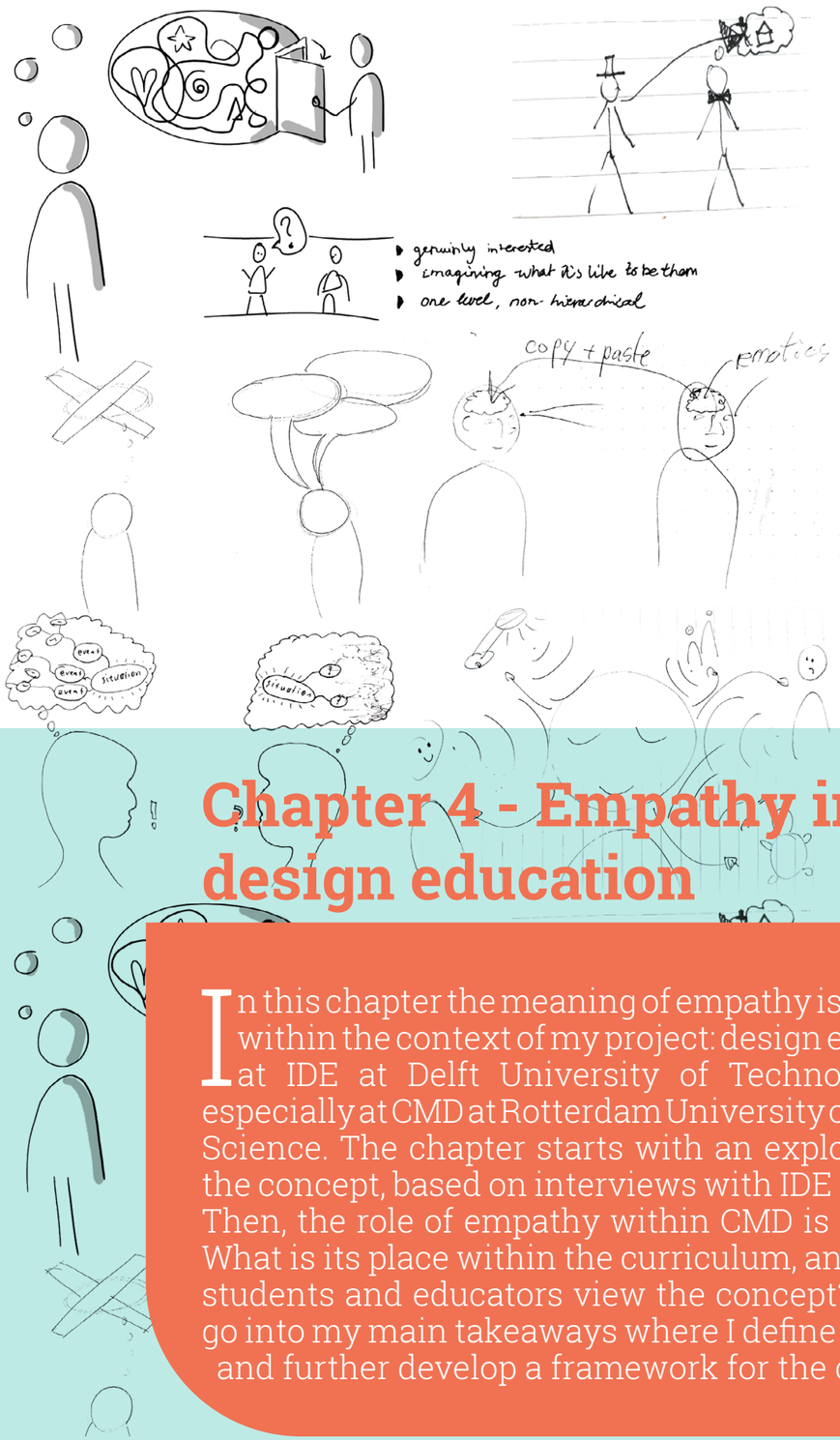


figure 7 - UNFINISHED empathy framework - separating empathy from projection (finished framework can be found in chapter 4)



Chapter 4 - Empathy in design education

In this chapter the meaning of empathy is explored within the context of my project: design education at IDE at Delft University of Technology, but especially at CMD at Rotterdam University of Applied Science. The chapter starts with an exploration of the concept, based on interviews with IDE students. Then, the role of empathy within CMD is explored. What is its place within the curriculum, and how do students and educators view the concept? Lastly, I go into my main takeaways where I define empathy and further develop a framework for the concept.

4.1 IDE students' point of view

To get an initial understanding of how the concept of empathy is perceived by my main target group, design students, I interviewed 8 IDE (ex-)students. 1 participant had graduated a few years ago, 6 participants were master students, and 1 participant was working on his final bachelor project. Therefore, in every interview we were able to look back upon a few years of design education, and how empathy was incorporated within those years. I had a few goals for these interviews:

- Getting a better understanding of how students defined empathy.
- Getting real life examples of empathic and non-empathic situations in private and professional life, to see if and how they differ.
- Finding out how and if students know whether they are empathising or projecting.
- Finding out if students could be divided into different empathy categories, styles or ways of working.
- These goals resulted in the questions in Appendix G. As a fun extra exercise, I also asked my participants if they could draw empathy for me (see background of chapter introduction).

The interviews turned out to be extremely full of information that could be analysed and clustered in many different ways. Below are the main takeaways I used as inspiration for the rest of my project. For a complete overview of quotes and labels, see Appendix G.

4.1.1 Definition oft empathy

Some students described the affective component, some the cognitive component, but most students described both. Within the context of design, students focused most on the cognitive component (see point "Private vs. Professional").

"I think it is about understanding how someone feels and knowing how they would react in a situation."

"Empathy is about feeling what someone else feels. (...) It is an interpretation of how I think people feel. It can never be 1-to-1, because I am not that other person."

4.1.2 Evolving understanding during interview

One of the most interesting things of the interviews was that the understanding of the concept of empathy evolved during the interview itself. Every interview turned into a philosophical brainstorm of the concept, and therefore, most participants changed perspectives one or more times. This showed me how important it is to consciously work on and discuss the topic.

"But yeah, what is that intuition? It has to exist right, wouldn't you say? (...) If you do not consciously think about something, maybe it feels like intuition. That could be it. Maybe it is a, not necessarily trained, but unconscious thought process, which people like me have to do a bit more consciously."

4.1.3 Difficulties surrounding empathy

The participants mentioned a plethora of different reasons why they had difficulty with being empathic in the context of design education (see figure 8). I have roughly clustered the difficulties mentioned into difficulty categories (inner circle) with some sub-categories if necessary (outer circle). Ideally, my concept will tackle multiple of these reasons. There are probably more difficulties students face, but these are the ones that were mentioned by my interview participants.

4.1.4 Private vs. professional

What became very clear to me was that empathy has different goals in private life versus professional life as a design(er) (student). I visualised these differences in figure 9. Based on this, I would say empathy as a designer is a different type of empathy than people use in their private life. It is more functional and maybe leans more to the cognitive side than to the affective side. While empathy in private life is more about bonding and emotionally being there for someone, professional empathy is about getting someone, usually a stranger, to open up to you by adapting your setup to their needs, and understanding them in such a way that you can do something valuable with the results. As a designer, you might have to force yourself to be interested in someone you would never talk to in your private life. It is a more conscious way of being empathic.

figure 8 - reasons for difficulty with empathy in the context of design, mentioned by IDE students

4.1.5 Reasons not empathic in private

Within the examples of non-empathic situations in their private life, there were many reasons why students would not or could not be empathic. I clustered them into the following four categories:

1. Relationship related
   When you are close to the empathee and the relationship falters or it is clear that empathy will not help them, you can consciously distance yourself from them.
2. Not enough headspace
   When you have many other things that take up space in your brain, you might not have the headspace and/or energy to be empathic with someone else.
3. Not relatable and/or not interested
   When an experience is too different from your own experiences, it is difficult to understand enough to empathise with. When there also is a lack of interest to dive deeper into said unknown experience, empathy is virtually impossible.
4. Not aware of the others experienced
   Sometimes, the thought of how a situation could affect someone else does not even cross your mind. You cannot be empathic with that person in that case.

4.1.6 Reasons not empathic professionally

Within the examples of non-empathic situations in their life as design students, many reasons for their non-empathic behaviour were to be found. I clustered these reasons into four categories:

1. Projection
   Not questioning your understanding of the target group can lead to projection, which creates a mismatch between what the designer thinks the target group needs versus what they actually need.
2. Lack of interest
   When you do not have any interest in a certain stakeholder it is more difficult to be empathic with them.
3. Ignorance
   Sometimes, a complete group of stakeholders is ignored in a project, because the designers are unaware of their needs and/or existance or because they are actively excluding said group from the project. You cannot be empathic with someone you are unconsciously ignoring.
4. Proximity
   When your experience is extremely different from the experience of your target group, it can be more difficult to empathise with them.

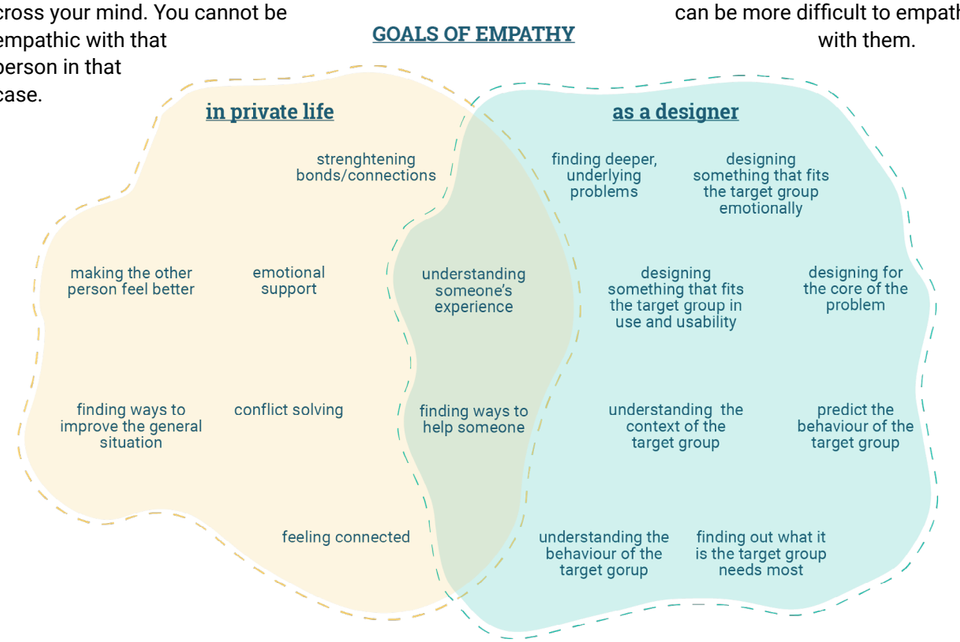


figure 9 - goals of empathy: private vs. professional

4.1.7 Misconceptions surrounding empathy

In my opinion, some misconceptions surrounding the concept of empathy came forward:

- Empathy is only about feelings and/or intuition.
- Empathy is unreliable.

"Empathy is difficult and it is not an exact science. (...) It feels like it lessens the argument of the success of a product."

- Empathy is unnecessary when working on the technical parts of design.
- Empathy is very intuïtive and if I am not inherently good at it, I can not be an empathic designer.
- Empathy is exclusively meant for specific types of designers: designers who design for people.

These misconceptions are partially causing certain students to not develop their empathic skills, even though they and their (future) stakeholders could benefit from it.

4.1.8 Unconsciously empathic

Some participants said they were inherently not empathic when we started the interview. However, they were able to come up with great real-life examples of how and when they were empathic. They just did not know they were empathic or they had a different view of what being empathic entails. I would say these participants were unconsciously empathic. The pitfall of this is that they had given up developing their empathic skills, as it was "just not in their nature". I reminded me of the following quote:

"Until you make the unconscious conscious, it will direct your life and you will call it fate."

- psychologist Carl Jung (cited by Clear, 2018)

I think it is very important to bring the concept of empathy to the conscious forefront of design education so all students can find ways to develop their empathic skills according to their needs as designers. Empathy is not just meant for the few people that are naturally empathic, whatever that may mean. Furthermore, even people who act more intuitively can benefit from being conscious of their actions. You do not want to unconsciously develop bad empathic habits, and everyone has room for improvement.

4.1.9 Methods & techniques

The participants mentioned several methods and techniques they used to be empathic in the design process. I noticed these techniques could be divided into phases, which correspond with the four phases of the process of empathy within design by Sleeswijk Visser (2009) which I explained in chapter 3. I visualised this in figure 10. This overview of methods and techniques is completely based on my initial interpretation of the interviews. I have not found literature that reflects a similar overview and/or division of methods and techniques.
Not all students went through all these phases during their design projects. I felt like the less phases were utilised, the less empathic students were during their projects. When skipping certain steps, the chance of projection is increased. For example, when you do not write down your assumptions beforehand (discovery), you are more likely to unconsciously steer your research in a certain direction during the immersion phase.

4.1.10 Projection

Some students said that projection will always be a part of empathy, simply because you are not the other person. You can never understand someone 100% so you have to project a bit. However, it is important to be aware of this. Being aware of your assumptions helps to keep the amount of (incorrect) projection to a minimum. It is important to realise you are not the other person. It is also important to be aware of where you unconsciously want your project to go, in order to not steer it into that direction.

"Even if you experience exactly the same, because you are different people with different backgrounds, you will always experience it slightly differently. So I feel like I never really understand people 100% (...) I try to get as close as possible to reality, but there are still a lot of mistakes."

"If your assumption map matches your research results 100%, even though it could happen, there is a big chance that you haven't been listening well."

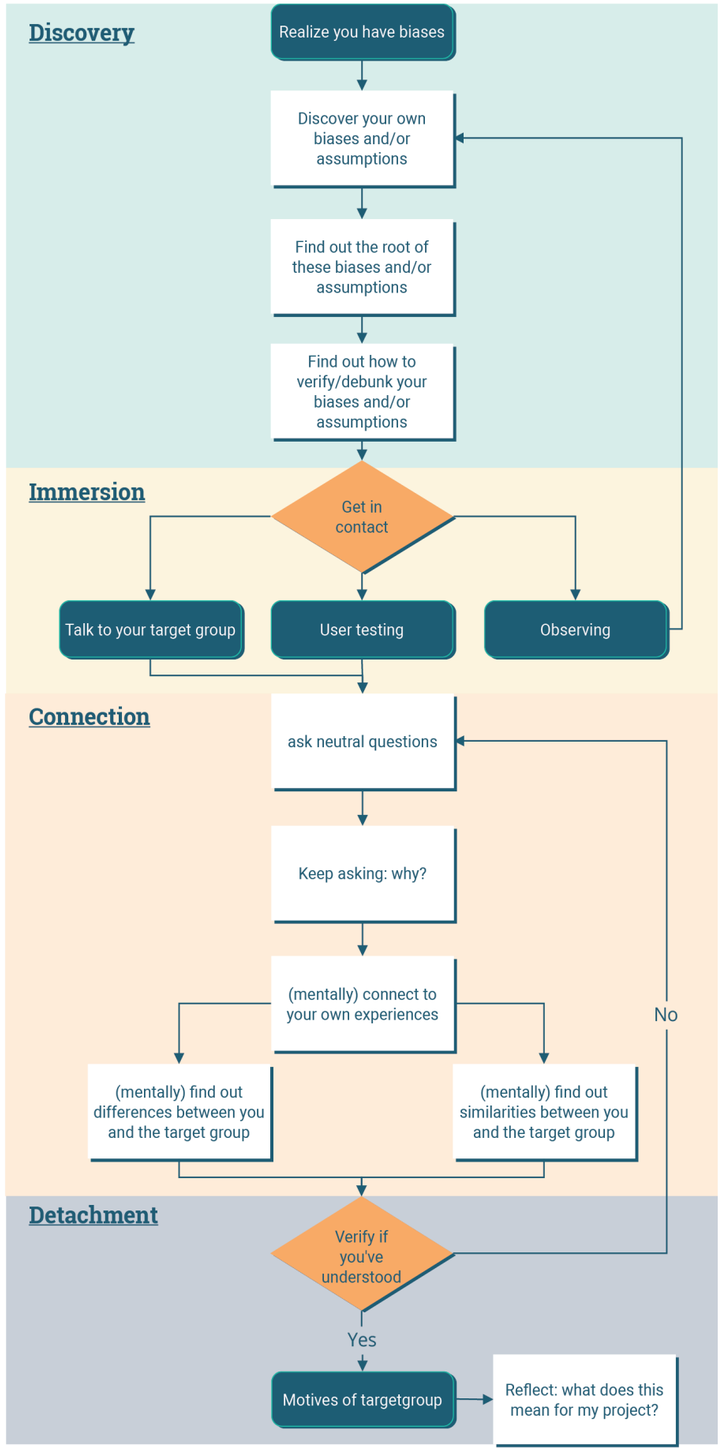


figure 10 - methods to be empathic in the context of design that were mentioned by IDE students, devided into the four phases of empathy by Sleeswijk Visser (2009)

4.1.11 Types of empathic designers

The participants of my interviews described many different types of designers in regards to empathy. I clustered these types of designers into 6 categories. They all tackle empathy within the design process a bit differently.

1. Focus on own wants and needs
   This type of designer focuses on their own wants and needs. They have a vision and they want to accomplish said vision. They tend to not be very empathic.
2. User-centered
   This type of designer puts their entire focus on the end-user. They are very empathic, but can lose themselves within the empathic process with their users: Having learnt so much about their users that they cannot prioritise needs anymore.
3. Focus on technical execution of design
   This type of designer prefers to work on the physical properties of a design, rather than the empathic exploration of their users.
4. Designing for values
   This type of designer designs for values like sustainability, health, or well-being. These could be their own values or general societal values. They are empathic to the extent that they need to understand their target group in order to make them behave according to forementioned values.
5. Intuitive
   This type of designer relies on intuition when being empathic in their design process.
6. Methodological
   This type of designer relies on methods when being empathic in their design process.

4.2 The role of empathy within CMD

To get an understanding of what role empathy plays within the current CMD education, I analysed its place in the curriculum. I also analysed some empathy reflections by students, and listened to the educators' points of view.

4.2.1 The curriculum and empathy as a competence

The second year of CMD consists of two main projects, called the Design Challenge, which both consist of a whole semester. The Design Challenge is a design project that is done in a team of 4-6 students. Besides this project, the students get Design Theory, they have to do a personal design challenge, and they are expected to join workshops in one of the design labs. The Design Challenge teams have to make sure that at least one of each lab is represented within the group. Design labs organise workshops focusing on specific parts of the design process. There are four design labs: Interaction Design (IAD), Creative Concepting (CC), User Research & Testing (URT), and Creative Technologies (CT).
At CMD, students are taught design skills according to eight competences: professionalising, empathy, teamwork, framing the design process, researching, idea forming, imagining and concretising, and evaluating design results (see figure 1 and Appendix H). After each Design Challenge, they are to reflect upon each of these eight competences. Every year, they are expected to go a bit deeper into each competence. In table 1, I translated the empathy competence to English, to give a quick overview of how the concept is explained to CMD students, and what is expected of the students each year. The empathy competence is split into two parts, which are assessed separately.

4.2.2 CMD-students reflecting on empathy

At the end of their Design Challenge reports, CMD students have to reflect upon the 8 design competences. I had access to the final reports for the Design challenge of the second semester of academic year 2019/2020, so I was able to read some competence reflections. I have read 18 empathy reflections to get a better understanding of how second-year CMD students experience and practise empathy. I roughly labeled the most interesting quotes (see Appendix I).

There were a few conclusions I was able to draw based on these reflections.

- The empathy competence seems to be unclear to CMD-students:
  - they do not know how to properly apply empathy during their projects.
  - and/or they do not understand what the concept of empathy entails within the context of design.
  - and/or they do not know how to express their empathic abilities within the current reflection format.
- Most students list the things they have done with their stakeholders, but they do not really reflect upon these things. They do not mention why these activities make them empathic, and/or how empathy has helped them in their design process.
- Students tend to say what they have done without explaining why.
- There are significant differences in depth between the reflections;
- Some students used the following three questions as a base for their reflection: What have you done?; What has it brought you?; What are you going to do with it? The reflections in which these questions were answered, seemed to be of higher quality as they went a bit deeper.
- Some students seemed to get a deeper understanding of their empathic abilities by reflecting upon empathy.

Competence: empathy (EMP)	Main task	Indicator year 1	Indicator year 2	Indicator year 3 and 4
The designer empathises with the feelings, thoughts, values, needs, motivations, and ambitions of users and other stakeholders, and actively involves them in the design process. Skills: empathic ability, environmental orientation	EMP1 Empathise with users and other stakeholders, the context and the context of use.	The designer specifically involves the user in the different phases of the design process. The designer views the design assignment from the user's perspective and empathizes with the user's context and background.	The designer considers how and when the user and client can be purposefully involved in the various phases of the design process. When looking at the design assignment, the designer alternates between the perspective of the client and the user. The designer immerses themselves in the context and background of the user and describes the influence of values, needs, motivations and/or ambitions.	The designer considers how and when the user, client and other stakeholders can be actively involved in the various phases of the design process. When looking at the design assignment, the designer alternates between the perspective of the client, user and other stakeholders. The designer immerses themselves in the context and (cultural) background of the user and relates this to the influence of values, needs, motivations and/or ambitions.
	EMP2 Taking users and other stakeholders, the context and context of use as a starting point for design decisions.	The designer bases his/her design choices on the needs, wishes and interests of the user and explains how (and why) design solutions fit the user and his/her context.	The designer makes design choices by weighing up the needs, wishes and interests of the user and those of the client and explains how (and why) design solutions fit in with both. Opposing interests between user and client are understood and explained.	The designer makes design choices by weighing up the needs, wishes, cultural background, ambitions, interests and other environmental factors of the user, client and other stakeholders and explains how (and why) design solutions fit in with the ecosystem of user, client and other stakeholders. Opposing interests between user and client and other stakeholders are understood and explained, taking into account social impact and ethics.

table 1 - CMD empathy competence rubric translated to English (Competenties - Kerntaken en Gedragsindicatoren CMD 2019 — 2020)

I also noticed seven different types of students regarding their attitude towards empathy. It is useful to keep these different types of students in mind when designing a toolkit/method, because they all have different needs. Some of these styles have overlap so in chapter 6 they are clustered into 4 styles.

1. Empathy Enthusiast/Perfectionist
   This student enjoys doing user research. They are interested in getting to know their stakeholder(s) as well as possible. They know what they are doing and why, and their reflections go deeper than the average students', but they can lose themselves in the empathic parts of the design process.

"My approach to empathise with users and stakeholders is to always listen and watch carefully. I have done this by (...). I think you can get more out of the way they are speaking and their attitude than just reading a survey or quotes. Also, during the presentations I made sure that I was able to ask questions to the client to find out what they thought was important for the final product. That is how I found out that (...)."

2. Teacher Pleaser
   This student says what they think their teacher wants to hear. They tend to be overly positive about the work they have done.

"So far I have already gotten amazing feedback from them, and I cannot wait to tackle this with my team during the next sprint, in order to make a well-advised decision, and to further develop the best concept."

3. Because They Have to
   These students do not like the empathic parts of designing and they do it because they have to. I did not find specific quotes to back this up, but some reflections in general radiated this vibe to me.

4. Convinced own Understanding
   This student is a bit too convinced that they understand their stakeholders perfectly. They are prone to projection and/or tend to draw premature conclusions.

"All over the internet, I found negative articles about the youth in the Afrikaanderwijk, news about stabbings, and fights, etc. I concluded that the youngsters from the Afrikaanderwijk are more aggressive than youngsters from my village."

"Because I have done a year of WO myself, (...) I can empathise with my target group very well."

5. Just the User
   This student solely focuses on the needs of the user and forgets the other stakeholders.

"Unfortunately, the client has taken the opposite attitude, which I am not happy with. Criticism and feedback are welcome, but criticising us because the concept we came up with based on the wishes/ interests of the target group does not appeal to her personally, is unprofessional, I think."

6. First Step
   This student has clearly taken a step in the right direction, but their reflections are a bit more superficial than the 'Empathy Enthusiast/ Perfectionist'. They are clearly empathic, but do not explain why.

"The purpose of the app is to provide the user with peace of mind and less overthinking, by letting go of their thoughts. That is why it is important that the user does not receive too many stimuli or has to perform too many actions. (...) I also tried to make the visuals as soothing as possible."

7. Methodical/technical
   This student strictly uses methods, because the methods are said to work. They explain which methods they have used, but they do not go deeper than that.

"I have made a value proposition canvas in which I could test the concept. With a value proposition canvas, you look at whether the pains of the target group are solved by the concept, and whether the gain creators of the concept match the gains of the target group."

4.2.3 Educators' point of view

I have spoken to four different educators from CMD, and the most interesting thing I have noticed was that even their perspectives on empathy differed significantly. Teachers all have different attitudes and teaching styles regarding empathy. Mulders (introduced in chapter 2.2) told me she has drawn the same conclusion based on her own research. What they did agree on is that students tend to not use empathy to their full capacity and/or reflect upon empathy the proper way. I have compiled a list of elements that were mentioned to be a part of empathy within the context of design education. The quotes I used are quotes I have written down during informal conversations. A full list of these quotes can be found in Appendix J.

- Feeling as the other feels

"That they are able to feel the same as their target group, or that they can imagine that feeling, That helps, I think."

- No judgement, being open

"Do not judge, and do not use your own standards to understand someone else. They have their own standards. If someone is very sad, you have to accept that and separate that from your own judgement, your own position. It is a detachment from your own judgements and standards.

- Daring to approach a stranger

"Another thing I find very important: being able to approach a stranger, talk to them and being able to hold a conversation."

- Curiosity

"Point one is curiosity."

- Close proximity

"It adds more value when you observe someone or talk to someone. The closer you are to your user, the more empathic you can be, I think."

- Adapting your approach to target group

"Think about how you can shape your method in a way that you provoke and seduce people to share more about themselves, so you can be more empathic."

4.3 Main takeaways

Based on the interviews with IDE students, reflections from CMD students, and conversations with CMD educators, I have condensed a list of takeaways that I deemed most useful for the continuation of my project. These resulted in my personal definition of empathy, and a further developed empathy framework.

4.3.1 Takeaways

Definition unclear
Similar to literature, everyone has a different idea of what empathy entails, not just students, but also teachers. The cognitive, affective and behavioural components are mentioned.

Unconscious to conscious
Talking about and/or reflecting on empathy helps students become more conscious of their empathic skills and get a better comprehension of what empathy means within the context of design.

Complexity
Due to its complexity, there are many different pitfalls regarding empathy (see figure 8). Ideally, many of these would be tackled in my concept.

Private vs. professional
There are clear differences between the goals of empathy between private and professional settings. In private, it is more about emotionally being there for someone and strengthening social bonds. Professional empathy for designers is more practical: it is about understanding someone in such a way that you can do something useful with it. Within these two contexts, students voiced different reasons for non-empathic behaviours/ situations. Within the context of design, there were four main pain points: projection, lack of interest, ignorance and proximity.

Misconceptions
Some students think they are not empathic and/or that empathy is not important for them as designers due to misconceptions surrounding the subject.

Methods & techniques
The methods and techniques students use to be empathic, can be divided into the 4 phases of empathy by Sleeswijk Visser. I have noticed that the more empathic students seem to be, the more of these phases they go through within their design process.

Projection
You can never understand another person perfectly, so projection is a part of empathy. It is important to be aware of your own assumptions and biases to keep the amount of projection as low as possible.

Types of students
Students can be categorised based on their work style and their attitude towards empathy. These different groups of students have different needs regarding the development of their empathic abilities.

Focus on involving stakeholders within CMD
Most CMD students seem to equate empathy with doing something with stakeholders. They do not go deeper into the understanding of why they are using certain techniques, why, what they have gotten out of using those techniques, and how that makes them empathic. As mentioned in my literature review, and by CMD educators, empathy is not just about involving stakeholders. It is also about active listening, open mindedness, curiosity, etc. These other elements are barely visible in the student reflections.

Lack of depth within CMD reflections
Most students listed the activities they had done, but they did not elaborate upon why they did those things and why it made them more empathic. Students who used the reflection template (What have you done?; What has it brought you?; What are you going to do with it?), on average, went a bit deeper into the subject.

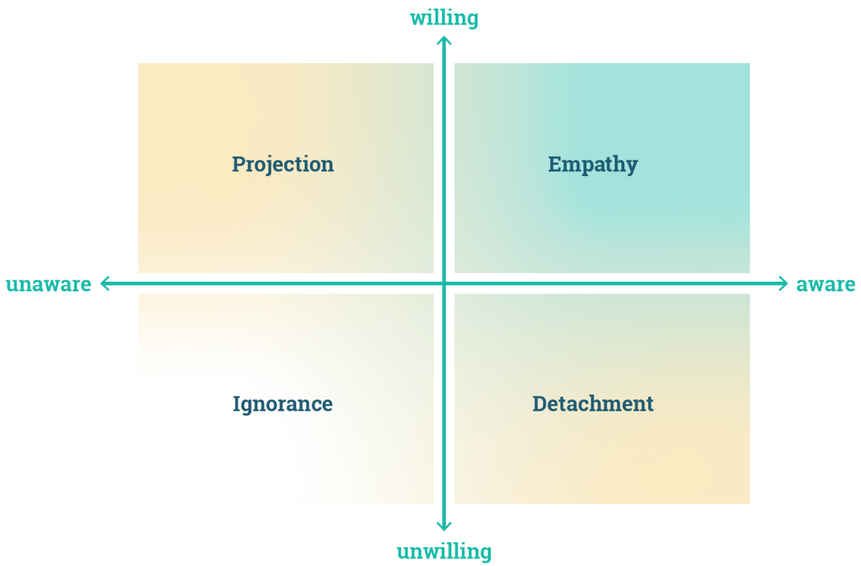


figure 11 - empathy framework final version

4.3.2 My definition of empathy

Based on my context exploration, I expanded the definition of professional empathy for designers. It is a continuation of the definition I chose in chapter 3:

"The ability to step into the experiences of the people you are designing for, imagine what they are thinking and how they are feeling and behaving in certain situations, and find out what their motives are."

It is used to anticipate what it is the prospective users most likely need. This understanding is then used in the design process in regards to designing and communicating.

4.3.3 Framework result

Based on my field research, I was able to develop my initial framework for empathy, which I introduced in chapter 3. The framework separates empathy, projection, ignorance and apathy by plotting the level of willingness to empathise against the level of awareness (see figure 11). These two axes summarise many of the elements of empathy I came across during my interviews.

With **willingness** to empathise, I mean the interest and ability to open yourself up to people without judgement. You need to have a certain level of willingness to be curious and put in the energy to empathise.
With **awareness**, I mean being conscious of your assumptions and biases, and being able to differentiate between your own experiences and those of your target group. You need to be aware of these things in order to be truly empathic.

When someone is willing to put in the work, but not aware of their own biases, they tend to project their own experiences onto someone else.
When someone is unwilling and unaware, they are not empathic with their target group at all. They are ignorant.
When someone is aware of their own biases, but unwilling to put in the energy to understand someone, they detach themselves from that person.
"When I am angry at someone, I can be very cold. I detach myself from them."

This framework was my initial approach to concretise the concept of empathy. It was used as a foundation for my first user test (see chapter 6). However, later it turned out this two dimensional framework was too simplistic to capture the concept of empathy. More about this in chapters 6 and 7.

Chapter 5 - Design direction

As previously stated, the design goal of this project was to help students use empathy consciously throughout their design projects. This goal in itself does not offer much direction for a solution. Therefore, I came up with a more narrow focus with corresponding requirements based on the previous chapters.

5.1 Design goal & vision

In the last chapters, I concluded that the concept of empathy within design is too abstract for students as well as educators. It is developed mostly unconsciously over time, through a plethora of methods that are usually not focused on empathy, but on another skill or outcome.
Based on their empathy competence reflections, many CMD-students seem to not spend much attention to the concept, as the reflections remain rather shallow. Is it because they are not interested in using empathy, or because they simply do not understand it well enough and therefore, do not know what to do? It reminded me of the following quote by James Clear in his book Atomic Habits (2018):

"Many people think they lack motivation when what they really lack is clarity"

All of the above inspired my design focus:
I want to make students use empathy consciously throughout their design projects, by offering structure and clarity to the empathic aspects of design.
(see figure 12).

The hypothesis is that when students have a better understanding of the concept of professional empathy and how to use it within the context of design, they gain motivation to develop their empathic skills.

Within this design focus, there I wanted to explore two sub-directions:

1. **Offering structure and clarity within the application and results of empathy in design.**
2. **Offering structure and clarity within the development of empathic abilities.**

I chose these two sub-directions, because they reflect two different ways I interpreted the conscious use of empathy. On the one hand, you can be conscious of the way you manage your project and analyse information in an empathic way. On the other hand, you can be conscious of your own empathic skills and the development and application of said skills during your design projects. Chapter 6 goes into the exploration of the first direction, and chapters 7 and 8 initially go into the exploration and further development of the second direction, but as a side effect also tackle the first direction.

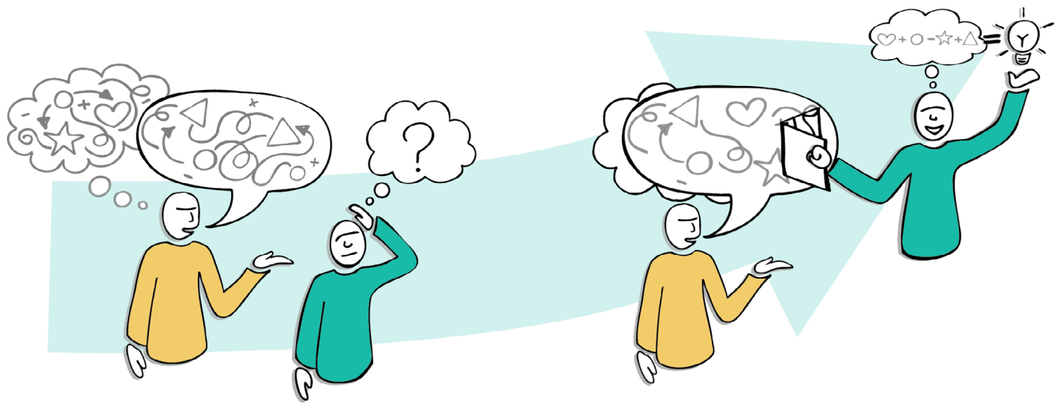


figure 12 - design focus visualised

5.2 Initial design requirements

Based on the design focus, I came up with an initial list of design requirements. This list is iterated in chapter 9 based on the design explorations in chapters 6-8.

Awareness and introspection
The design has to:
- make design students more aware of the value of professional empathy in design.
- make students think consciously about their own empathic abilities as a designer.
- make students aware of their strengths in the context of professional empathy in design.
- make students aware of their weaknesses in the context of professional empathy in design.
- make students aware of how to apply professional empathy in every step of the design process.

Application and competence
The design has to:
- help students improve their professional empathic abilities in design.
- help students make a plan on how to improve their professional empathic abilities in design.

Structure and clarity
The design has to:
- offer a clear structure to the concept of professional empathy in design.
- offer a clear overview on different methods students can use to improve their professional empathic abilities in design.

Practical
The design has to:
- be easy to use by second-year CMD-students during their design projects
- work without me being there to steer everything in the right direction

Rotterdam University of Applied Sciences
The design has to:
- fit within the curriculum of the second year of CMD at Rotterdam University of Applied Sciences

Chapter 6 - empathy canvas

This chapter is about my first design exploration: Offering structure and clarity in the application and results of empathy in design. I came up with a concept that combined a division of empathy styles with corresponding empathic research templates. The concept was tested in a workshop setup with 13 CMD-students. This chapter starts with a concept description, followed by an explanation of how the workshop was conducted. Then the results are explained, and the chapter ends with my main takeaways.

6.1 Concept description

This concept consists of two main elements:

Empathy styles

Based on the empathy competence reflections from last year's CMD-students, I came up with four empathy styles (see figure 13): the Perfectionist, the Searcher, the Convinced and the Forced. Each style represented one or more type(s) of students I described in chapter 4. They are based on the way students tend to work regarding the topic of empathy.

For example, some students are very willing to invest their energy into getting to know their stakeholders and do not know when to stop (the Perfectionists), others do not really like to invest their time into their users and just want to start designing as quickly as possible (the Forced). My hypothesis was that these different styles all have different needs so I split them up to be able to modify the workshop assignment for each style.

Empathic research template

My goal was to design a template for the students through which they could get a quick overview of the empathic knowledge they had (not yet) acquired about their stakeholder(s). I was inspired by canvasses like the Empathy Map Canvas (Gray, 2018), Empathic Negotiation Canvas (Grassler, 2014), and the Value Proposition Canvas (Osterwalder et al., 2014). What these canvases do very well is give a clear and simple overview of information, which I expected would be beneficial for every empathy style. What the canvasses lack is depth. I assumed that by tackling the right subjects, the students would be able to structure their empathic research, without simplifying it so much that it would lose its richness.

I was inspired by a reflection method based on the logical levels of Bateson (Gordijn et al., 2018, p. 74-75): an introspective reflection tool which tackles 6 subjects: context, behaviour, skills, beliefs, identity, and motivation. In this reflection method, you reflect on your own performance and experience. However, I thought these subjects could be interesting

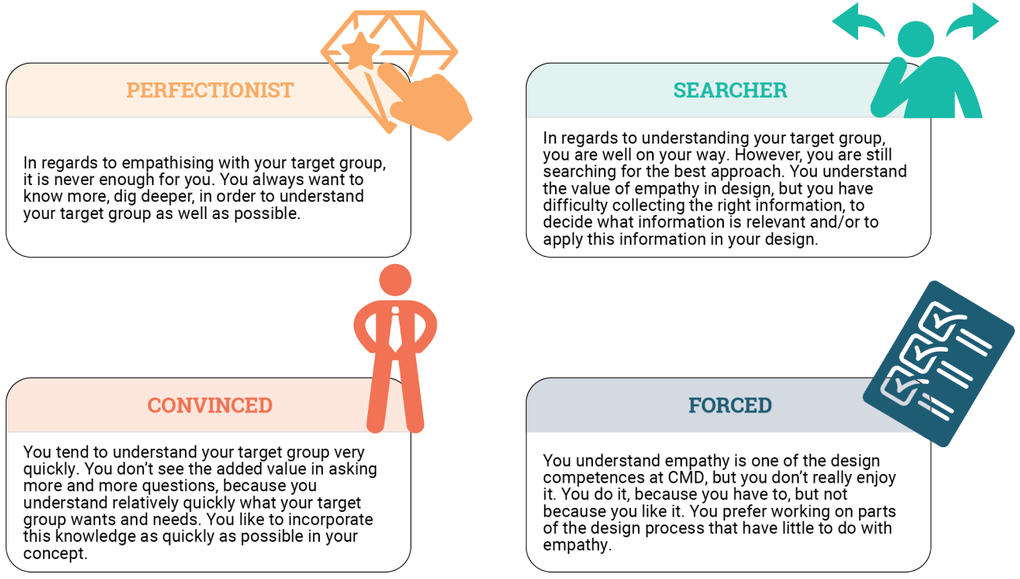


figure 13 - four empathy styles

starting points to get to know a stakeholder. These topics, especially combined, have the opportunity to offer design spaces on a deeper level than by simply asking: what do you stakeholders SEE? (example from the Empathy Map Canvas). Therefore, for my first version of this concept, I decided to go with these six subjects. I also added a pains and gains element to help students summarize their findings. The template was to be filled in based on a set of five questions. The first two were the same for everyone, because they are relevant for each empathy style:

- What do you know about your stakeholder(s) within this topic?
- Where did you get this information from?

The last three questions were unique for each empathy style. I plotted the empathy styles on my empathy framework to find out what each style would need, based on their awareness and willingness (see figure 14):

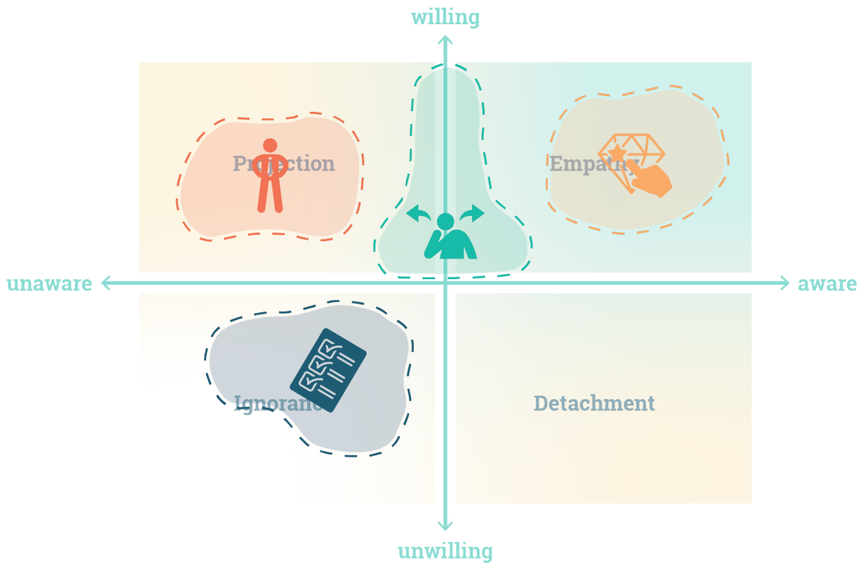


figure 14 - empathy styles roughly plotted on empathy framework

- For the Perfectionist, the questions were focused on moderation, gaining confidence in your findings, and making a plan on how to find the information you need within the limited time of a project.
- For the Searcher, the questions were focused on finding out what they wanted to know about their stakeholder(s), and thinking about ways to get that information.
- For the Convinced, the questions were focused on increasing awareness: finding out the trustworthiness and value of the information they acquired about their stakeholder(s) and triggering them to double-check their assumptions.
- For the Forced, the questions were focused on increasing willingness: triggering curiosity and fun within the empathic aspects of design.

A complete overview of all four templates can be found in Appendix K.

6.2 Testing

The concept was tested during an online workshop with 12 CMD-students. It was part of a URT-lab (User Research Training lab) (see chapter 4). This meant that the students joining this workshop might have had more interest in user research than the average student.

6.2.1 Workshop setup

The workshop took 2.5 hours and was split up into 4 parts. In figure 15 you can see an example of the canvas assignment and in figure 16 you can see what the assignments looked like at the end of the Miro workshop:

1. An introduction presentation by Joke Mulder and I, in which we went into the definition and goals of empathy within the context of design. According to Joke, this introduction was necessary to make sure the students understood the need and the goals of the workshop.
2. A voting session in which the students could vote which empathy style they identified most with. Then, students with the same empathy style were put into groups.
3. I chose to put the students into groups for two reasons. Firstly, I wanted to find out whether collaboration would help these students get more insights. Secondly, I wanted to give the students the opportunity to talk to each other in the rather individualistic way of online learning. I assumed this would help them stay motivated and invested in the workshop.
4. I chose to put students with the same empathy style together for one main reason: I did not want the different empathy styles to be influenced by each other. I wanted to be able to analyze them separately.
5. Then, the students were asked to fill in the empathic research template based on the user research they had done so far in their current design challenge. The groups were put together in a video call so they were able to talk to each other if they wanted to.
6. After finishing the template, the students were asked to do a short group presentation about the things they had learned. They were asked to focus on three things:
   - New insights they gained about their stakeholder(s).
   - New insights/ideas they wanted to implement in their project.
   - Insights they gained about their own empathy-style and way of working.

After the workshop, I asked the students to fill in a survey about the workshop. This last part was voluntary, as it did not fit within the scheduled time of the workshop. Still, it was filled in by 11 out of the 12 students who participated in the workshop.

EMPATHIE-STIJL: PERFECTIONIST

STAP 1
Vul hieronder in over welke stakeholder je dit canvas gaat invullen.

STAP 2
Beschrijf hieronder jouw ontwerpprobleem.

STAP 3
Beantwoord met gele sticky notes de de volgende twee vragen voor alle onderdelen van het onderstaande canvas. Start bij Context en eindig bij Pains & Gains.
1. Wat weet je over de stakeholder binnen dit thema?
2. Hoe ben je aan deze informatie gekomen?

STAP 4
Beantwoord met roze sticky notes de de volgende twee vragen voor de Pains & Gains en 2 thema's naar keuze uit de buitenste cirkel van het canvas. Vergeet niet te overleggen met je team, aangezien je samen tot meer waardevolle informatie zou kunnen komen.
3. Op welke vlakken vind jij dat er nog informatie mist en waarom?
4. Wat moet er gebeuren om jou te overtuigen dat je genoeg weet over je stakeholder? Is dit realistisch?
5. Hoe ga jij ervoor zorgen dat je binnen de tijd van dit project, op een haalbare manier, tevreden gaat zijn met de informatie die je hebt verzameld?

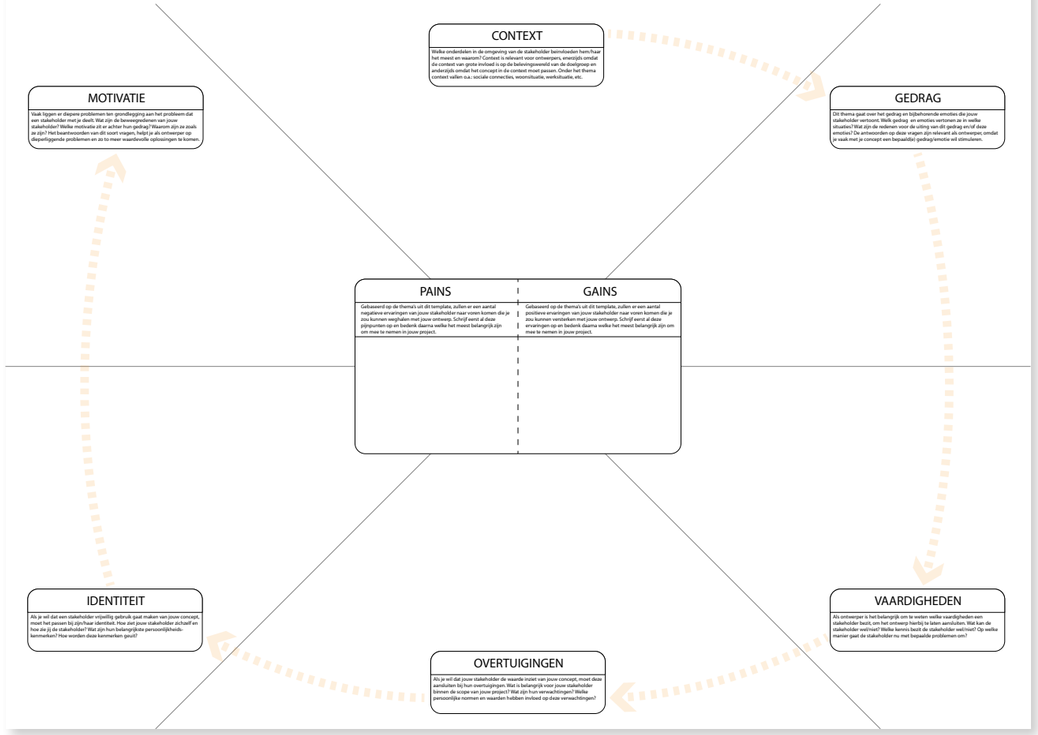


figure 15 - Empathy Canvas assignment template example (done in Miro so students could zoom in on text that might not be readable here)

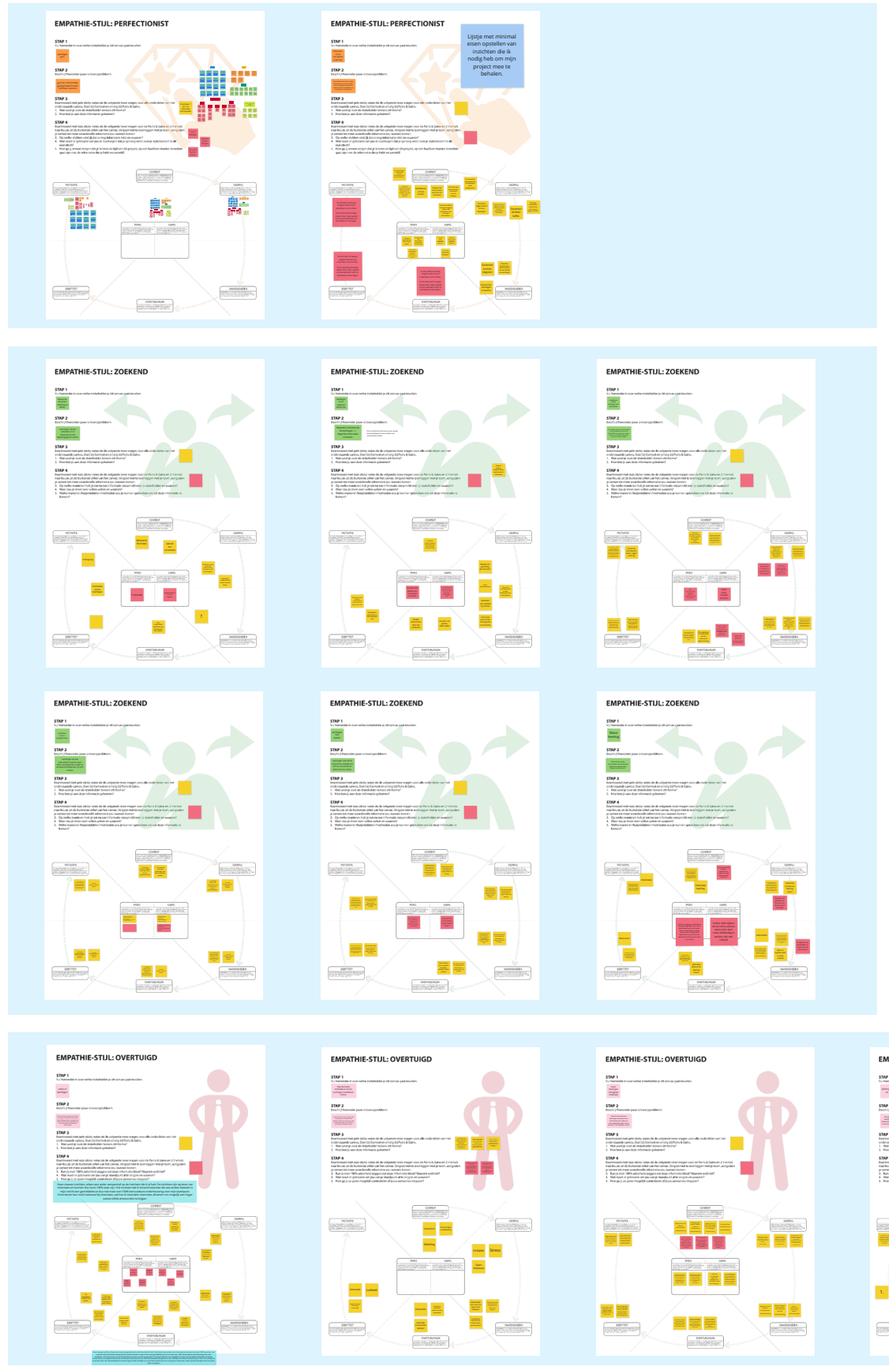


figure 16 - what the assignment templates looked like at the end of the workshop (Miro screenshots)

6.2.2 Results

This workshop was the first time I was able to interact with the CMD-students, and the first time I ever organized an online, educational workshop. Not surprisingly, it did not completely go as planned. This meant that I was not able to draw many solid conclusions about the concept itself. However, I learned much about how (not to) set up an (online) workshop, how the students tend to work in this setting, and I was able to make a few observations which influenced my decisions about the further development of this concept. Below are the main insights I gained. All of them come from quotes and/or observations, but to prevent chaos, I only added a few quotes. For a full overview of the survey, and the survey results see Appendix L. For a full list of quotes from the workshop, see Appendix M.

Note: there was only 1 student who voted for 'Forced', and because he did not want to work alone, he joined the 'Convinced' group. However, he did fill in the survey for 'Forced', which meant part of his answers were not usable.

<u>Insights about the workshop</u>

- The assignments were too long and/or the workshop was too short. Most students felt like they did not have enough time to do the assignments properly.
- Collaborating in teams did not work in the current setup (see figure 17). Students had to work together with students from different Design Challenge teams. This meant they did not all have the same design goal and main stakeholder. Without an extra push, they were not able to find a common ground in learning objectives with the other students. Therefore, most students did the assignments individually. This became especially clear during the presentations: instead of doing one group presentation of shared insights, each student presented their individual insights.
- Assignments were not always read properly so before each assignment starts, a clear explanation is necessary.
- There needs to be a balance between the amount of time that is spent on lectures, practical assignments and breaks. If any of these elements take too long, the students lose motivation.

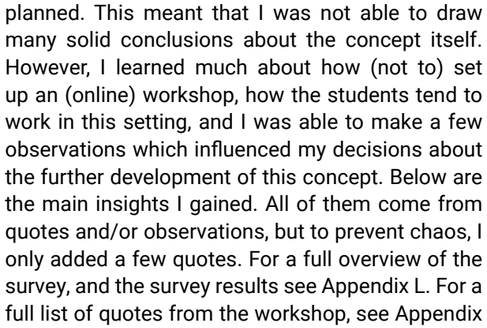


figure 17 - survey results, different styles combined

<u>Insights about the students</u>

They tend to focus on outcomes rather than learning objectives. This could be seen in the way they filled in the template, as well as the things they presented during their presentations. Instead of presenting what they learned about their own way of working and the new insights they gained during the workshop, they presented their (not necessarily new) insights about their target group.

- After about 1.5 hours of an online class (with breaks) their attention faded significantly.
- If the value of each part of the workshop is not clear, they do not feel motivated to do the assignments.
- Most students did not feel comfortable turning on their webcam.
- Goals, amount of research they had done and skill level differed significantly between students.

"I'm not far enough in my process that I have the right amount of information. I have to do more stuff to get empathy for my target group. Therefore, I couldn't answer all the questions properly."

" I'm too far ahead so this was a step back for me."

<u>Insights about the concept</u>

- Separating information into themes helped the students get a better overview about what they had yet to find out about their stakeholder(s).

"But when I continued with the circle and got to 'Beliefs', I found out that I didn't have many insights about the motives of my stakeholder. (...) I had already done an Empathy Map so I thought I knew everything, but now I was like: 'Oh, I don't know this yet'."

- The questions and the visual overview did not necessarily provide the students with more insights about their stakeholder(s) (see figure 18 and figure 19) .

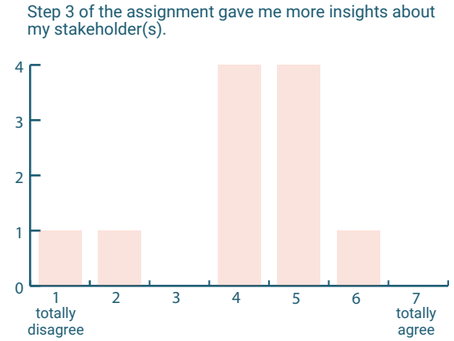


figure 18 - survey results, different styles combined

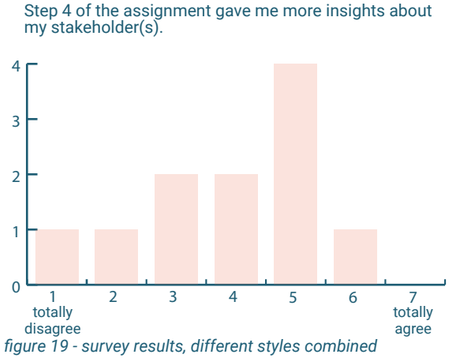


figure 19 - survey results, different styles combined

- A visual overview of the information they gathered during their user research helped the students get a feeling of clarity.

"I liked dividing my insights into different themes. This made my design goal more clear."

- There were significant differences between different empathy styles in how much they learned from the workshop.
- Even though students related to the descriptions (see figure 20), the empathy styles were too open to interpretation and therefore, the corresponding assignments did not always connect to the right needs. For example, I expected the Perfectionists to have a need for assurance in their work. However, the two students who chose this style, did not feel that need at all. Furthermore, a significantly large number of students chose the Searching style (see figure 21), even though their workstyles might have been different. In hindsight this makes sense, because not knowing what to do is not really a style. It is a point in a learning process.

figure 20 - survey results, different styles combined

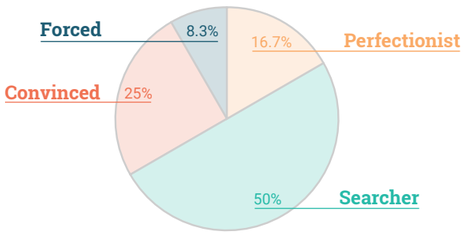


figure 21 - empathy styles chosen by the students (counted by me during workshop)

- The current setup did not stimulate an increased consciousness of empathy. There was too much focus on the categorisation of information that the attention to empathy was lost significantly. This is even reflected in my own survey, in which I did not ask questions about the concept of empathy itself. I only asked questions about learnings in general.
- The workshop did give some students some new insights about their way of working, but not enough in my opinion (see figure 22 and figure 23).

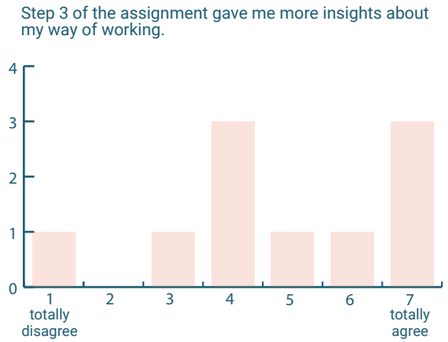


figure 22 - survey results, different styles combined

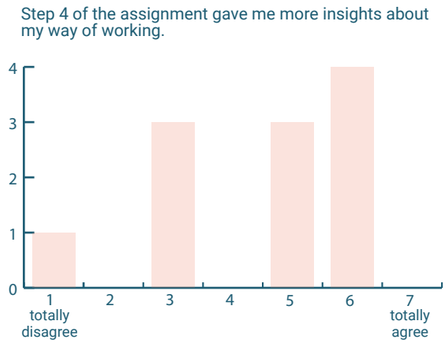


figure 23 - survey results, different styles combined

- Based on the workshop and a conversation I had with van Waart about the workshop, empathy is more than willingness and awareness. It is also about certain sub-abilities that are needed to be fully empathic. Therefore, my empathy-framework did not fully represent the needs students have regarding the development and application of empathy within design.
- The user research template did seem to have more depth than the other canvasses I described before, but in my opinion it still causes a significant loss of richness in the gathered information.
- According to the teacher, it was valuable to let the students know that they are allowed to have their own way of being empathic (see Appendix AB).

I really liked that students became aware of their personal style. (...) We have never mentioned that empathy can also be something of your own.

6.3 Main takeaways

Even though this concept with the corresponding workshop did seem to help some students, it did not achieve what I wanted it to achieve. This is partly because of the way the workshop was set up, but also because of the concept itself. Looking back at the design requirements, this concept barely meets any of them (see table 2). Therefore, I decided to venture into another direction.
In the next chapter, the second sub-direction of my design focus is explored: Offering structure and clarity within the development of empathic ability.
Below are the main takeaways I decided to take with me towards my next user test, which would also be in a workshop setting. These are the main things I have learned about designing and facilitating a workshop for CMD students, and a few takeaways regarding the value and use of my empathy framework and empathy styles.

Main takeaways regarding facilitating a workshop for CMD-students:

Assignment size
The assignments need to be smaller so the students have enough time to properly execute them and let the new information sink in.

Clarification
The value of every part of the workshop needs to be clear so the students feel motivated, and to make sure they know from what point of view they need to approach each assignment. Furthermore, each assignment needs to be explained orally, because students do not always take the time to read them properly.

Balance
There needs to be a balance between time spent on lectures and explanation, practical assignments and breaks. Students lose interest if any of these parts take too long.

Online collaboration
Online collaboration does not come as easily as collaboration in real life. Students need more incentive to collaborate than simply saying “go work together and help each other”.

Main positive takeaways regarding the concept:

Benefit of subdivision in themes
Subdividing user research results into themes helped students get a better idea of what they already knew and what they still had to find out. It helped them structure their knowledge, which was beneficial for each empathy style.

Benefit of (visual) overview
Making a visual overview of the gathered knowledge, helped students get clarity within their research and about their project. This was beneficial for each empathy style, but mostly for the Searchers.

Main limitations regarding the concept:

Lack of focus on empathy
For the students to focus on empathy, the workshop needs to continuously and clearly focus on empathy as well. Even though the workshop had an introduction about empathy, this focus got lost during the workshop. For most students, the workshop was more about categorising knowledge than it was about finding ways to be a more empathic designer.

Empathy-framework refuted
My empathy-framework does not sufficiently represent the different needs students have regarding empathy. It does not fully grasp the complexity of empathy, because empathy does not just consist of willingness and awareness. Different sub-abilities are needed to be empathic.

Current empathy styles insufficient
The current empathy styles do not sufficiently represent the varying needs of the students. Further research is necessary to find out how the styles would need to be described better and what assignments could correspond with those needs.

		Does concept 1 meet the requirement?		
Category	**Requirement**	**NO**	**MAYBE**	**YES**
Awareness and introspection	The design has to make design students more aware of the value of professional empathy in design.	X		
	The design has to make students think consciously about their own empathic abilities as a designer.		X	
	The design has to make students aware of their strengths in the context of professional empathy in design.	X		
	The design has to make students aware of their weaknesses in the context of professional empathy in design.		X	
	The design has to make students aware of how to apply professional empathy in every step of the design process.	X		
Application and competence	The design has to help students improve their professional empathic abilities in design.	X		
	The design has to help students make a plan on how to improve their professional empathic abilities in design.	X		
Structure and clarity	The design has to offer a clear structure to the concept of professional empathy in design.		X	
	The design has to offer a clear overview on different methods students can use to improve their professional empathic abilities in design.	X		
Practical	The design has to be easy to use by second-year CMD-students during their design projects work without me being there to steer everything in the right direction.		X	
Rotterdam University of Applied Sciences	The design has to fit within the curriculum of the second year of CMD at Rotterdam University of Applied Sciences.			X

table 2 - Does concept 1 meet the requirements set in chapter 5?

Chapter 7 - empathic habits #1

This chapter is about my second design exploration: Offering structure and clarity within the development of empathic abilities. I came up with a concept which consisted of three parts: empathy divided into sub-abilities, an empathic abilities test, and mini-activity cards for students to use to improve their empathic abilities. The concept was tested in a workshop setup with 21 CMD-students. This chapter starts with a concept description, followed by an explanation of how the workshop was conducted. At the end of this chapter, I go into the main takeaways of this test.

7.1 Concept description

For this concept, my goal was to give more structure to the concept of empathy itself. I split up empathy into five sub-abilities which could be practiced separately. To help students find their strengths and weaknesses, I developed an empathic-abilities-test. This could give the students more insights in their own abilities as empathic designers, and what abilities they should work on.
To make it more practical, I developed a deck of mini-activity cards for each ability: short, easy to grasp activities students could do to improve their empathic skills as designers. By combining the sub-abilities with mini-activities, my goal was to concretize empathy whilst giving the students something practical to work with.

7.1.1 Empathic abilities

Instead of plotting empathy on two axes (as I did with my empathy framework), and trying to predefine specific empathy styles, I divided empathy into sub-abilities. The disadvantage of focusing on sub-abilities instead of empathy styles, was that it could become too dry: knowing that you are good or bad at something, does not really speak to the imagination. However, compared to empathy styles, I expected the sub-abilities to have a few advantages:

- I was able to give the students a more accurate representation of their strengths and weaknesses regarding empathy: a specific score for each ability, instead of an educated guess on a two-dimensional framework.
- I was able to adapt assignments to the sub-abilities, which could make the causal relationship between assignment and result more clear.
- I was able to clarify and possibly simplify the concept of empathy itself, by splitting it into more tangible elements.

As can be seen in chapter 4, CMD-students tend to see empathy as not much more than “doing something” with stakeholders. However, empathy is much more than that. Based on my literature research, my interviews with IDE-students and conversations with design educators (see chapters 3 and 4), I made a list of skills that were mentioned to be necessary to be empathic as a designer. I clustered these into 5 empathic sub-abilities: active listening, self-awareness, involving stakeholders, finding valuable information, and imagining & understanding (see figure 25). Together, these abilities make up what it means to be an empathic designer.
At first glance, these abilities might seem like regular design research skills, which makes sense, because empathy is, either consciously or unconsciously, a big part of the way designers conduct research. However, by actively developing these abilities with the overarching ability of empathy in mind, I hypothesise that students will become more empathic designers. All other parts of my concept tackle these abilities in a way that will hopefully increase empathy.

7.1.2 Empathic-abilities-test

In order to give the students an incentive to practise and to help them get to know their own skills better, I designed an empathic-abilities-test. The results of this test would show the students their strengths and weaknesses. Instead of creating empathy-styles like I did in chapter 6, I went for a more abstract visualization of the test-results: a polar chart (see figure 24). I personally like polar charts, because they give a simple overview of multiple skills at once, and they are easy to plot based on a list of questions.

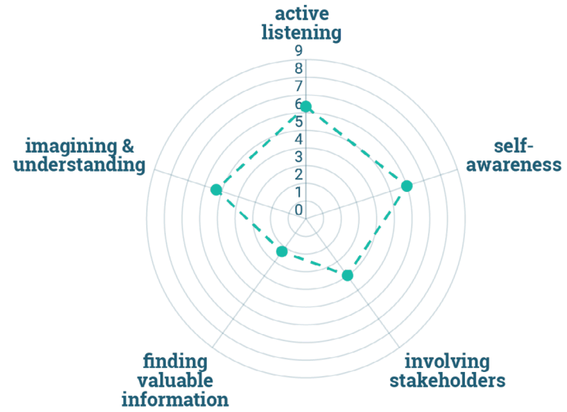


figure 24 - polar chart example

figure 25 - empathic sub-abilities (combination of abilities I found that are said to be necessary to be empathic)

I came up with 9 questions for each empathic ability: 3 questions for each subdivision of the 5 abilities (see Appendix N). For each question, the students were able to answer no, sometimes, often or yes. Each answer corresponded with a score so the results could be put into a chart.
The questions were mainly inspired by my literature research at the start of my project, my own ideas about the sub-abilities, and by other ability-tests corresponding with the sub-abilities like the Self-Reflection and Insights Scale (Grant et al., 2002)), the Mindful Attention Awareness Scale (Brown et al., 2003), the STEM Interpersonal Communication Skills Assessment Battery (Wilkins et al., 2015) (see Appendix O).
It is important to note that the development of an empathic-abilities-test in itself demands more extensive research than I have been able to do. My goal for this test was for it to give a sufficient representation of what such a test could look like and what effects it might have on students.

7.1.3 Mini-activities & empathic habits

My main inspiration for this part of the concept was the earlier mentioned book Atomic Habits (2018) by James Clear. Clear hypothesises that by implementing easy, 2-minute habits and stacking them over time, you can get great results in the long run. This made me think: what if I turn methods that are supposed to increase empathic abilities into really small activities that students can easily try and apply throughout their projects? And what if I do this for each empathic sub-ability? I suspected this could be a way to make the development of empathic skills practical and simple: with each activity, students take one tiny step in the right direction. If practiced repeatedly over time, these activities would supposedly turn into 'empathic habits'.
For each empathic ability, I made 8-10 mini activity cards with easy assignments (see figure 26 for a few examples, see Appendix P for a full overview). The assignments on the cards were based on methods mentioned in literature, my own experience, my interviews with TU-students, conversations with CMD-educators and brainstorms with my graduation team. For now, the activities were specifically made to be used in an interview setting during my workshop. In a further iteration, this could be broadened to other types of (empathic) situations.
Initially, I wrote them down as a habit: cue, routine, reward (When … happens, I do …, in order to …) (Duhigg, 2014). In this case, the reward would be the lesson learned from the activity. I decided to remove the reward from the cards to be able to test whether the students actually learned the lessons I expected them to learn.

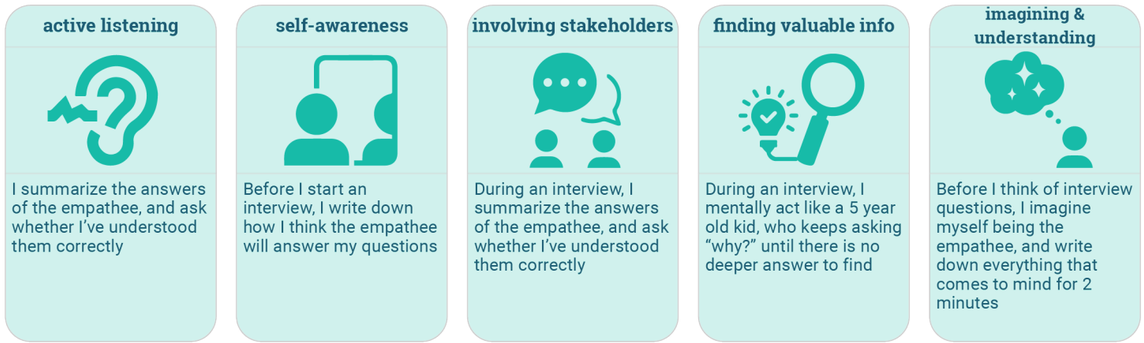


figure 26 - mini-activity cards examples

7.2 Testing

The concept was tested during an online workshop with 21 second-year CMD-students (5 teams of students who work together on the Design Challenge). This time, it was not part of a lab, but of a regular class of the Design Challenge so there was no specific interest in the topic of empathy that could influence the results. On the day of the workshop, the students were about halfway through their current Design Challenge. Therefore, students had 8 weeks they were able to reflect upon and they had 8 weeks left to improve their way of working. I made use of this in the workshop setup.

7.2.1 Workshop setup

In collaboration with the teacher of the class, Ellen Spoel, I made a workshop setup that matched the work level of the students. The workshop took 2.5 hours and, besides my introduction, it was split up into 4 main parts (see figure 29 for an impression of the Miro board when the students were done):

1. After my introduction lecture, the students had to fill in the empathic-abilities-test. The test was to be filled in based on how they had performed during the first 8 weeks of their current design challenge, not on their empathic abilities in general. I wanted them to focus on their empathic abilities as designers, and not on their empathic abilities in private life.
2. The students then did an assignment (see figure 28) in which they:
   - analysed their own empathic abilities based on the results of the empathic abilities test.
   - wrote down their main strength and made up a mini-activity for that strength. I let them do this assignment to get them more actively involved with the mini-activities.
   - wrote down their main weakness and picked an ability they wanted to work on during the workshop (this had to be one of the lower scoring abilities).
   - picked 3 mini-activities they wanted to try during the workshop, corresponding with the ability they wanted to work on.
   - prepared their interview (see next point).
3. The students were then divided into duos from different teams. They got the assignment to interview each other about each other's stakeholders. Even though every team had a slightly different design goal, they were all working in the same context: high school education. Therefore, their main stakeholders might be different, but their other stakeholders overlap. Ellen and I thought it would be valuable for the students to interview each other about each other's main stakeholder so they would be able to use the results in their design challenge. They were asked to focus on one of the following two topics:
   - The experience of the main stakeholder of the other team.
   - The most important insights of the other team about their main stakeholder.
4. Lastly, we did a plenary reflection in which random students were to answer the following questions:
   - What did you think of interviewing each other about each other's stakeholders and insights?
   - What mini-activities did you pick and what did you learn from them?
   - What would you like to do differently during the coming weeks to improve your empathic abilities?

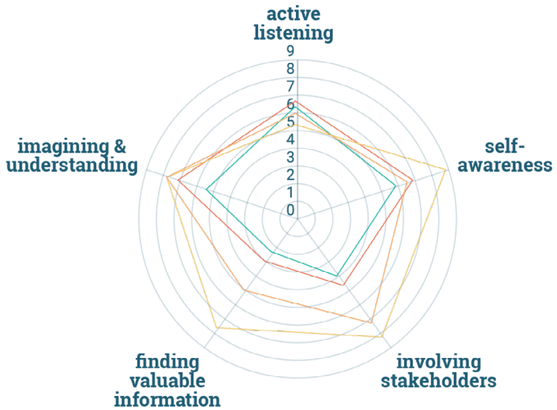


figure 27 - team polar chart example

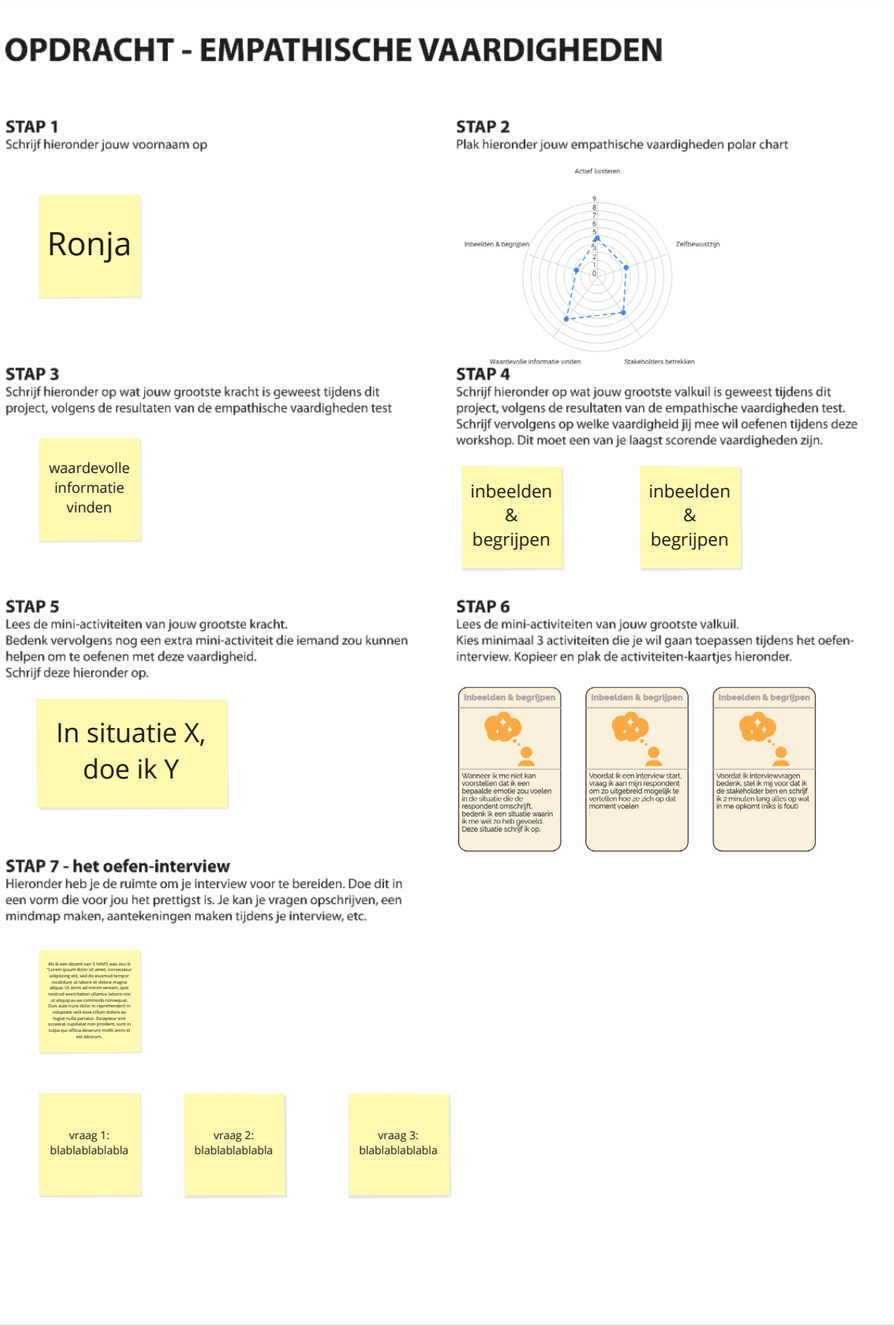


figure 28 - Empathic Habits workshop 1 - assignment template example (done in Miro so students could zoom in on text that might not be readable here)

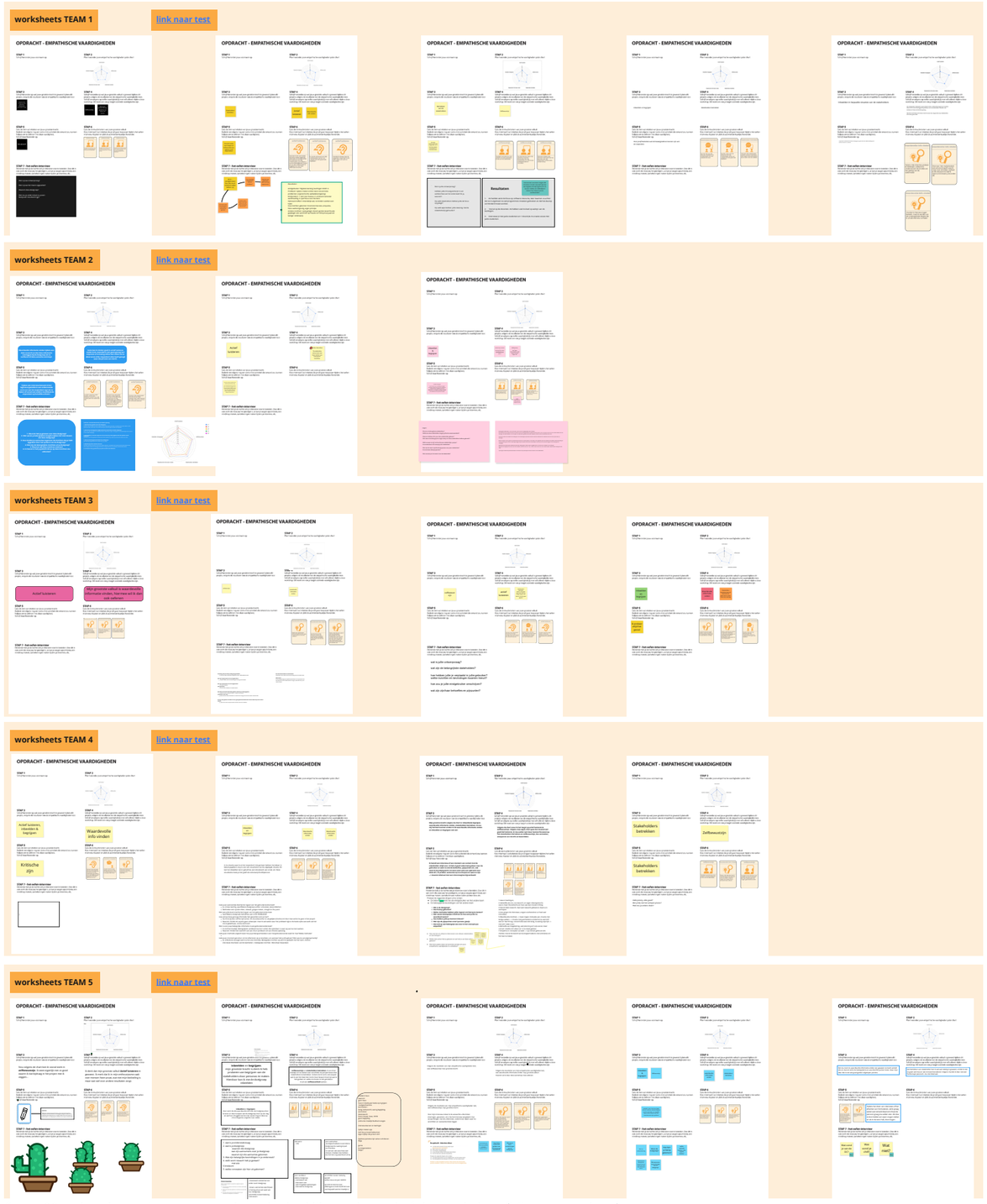


figure 29 - what the assignment templates looked like at the end of the workshop (Miro screenshots)

After the plenary reflection, I gave the students an optional team assignment for after the workshop: discussing the workshop results and analysing their abilities as a team, based on a polar chart that combined all team members (see figure 27). I then asked the students to fill in a survey about the workshop (see Appendix Q).
The Friday after the workshop, I was able to do short focus group sessions with each team to reflect on the workshop.

7.2.2 Results

This workshop went significantly better than the last one. On the one hand, because the assignments were less complicated and the pacing of the workshop itself was better. On the other hand, because this concept was received better by the students. For the most part, this workshop reached my intended goals so I decided to further iterate upon this concept.
I analysed the workshop based on my own observations, the survey results (see Appendix Q), and the focus group sessions. I used quotes from these sessions to make a list of strengths and weaknesses for different parts of the workshop (see Appendix R). To the right are the most important insights I gained for each part of the workshop.

<u>Insights about the workshop in general</u>

- The workshop itself should become part of the concept. Circling back to my literature research, the workshop brought the students from unconscious incompetence to conscious incompetence. My hypothesis is that if the students were to continue to use the mini-activities during the rest of their studies, they would move from conscious incompetence to conscious competence (see figure 30).
  I suspect that it is necessary to go through the stages of this workshop to fully reach this effect. If the toolkit, containing just the empathic abilities test and the mini-activity cards, would be given to the students, I expect they would be less likely to use it. I hypothesise that students need to actively experience the value of the tool, before they will use it on their own terms.
- Even though the pacing of this workshop was better than the last one, it still felt rushed for some students. In the next iteration I would need to pay even more attention to schedule and pacing.

"I had the feeling it was a bit rushed. I would have liked just a bit more time for some assignments, for a bit more calmness."

- The concept of empathy did become a bit more understandable for the students during the workshop, but not as much as I would like it to (see figure 31).

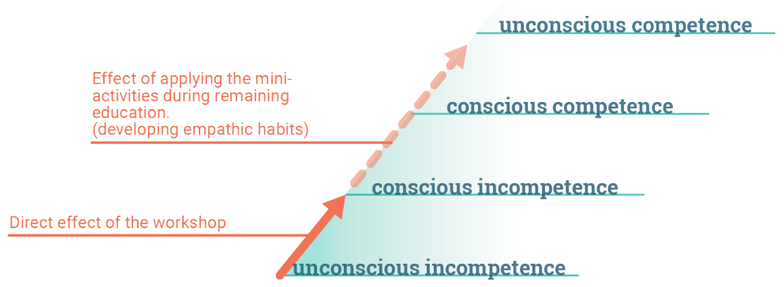


figure 30 - Empathic Abilities workshop incorporated in four stages of learning by Burch (1970)

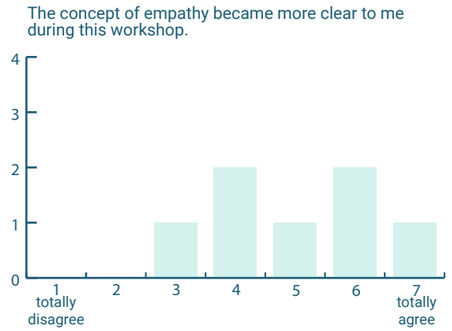


figure 31 - survey results, all students combined

<u>Insights about empathic abilities and the Empathic-abilities-test</u>

- The 5 sub-abilities were understandable and sufficiently represented the concept of empathy according to the teacher and students.
- Many students were unrealistically optimistic when filling in the empathic abilities test. However, the students still felt like the results were pretty accurate (see figure 32).

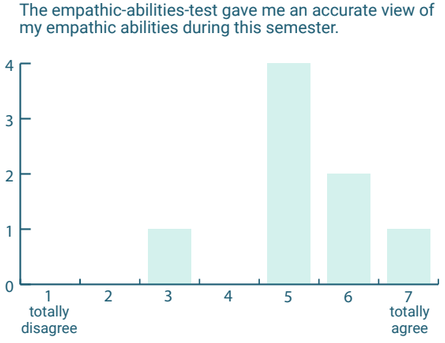


figure 32 - survey results, all students combined

- The test gave the students guidance as to what they could improve upon (see figure 33). It also made them reflect upon their empathic abilities in a way they had not done before. Most students gained insights about themselves because of this.

"In my previous education I had already done lots of research so I thought I was good at it. However, I now realise that I was never really aware of how my own emotions, behaviour and motives can influence my research results. This workshop really made me more aware of this."

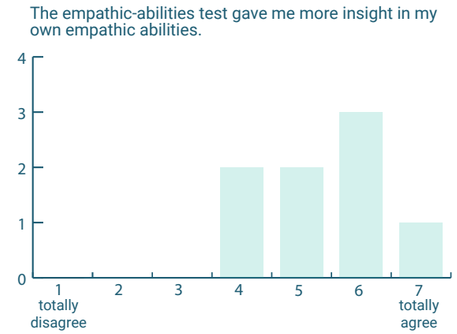


figure 33 - survey results, all students combined

- Students enjoyed getting an overview of their strengths and weaknesses, because it made it more clear to them what they should keep doing and what they should work on (see figure figure 34).

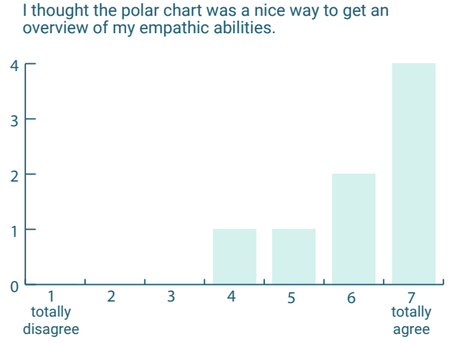


figure 34 - survey results, all students combined

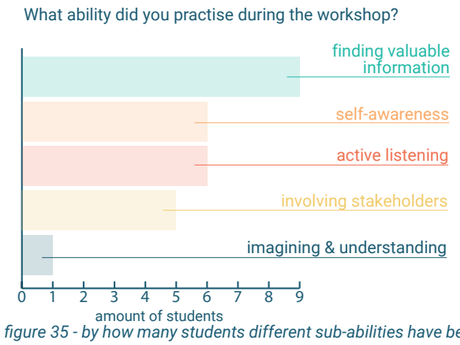


figure 35 - by how many students different sub-abilities have been practised during the workshop (counted manually)

- There was no equal division of abilities chosen by the students (see figure 35). This could be explained in many ways. For example, the abilities-test was lacking, the students have had more training in the stronger abilities, or they did not have the opportunity during this project to work on their weakest ability.

<u>Insights about the mini-activities</u>

- The mini-activities made the concept of empathy a bit more clear and understandable to the students, but not as much as I would like it to (see figure 36).
- Most students got more insights about themselves and guidance on how to develop their empathic abilities further by reading and trying the mini-activities (see figure 37 and figure 38).

"I found out my expectations didn't match his answers. It showed me that my assumptions can be wrong."

"It offers guidance, you're not alone, you don't have to think up everything yourself. I really liked that. If you have difficulty with a certain ability, and you also have to invent something for it yourself, it is extra difficult. So I think the mini-activities are a really good idea."

- The mini-activities were perceived as something practical, convenient and comforting that students can always go back to when they do not really know what to do, when preparing user research, especially when the curriculum does not offer classes about it anymore.

"I really think I would use the mini-activity-cards more often. It is just something you can always go back to when you are not sure what to do."

- Some students were put off by some activities, because they felt uncomfortable or because they did not know the reason for the activity. Putting the reason for the activity on the cards might solve this issue.

"Maybe some extra explanation on the cards? For example with the card about silence: I do not really understand the use of that silence. Silence is usually a bad sign, unless someone is thinking really hard, I feel."

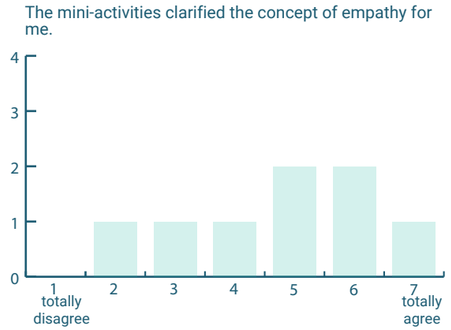


figure 36 - survey results, all students combined

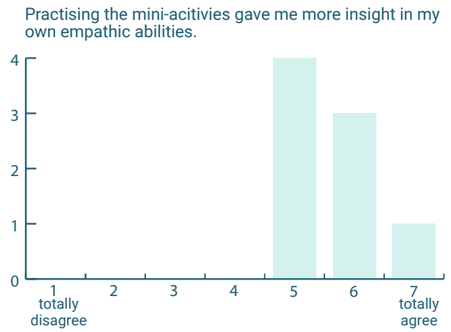


figure 37 - survey results, all students combined

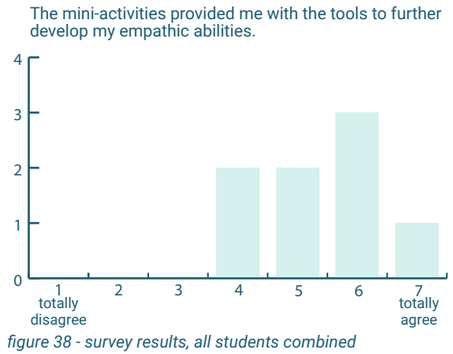


figure 38 - survey results, all students combined

Insights about the interview

- It would be better to let the students know what the interview is about before they pick their mini-activities.

"And you had to pick those mini-things, but because you did not know what the interview would be about, some activities were difficult to prepare."

- The students would have liked to have more time for the interviews. Now, the preparation and the interviews felt rushed.

"The focus on the interview was too short for me. We spent a lot of time on the workshop which was good, but then the practical use was really quick. So I haven't been able to use it properly, in my opinion."

- The interview topic was too complicated.To put more focus on the mini-activities, it would be better to simplify the interview topic.

Insights about the value of (plenary) reflection

The teacher and I both observed the importance of a (plenary) reflection session. Most students need an extra push to get themselves into the right mindset to reflect upon the things they have learned about themselves and the value something has for them as design students. They tend to focus on everything they did wrong or the new things they have learned about their stakeholder. With a bit of a push from a teacher, they become conscious of the lessons they have learned and the value those lessons add to their development as designers.

Insights about the team-overview

- Most students thought it was fun and educational to analyse the empathic-abilities-chart of their entire team. It could be used for things like:
  - Finding out how the students could help each other
  - Finding out what the entire team should work upon
  - Making a division of roles, preferably at the start of a project
  - Getting to know your team better, preferably at the start of a project

"It is a fun way to see where people's strong points are. It would work really well in a team. If everyone were to make such a thing, you can see how you can complement each other."

7.3 Main takeaways

This workshop met almost every design requirement I composed in chapter 5 (see table 3). Therefore, I decided to iterate and test the concept in a second workshop to see if I would be able to meet every requirement (see chapter 8). These were the main takeaways I used as a base for that iteration:

- More than a toolkit
  This workshop made me realise that my concept is more than a toolkit: it is a program, with the workshop as a crucial part of the learning process. The workshop lets the students experience the value of the separate abilities and the mini-activities, and it helps them move from unconsciously incompetent to conciously incompetent. After the workshop, the students can use the tool to practice their empathic abilities and move from consciously incompetent to conciously competent.

- All parts of the concept served their purpose, but iteration might be necessary.
  - The empathic sub-abilities concretise empathy. They were understood clearly and the students as well as the teacher did not miss anything so for now, these could remain the same.
  - The empathic-abilities-test showed the students their strengths and weaknesses, which offered guidance about what they should improve upon. However, they had difficulty focussing on their current project and some questions were formulated in a complicated way, which might have been the cause of the unrealistically optimistic results.
  - The mini-activities offer practical guidance on how to improve empathic abilities, but the value of the activities was not always clear. To offer more guidance, adding a short explanation of the values and goals for each activity might help.
  - The interview forces the students to practice and experience the value of the mini-activities. However, they needed more time and/or a more simple interview topic to properly try out the mini-activities. Furthermore, the interview subject needs to be clearly explained before the students pick their mini-activities.
  - The plenary reflection with a teacher helps the students reflect with the right mindset: reflect upon what they have learned about themselves and their way of working.

		Does concept 1 meet the requirement?			Does concept 2 meet the requirement?		
Category	**Requirement**	**NO**	**MAYBE**	**YES**	**NO**	**MAYBE**	**YES**
Awareness and introspection	The design has to make design students more aware of the value of professional empathy in design.	X				X	
	The design has to make students think consciously about their own empathic abilities as a designer.		X				X
	The design has to make students aware of their strengths in the context of professional empathy in design.	X					X
	The design has to make students aware of their weaknesses in the context of professional empathy in design.		X				X
	The design has to make students aware of how to apply professional empathy in every step of the design process.	X				X	
Application and competence	The design has to help students improve their professional empathic abilities in design.	X					X
	The design has to help students make a plan on how to improve their professional empathic abilities in design.	X			X		
Structure and clarity	The design has to offer a clear structure to the concept of professional empathy in design.		X				X
	The design has to offer a clear overview on different methods students can use to improve their professional empathic abilities in design.	X					X
Practical	The design has to be easy to use by second-year CMD-students during their design projects work without me being there to steer everything in the right direction.		X			X	
Rotterdam University of Applied Sciences	The design has to fit within the curriculum of the second year of CMD at Rotterdam University of Applied Sciences.			X			X

table 3 - Does concept 2 meet the requirements set in chapter 5?

Chapter 8 - empathic habits #2

This chapter is about the further development and optimization of my second design exploration: Offering structure and clarity within the development of empathic ability. I iterated upon the concept of the last chapter: empathy divided into sub-abilities, an empathic abilities test, and mini-activity cards for students to improve separate abilities. The concept was tested in a workshop setup with 18 CMD-students. I also tried to get an idea about the long term effects of the workshop by interviewing students about their experience with using the mini-activities outside of the workshop. At the end of this chapter, I go into the main takeaways of this test.

8.1 Iterations & changes

Compared to the last workshop, I made a few changes.

Schedule
- I moved the empathic abilities test to another day before the workshop. I did this for a few reasons:
  - To give the students time to do the test at their own pace.
  - To have more time during the workshop for other assignments, especially the interview and reflection.
  - To lower the information-overload for the students during the workshop.
- I split the workshop into 3 parts that all had the same setup: a 5-minute explanation/lecture by me, an assignment and a break.
- I explained the interview assignment before I let the students pick mini-activities. This way, they could adapt their choice based on the way they wanted to conduct the interview.
- I reserved more time for the interview and its preparation.
- I reserved more time for reflection.

Empathic-abilities-test (see Appendix S)
- I added some questions that I felt were missing.
- I reformulated some questions to make them easier to read and understand.
- I changed the answer options from no, sometimes, often and maybe to never, sometimes, often and always.
- I added a note next to the test questions saying the test should be done based on their behaviour in the current Design Challenge to make sure the students could not miss this part of the assignment.

Mini-activities (see Appendix T)
- I changed the layout to make the cards look more aesthetically pleasing and be easier to use (see figure 39).
- I made the activity text shorter by removing the moment of use (see next point).
- I visually categorized the cards by moment of use to make it easier to find certain types of activities (see Appendix U).
- I added a short explanation about the added value of each activity.
- I removed the “make up your own mini-activity” assignment, because it took too much time without the students learning much from it (see figure 41).

Interview assignment

I changed the interview topics to something easier and more practical. Instead of interviewing each other about each other’s stakeholders, I asked the students to interview each other about each other’s experience and/or main insights during the current Design Challenge. I figured this would still be valuable to use for the Design Challenge, but be less complicated because they would not be talking about a third person.

Reflection
- I added a reflection form as a final assignment. I felt like this was a necessary step for the students to really take in and remember what they had learned from the workshop (see figure 41).
- There was no time in the schedule for a follow-up reflection interview, like I did after the last workshop. Therefore, this reflection form was extra important for me as a researcher, but also for the students themselves.

Survey
- I removed the open, reflective questions as they were already tackled in the reflection form.
- This survey mainly consisted of multiple choice to make it easier to fill in after an intense workshop.
- I added some usability questions based on feedback I got during the interviews about the last workshop.

Team overview

I removed the explanation about the voluntary group assignment at the end. It is interesting to see what can be done with the team overview, but because I had enough to research already, I decided to not put my focus on this. I incorporated a question about it in the reflection form to still get the students' opinion about the possible uses of my toolkit within the context of teamwork.

Dutch or English?

Based on conversations with CMD-educators, I decided to keep the toolkit and the workshop in Dutch, because the whole curriculum is Dutich. For future iterations for the TU-Delft, translating the toolkit to English might be necessary.

figure 39 - iterated mini-activities - examples

8.2 Testing

The concept was tested during an online workshop with 17 second-year CMD-students (4 teams of students who work together in the Design Challenge). The workshop was given to a different class with a different teacher than last time, but their project and corresponding process was the same. In figure 42 you can see an impression of what the assignment part of the Miro board looked like at the end of the workshop.

8.2.1 Workshop setup

My goal for this workshop was to see if the small changes I made increased the positive effects of the concept, and to find out more about the value of the separate elements. Like mentioned before, I gave the students an introduction assignment a few days before the workshop (see Appendix V). The Friday before the workshop, the students had to watch a 5-minute video, in which I explained a bit about empathy and the empathic sub-abilities, and the empathic-abilities-test (see figure 40). Then, they had to fill in the empathic-abilities test.

The workshop itself took place on Tuesday the 8th of December, 2020 and it was split into three parts: analysing empathic abilities, practising mini-activities during an interview, and reflection. Each part started with a 5-minute explanation by me, and ended with a 5-minute break. The workshop took about 2.5 hours.

This time, there was no time for reflective interview sessions. Therefore, I contacted some students after the workshop to ask whether they would like to do a one-on-one interview with me. I interviewed two students. Before the Christmas holidays, I interviewed them about their experience with the workshop (see Appendix Z). After the Christmas holidays, I interviewed them about their experience with using the mini-activities during their user research for their Design Challenge (see Appendix AA).

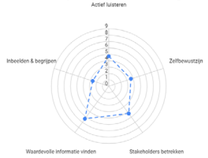
figure 40 - screenshot of my introduction assignment video

OPDRACHT - EMPATHISCHE VAARDIGHEDEN TRAINEN

NAAM
Schrijf hieronder jouw voornaam op

Remi

TESTRESULTATEN
Plak hieronder jouw empathische vaardigheden polar chart



STAP 1 - GROOTSTE KRACHT
Schrijf hieronder op wat jouw grootste kracht is geweest tijdens dit project, volgens de resultaten van de empathische vaardigheden test

waardevolle informatie vinden

STAP 2 - VALKUIL(EN)
Schrijf hieronder op wat, volgens de resultaten van de empathische-vaardighedentest, jouw grootste valkuil is geweest tijdens dit project. Schrijf vervolgens op welke vaardigheid jij wil trainen tijdens deze workshop. Dit moet een van je laagst scorende vaardigheden zijn.

mijn grootste valkuil:

inbeelden & begrijpen

Ik wil vandaag trainen:

zelfbewustzijn

STAP 3 - MINI-ACTIVITEITEN
Lees de mini-activiteiten van de vaardigheid die jij wil trainen tijdens deze workshop. Kies minimaal 3 activiteiten die je wil gaan toepassen tijdens het oefen-interview. Kopieer en plak de activiteiten-kaartjes hieronder.

STAP 4 - het oefen-interview
Hieronder en hiernaast heb je de ruimte om je interview voor te bereiden. Doe dit in een vorm die voor jou het prettigst is. Je kan je vragen opschrijven, een mindmap maken, aantekeningen maken tijdens je interview, etc.

Bereid je interview voor aan de hand van een van de volgende twee onderwerpen:
1. Wat zijn de belangrijkste bevindingen van jouw medestudent in de huidige Design Challenge? Waar komen deze bevindingen vandaan?
2. Hoe heeft jouw medestudent (de aanpak van) de huidige Design Challenge tot nu toe ervaren?

Ik schrijf hier voor 2 minuten op welke gedachten er in mij opkomen en ik bedenk waar deze vandaan komen.

"Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

REFLECTIE - EMPATHISCHE VAARDIGHEDEN TRAINEN

NAAM
typ hier je voornaam

HET INTERVIEW
Je hebt zojuist een interview gedaan. Beschrijf kort wat heb je tijdens dit interview anders gedaan dan je normaal zou doen.

typ hier je antwoord

Zou je dit tijdens een volgend interview/gebruikersonderzoek weer zo doen? Waarom wel/niet? Wat zou je de volgende keer anders willen doen en waarom?

typ hier je antwoord

DE MINI-ACTIVITEITEN
Beschrijf kort voor elke mini-activiteit **of** en **hoe** deze je heeft geholpen om jouw empathische vaardigheden te ontwikkelen.

typ hier je antwoord

Beschrijf kort voor elke activiteit of je deze in de toekomst vaker wil toepassen en waarom.

typ hier je antwoord

Beschrijf kort hoe je de mini-activiteiten kan toepassen tijdens de usability-/usertests en andere onderzoeken die je nog gaat doen tijdens de huidige design challenge.

typ hier je antwoord

TEAMWORK
Je hebt naast een polar chart van jouw individuele empathische vaardigheden een polar chart ontvangen van het hele team. Beschrijf kort hoe jullie als team deze chart zouden kunnen gebruiken tijdens jullie project. (tip: bespreek dit na de workshop met je team)

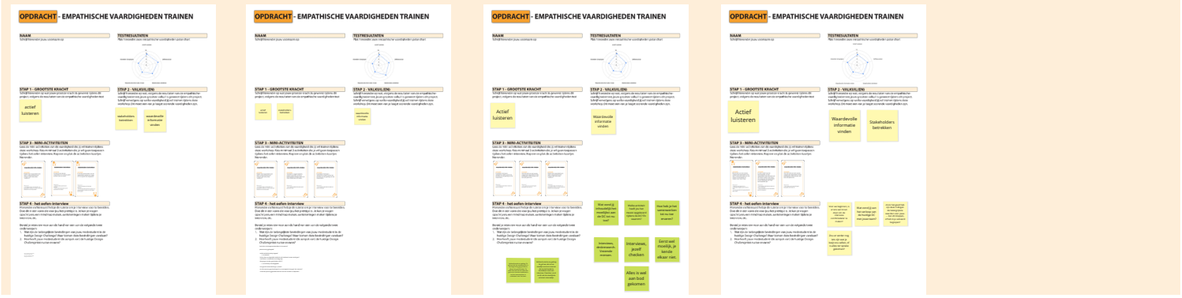
typ hier je antwoord

JOUW PLAN VAN AANPAK
Beschrijf **of** en **hoe** je tijdens de rest de huidige design challenge jouw empathische vaardigheden als ontwerper gaat oefenen en verbeteren.

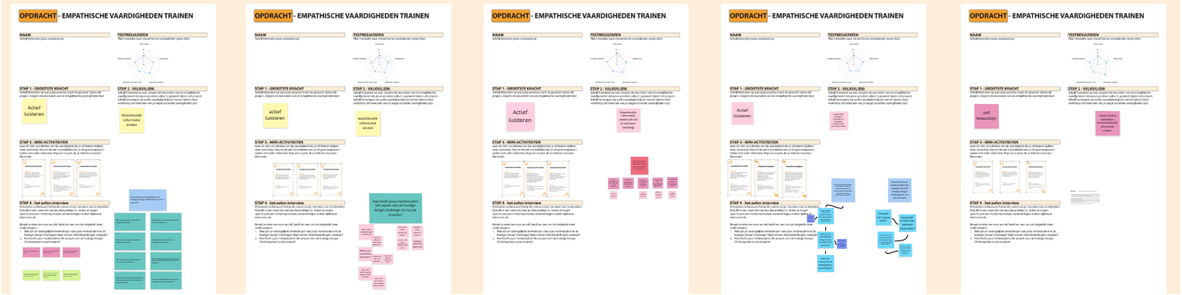
typ hier je antwoord

figure 41 - Empathic Habits #2 - assignment template and reflection template

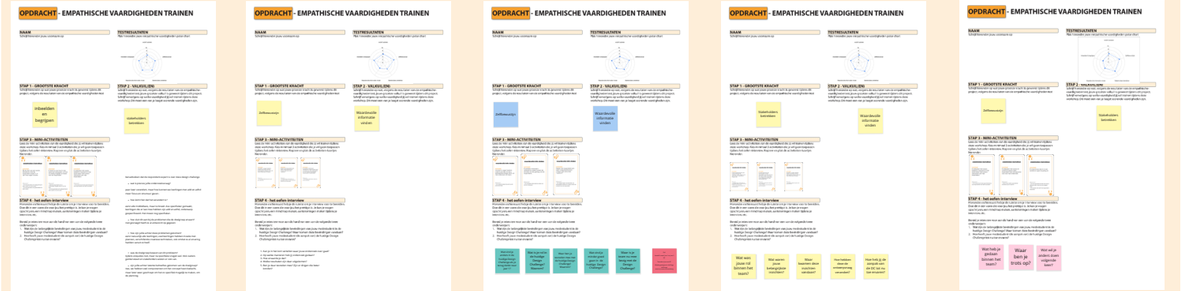
worksheets TEAM A link naar test



worksheets TEAM B link naar test



worksheets TEAM C link naar test



worksheets TEAM D link naar test

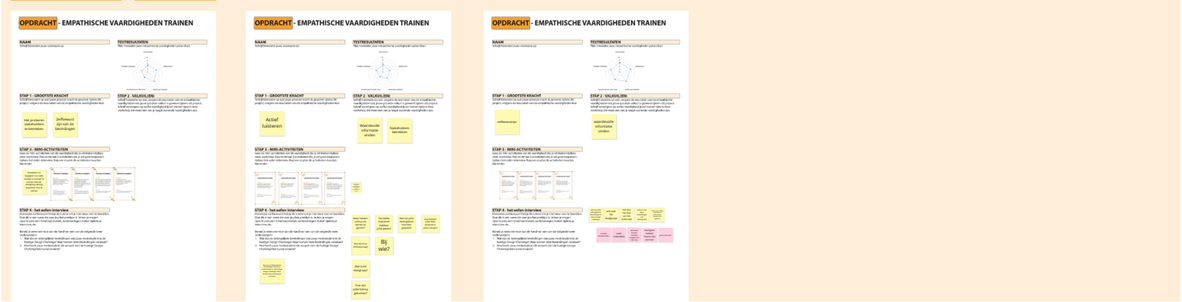


figure 42 - what the assignment templates looked like at the end of the workshop (Miro screenshots)

8.2.2 Results

Besides some difficulty with making sure all students did the empathic-abilities-test beforehand, this workshop went smoothly and had better results than the last one. This is also visible in the survey results.
I analysed the workshop based on my own observations, the plenary reflection during the workshop (see Appendix W), the reflection forms (see Appendix X), the survey results (see Appendix Y), and the interviews (see Appendix Z and Appendix AA). Below are the most important new insights I gained for each part of the workshop. These are insights I had not already gained during the last workshop.

<u>New insights about the workshop in general</u>

- It is beneficial for the students to fill in the empathic-abilities-test before the workshop itself. The students were able to fill in the test on their own tempo, which they liked (see figure 43). Furthermore, the workshop was less information-heavy, which meant the students were able to pay attention until the end. Lastly, because the test was filled in beforehand, there was enough time for the interview and the reflection.

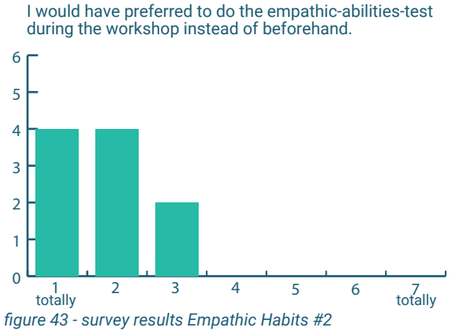


figure 43 - survey results Empathic Habits #2

- The current setup was received well. Students liked the variety between explanations, assignments and breaks.

"I thought everything was explained well. Good balance between listening to explanations and doing things ourselves."

- This workshop seems to have clarified the concept of empathy a bit more than last workshop (see figure 44).

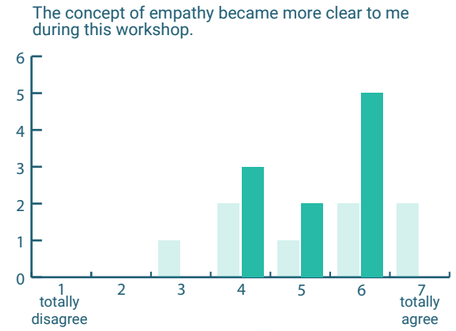


figure 44 - combined survey results Empathic Habits workshop #1 (light) & #2 (dark)

- It might have been better for the workshop to have taken place earlier in the year. Moving it to year 1 would probably be a bit too early.

"I think it might be too much to ask for year 1, because everything is more on the surface. So maybe then you won't see the added value. (...) You have to have done some interviews to be able to look back."

"It might be good to do it in the second year, because then you can first experience how it is to do interviews that aren't as useful. (...) Then you can ask yourself: can I get more out of this? And I think that thought happens in the second year. (...) Only then people will think a bit deeper about that."

<u>New insights about empathic abilities and the empathic-abilities-test</u>

- There is a clear need for a more detailed explanation of what empathy for designers entails within the CMD-curriculum. Multiple students have told me that before my workshop, they did not really know what to do for the empathy competence.

"Those competences are explained in super critical sentences you have to read 500 times before you understand it. (...) I had personally translated them as: the minimal thing I have to do to pass. (...) The bridge between 'doing something with the target group' and 'empathy' was a bit vague for me. (...) I think I missed that. (...) But I also wasn't aware of the fact that I missed that."

"I think empathy is something that isn't explained enough (...) for something that's the core of CMD. (...) I didn't know how to improve myself and nothing was provided to us by school. (...) They always say that empathy is an important competence, but they pay little attention to it."

- Based on the survey, the test seemed to give the students a more accurate and realistic result than last time (see figure 45 and Appendix Y). It also seemed to give the students more insights about their empathic abilities than last time (see figure 46). This could be due to a couple of things:
  - They had more time to fill in the test and think about the questions.
  - It was more clear this time that they had to fill it in based on their behaviour during the Design Challenge.
  - The questions were formulated differently.
  - There was a note next to the questions to remind them that they were to answer the questions based on their current Design Challenge.

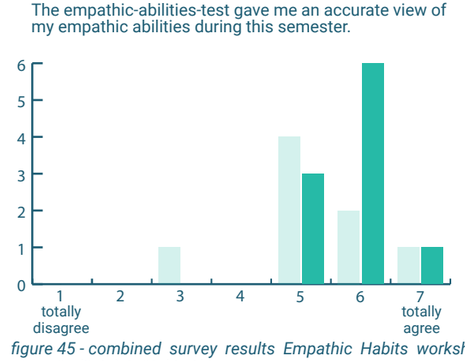


figure 45 - combined survey results Empathic Habits workshop #1 (light) & #2 (dark)

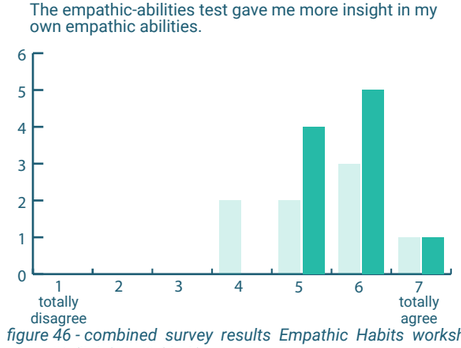


figure 46 - combined survey results Empathic Habits workshop #1 (light) & #2 (dark)

- Getting to know not just their weaknesses, but also their strengths gave some students a bit of a positivity/confidence boost, which they liked, because education is usually focused on improving weaknesses.

"I thought that was useful, because you could quickly find your weaknesses and build upon them. I thought that was nice. You could also see what you're better at, that is nice to know. It offers you some positivity, that you are still doing something right."

- During this workshop, the division between the amount of students per sub-ability was even bigger than last time. Two abilities were not chosen to practise at all (see figure 47. There are many factors that could have influenced these differences. For example, the time in the project, the teacher, the way I explained the test, etc. More research is needed to draw proper conclusions.

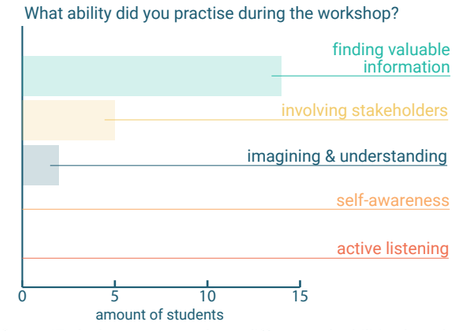


figure 47 - by how many students different sub-abilities have been practised during the workshop (counted manually)

<u>New insights about the mini-activities</u>

- Based on the survey results (see figure 48), the mini-activities offered more guidance than they did during the last workshop. They also seemed to clarify the concept of empathy a bit more than last time (see figure 49). I think that is because each card had an explanation and the cards were categorized by moment of use.

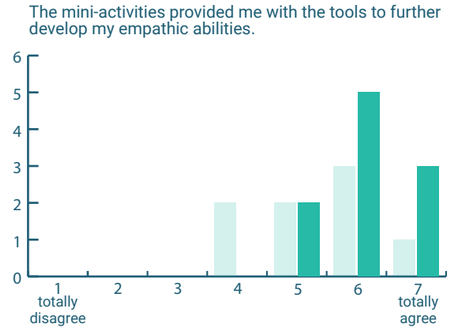


figure 48 - combined survey results Empathic Habits workshop #1 (light) & #2 (dark)

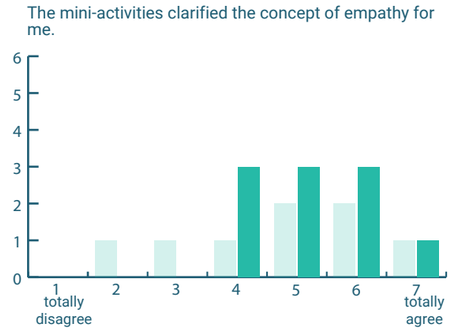


figure 49 - combined survey results Empathic Habits workshop #1 (light) & #2 (dark)

- As I already learned during the last workshop, the mini-activities offer an easy and accessible way to increase empathic abilities. I'm repeating this insight, because I got a quote that beautifully summarizes this insight:

"I thought it was fun and also surprising. What I remember most is that you can get very far with small changes. (...) It is always pretty complicated to check yourself when you're doing an interview or something. However, when you just pick some cards and see some little actions you can take, it can make a big difference. That was the most educational for me."

- The diversity of the cards is valuable, as almost every student had unique insights based on different cards. Here are two examples of takeaways from students that came forward during the plenary reflection:

"My main takeaway is that I need to adapt my questions to the respondent, because when you just go through a list of questions, you forget to react to what the respondent says."

"Keep asking, mainly. In my previous study, you would be done when you got an answer. Now we are looking for deeper feelings and values so I need some practise with asking respondents to elaborate and asking follow up questions."

- According to the reflection form, most students are planning to keep using some of the mini-activities in the future (see Appendix X).

"I'm gonna print these cards and incorporate them in my own toolkit to prepare myself for certain activities, so I won't forget certain important aspects in the heat of the moment."

- I am not sure if every single mini-activity is well-written and useful. The reflection form could be used to iterate specific mini-activities but further research is necessary, especially because not all mini-activities have been tried out during the workshops.

<u>New insights about the interview</u>

- In the current setup, the students had enough time to prepare and try out the mini-activities.
- The interview topics were easy to understand and use so it did not distract from the actual goal of the workshop: experimenting with empathic abilities.

<u>New insights about the value of (plenary) reflection</u>

- This insight is not necessarily new, but it got emphasized during the plenary session of this workshop. It is important to have a plenary reflection before students fill in an individual reflection form. Like explained in the last chapters, many students need an extra push to get into the right mindset: reflecting upon what they have learned about their own process, rather than listing what they have learned about their stakeholder(s). Here is a conversation between this class' teacher (Duijndam, C.) and a student during the plenary reflection that illustrates this clearly:

Duijndam: ***"What have you gotten out of this workshop?"***

Student: ***"Probably not much, because our stakeholders were not the same."***

Duijndam: ***"And what about the techniques you used, are they useful to you?"***

Student: ***"Oh, that was useful."***

Duijndam: ***"What are you going to do next? How are you going to apply this?"***

Student: ***"I am going to try the activities more often, especially the follow up questions, because I am not always good at that. Also, I want to ask more often about how the respondent thinks the situation will further develop in the future, because I did not ask about that before. I usually only ask about their current experience, and not about the future."***

- Circling back to the learning curve from FIXME that I talked about in the results of the previous workshop, I think the reflection is necessary to be able to make the switch from consciously incompetent to conciously competent. Students need to know and remember what they need to practise, in order to consciously get better. I think the reflection helps them remember what they have learned, even though the students themselves might not always realise it.
- It might be beneficial to move the reflection to another day after the workshop. However, more research is needed to find out what is most effective.

"I think it should be done immediately after the workshop. (...) I think people forget a lot of stuff otherwise."

"It definitely adds something, but now it was a bit like: I've done so much work on this and now I have to do it again. If you would do it a few days later, it might be different, but I'm not sure about that."

<u>Insights about long term effects</u>

I cannot say anything conclusive about the actual long term effects, because the students have not had the time to use my tool for a longer period of time yet. However, I did ask two students to use the toolkit during their Design Challenge. Below is a list of insights based on the interviews I did with these students.

- Most students could see themselves using the toolkit in the future (see figure 50).

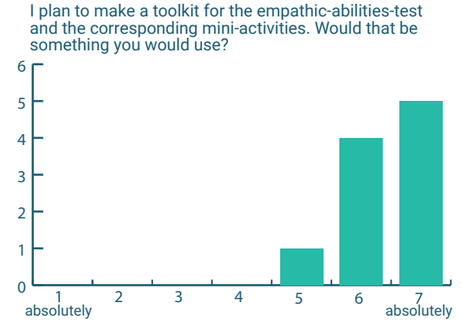


figure 50 - survey results Empathic Habits #2

- The workshop definitely clarified the concept of empathy. This in itself can have long term effects, because the students have a better idea of the concept and therefore, deal with it in a different way.

"So mostly, it became much more clear for me, especially what elements it consists of. Because of the division in sub-abilities, it became more tangible. (...) What makes someone empathic? Not just being with the target group, but also how you tackle that. That became more clear (...) really making a connection between what you're doing and why."

"I now have a better idea of what it means and how it's divided and what I can work on. (...) I already knew empathy is important, but I never did anything with it. So I think this workshop has awakened some awareness in me. I think many people realise the influence of empathy, but they just don't do anything with it."

- Repetition is necessary, not just to make the learnings stick, but also because students want to dive deeper into the subject. For example, it could be repeated and elaborated with each Design Challenge.

"I think this was just the start (...) and I would like to learn more about it. (...) I think it would be good to bring up the subject in later years during other workshops. Also because the knowledge can decrease if you're not actively working with it (...) and also to learn some more. (...) And maybe we could actually apply it to our project."

"I think more workshops are needed. It's nice to know what you can work on when you do it once, but it might be good if there will be different levels, increasingly advanced. (...) For example once every six months, you open yourself up to what you can improve on in terms of empathy, and you keep building upon that. (...) With each assignment a bit deeper than the last one."

- If the use of the toolkit is encouraged by teachers and repeated enough, it can probably help to develop empathic habits.

"I think it's definitely possible, because as soon as people know their weaknesses, they can work on it. Gradually it will improve. After a while you don't even have to look at the tool anymore. (...) But how to make it stick is difficult.(...) I think it might only work if the teacher uses the tool with the students during class. (...) Because people don't even know they have a lot of room for improvement, I think."

"Yes, I think so. For example, I did not just choose these cards because I had to, but because I really thought they were useful. I think if I were to do it more often, it would become a habit. (...) However, maybe school should set more of an expectation that we have to look at how we do certain things instead of just focusing on results. (...) Honestly, people only do it when they have to."

- The interviews confirmed one of my main takeaways of last workshop: my concept should be more than a toolkit, it should be a program.

"I think it works better in a workshop format than doing it on your own. Even though the workshop was given online, having all those people around you makes a difference."

"I think I would be way less likely to use the toolkit without the workshop. We get a lot of stuff on the daily, and I can count the ones I have actually used on one hand.(...) A workshop helps, because you can experience what it's like to work with it for yourself. (...) You can experience how useful it is and apply it again at a later date."

- Even though not all students are likely to use the toolkit after just one workshop, if just a few use (parts of) it, it could have a ripple effect.

"I think my team members now do it too. (...) I think they unconsciously started doing it too, because for every interview, I made a plan with those 5 main goals. (...) We used to just throw a list of questions in the whatsapp group and that was it. (...) Now I made a whole plan. (...) I'm getting back to creating more overview. Many people really like that. Knowing where you stand."

<u>Interesting ideas brought forward by one of the students</u>

- If the cards will be incorporated in an app, they could have a pop-up feature to add more explanation if necessary.

"You cannot explain all core values on 1 card, that is too much. (...) I don't know if it's gonna be an online platform or something, but you could put a clickable question mark in the corner of the card which opens up a pop-up which offers more explanation about core values."

- If the toolkit/program is translated into an app, it could give notifications to incentivise the students to keep practising and to keep developing themselves.

Student: *"Imagine it'll be an app. After 2 weeks it could ask something like 'how are you doing with involving stakeholders?' Or it asks one of those questions from the test to see whether you've improved. (...)"*

Ronja: *"And maybe you could see your improvement in the polar chart."*

Student: *"That would be cool as well."*

- It could be an interesting case for CMD students to build said app.

"Maybe it could become a case for CMD students to build the app for the toolkit."

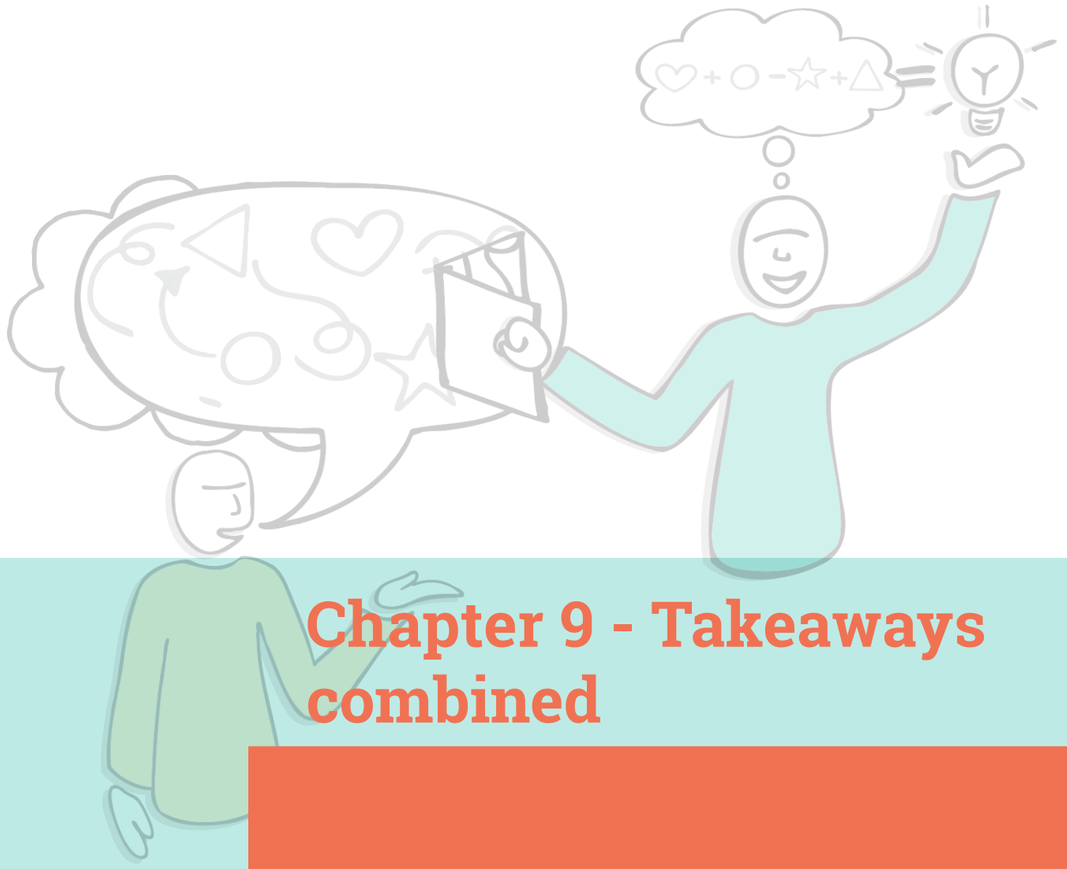
8.3 Main takeaways

Below are my main takeaways for further development of this concept. These are a continuation of the takeaways from chapter 7. They are focused on the concept, rather than usability. Table 4 compares concept 2 with the iterated version of concept 2 in regards to the requirements.

- It is beneficial to have the students fill in the empathic-abilities-test on a different day before the workshop. They can fill it in on their own tempo, and there is more time and energy left for the other assignments during the workshop.
- Students want to develop their empathic skills as designers, but before they participated in my workshop, they did not know how to. Many students did not even know what empathy entails and they were not even aware of the fact that they did not know. There seems to be an educational gap regarding empathy within the CMD-curriculum, according to the students. Incorporating my workshop and toolkit within the curriculum could possibly fill this gap.
- Showing the students not just their weaknesses, but also their strengths has a positive effect on the students.
- Putting an explanation on the activity cards helps students understand the value of the activity, which promotes conscious development of abilities. It stimulates the movement from unconscious incompetence to conscious incompetence. Furthermore, knowing why an activity is useful, makes the students more motivated to use it.
- Some activity-cards need more explanation. If the value of the activity or the way the activity is to be executed is not clear enough, students are less likely to use it.
- In its current form, the workshop best fits within the first semester of the second year of CMD. Students need to have a bit of interview practise to reflect upon, but they also want to be able to use the tool as soon as possible to maximize its effects.
- Repetition is a must in order to make the learnings stick. The workshop could be repeated a few times a year in one way or another. Furthermore, the empathic abilities test could be used by teachers to help students with specific weaknesses or to incentivize them to take another look at the activity-cards.
- Even though the toolkit itself might not be used much if it is not repeated, the increased knowledge of what empathy entails after the workshop probably already helps the students further develop their empathic abilities in the future.

		Does concept 2 meet the requirement?			Does version 2 of concept 2 meet the requirement?		
Category	**Requirement**	**NO**	**MAYBE**	**YES**	**NO**	**MAYBE**	**YES**
Awareness and introspection	The design has to make design students more aware of the value of professional empathy in design.		X				X
	The design has to make students think consciously about their own empathic abilities as a designer.			X			X
	The design has to make students aware of their strengths in the context of professional empathy in design.			X			X
	The design has to make students aware of their weaknesses in the context of professional empathy in design.			X			X
	The design has to make students aware of how to apply professional empathy in every step of the design process.		X			X	
Application and competence	The design has to help students improve their professional empathic abilities in design.			X			X
	The design has to help students make a plan on how to improve their professional empathic abilities in design.	X				X	
Structure and clarity	The design has to offer a clear structure to the concept of professional empathy in design.			X			X
	The design has to offer a clear overview on different methods students can use to improve their professional empathic abilities in design.			X			X
Practical	The design has to be easy to use by second-year CMD-students during their design projects work without me being there to steer everything in the right direction.		X				X
Rotterdam University of Applied Sciences	The design has to fit within the curriculum of the second year of CMD at Rotterdam University of Applied Sciences.			X			X

table 4 - Does the iterated version of concept 2 meet the requirements set in chapter 5?



Chapter 9 - Takeaways combined

With each of the three workshops, my insight in what works and does not work for the CMD students has grown. This chapter contains an overview of the most important insights I gained. These are the takeaways I will use for my last iteration of the empathic habits toolkit.

9.1 Main takeaways summarised

More than a toolkit

- For my concept to work the way it is intended, it should be more than a toolkit; it should be a program. The workshop should be part of the concept: The workshop lets the students experience the value of the tool and it helps them move from unconsciously incompetent to conciously incompetent. After the workshop, the students can use the tool to practice their empathic abilities and move from consciously incompetent to conciously competent.
- There needs to be a balance between time spent on lectures and explanation, practical assignments and breaks. Students lose interest if any of these parts take too long.
- For an online workshop of 2.5 hours, dividing it into 3 equal parts containing a short explanation, an assignment, and a break, seems to be ideal.
- By practising the mini-activities on each other, the students are offered a safe space where they can experiment with what does and does not work for them.
- In its current form, the workshop best fits within the first semester of the second year of CMD. Students need to have a bit of interview practise to reflect upon, but they also want to be able to use the tool as soon as possible to maximize its effects.

Empathy

- Empathy consists of more than willingness and awareness. It can be split up into sub-abilities which can all be practised separately.
- The diversity of skills of students cannot be represented with just 4 empathy styles. It is way more complex than that, specially because empathy can be divided into sub-abilities.
- Dividing empathy in sub-abilities helps clarify and concretise the concept.
- Most students have the will to improve themselves regarding empathy, but they do not know enough about the concept, how to improve themselves, and/or what they would need to improve. There seems to be an educational gap regarding empathy within the CMD-curriculum, according to the students. Incorporating my workshop and toolkit within the curriculum could possibly fill this gap.

Empathic-abilities-test

- When doing the empathic-abilities-test the students need a constant reminder that they are to fill it in based on their current project, and not their private life, in order to get the most useful and realistic results.
- The results of the empathic-abilities-test offered guidance to what students should improve upon.
- It is beneficial to have the students fill in the empathic-abilities-test on a different day before the workshop. They can fill it in on their own tempo, and there is more time and energy left for the other assignments during the workshop.
- Focussing not just their weaknesses, but also their strengths has a positive effect on the students and their motivation to further develop their skills.

Mini-activity cards

- The mini-activities offer practical guidance on how to improve empathic abilities.
- Putting an explanation on the activity cards makes students see the value of the activities, which motivates them to use them. It helps them move from unconscious incompetence to conscious competence.
- Some activity-cards need more explanation. If the value of the activity or the way the activity is to be executed is not clear enough, students are less likely to use it.

Reflection
- The plenary reflection with a teacher helps the students reflect with the right mindset: to reflect upon what they have learned about themselves and their way of working.
- Ending the workshop with a reflection helps to make the learnings of the workshop stick, and helps students realize what they have learned, but it might be a bit of a boring ending of a fun workshop. Reflecting with the teacher on a later date might be better. More research is needed about the best reflection moment(s).

Repetition
- Repetition is a must in order to make the learnings stick. The workshop could be repeated a few times a year in one way or another. Furthermore, the empathic abilities test could be used by teachers to help students with specific weaknesses or to incentivize them to take another look at the activity-cards.
- Even though the toolkit itself might not be used much if it is not repeated, the knowledge of what empathy entails probably already helps the students further develop their empathic abilities in the future.

9.2 Updated design requirements

Based on the takeaways of the three workshops I did, I updated my list of design requirements. Below, you can read the updated list, with the changes marked in red.

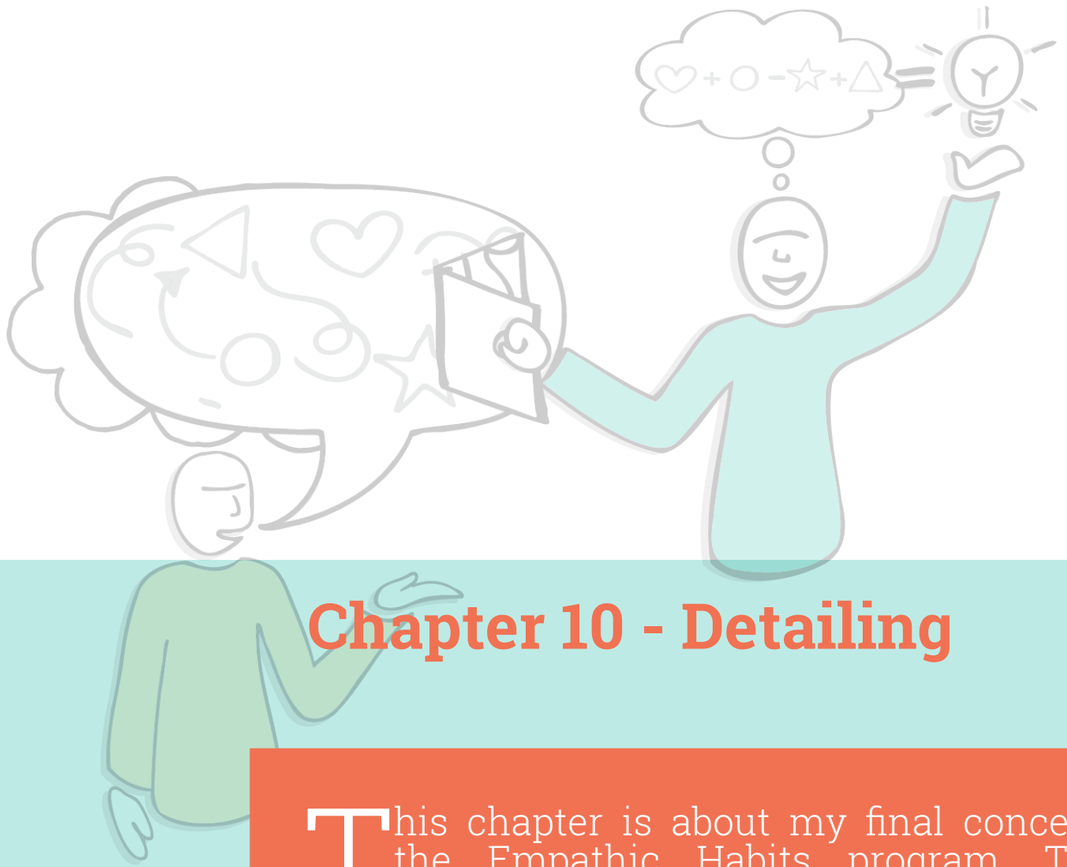
Awareness and introspection
The design has to:
- make design students more aware of the value of professional empathy in design.
- make students think consciously about their own empathic abilities as a designer.
- make students aware of their strengths in the context of professional empathy in design.
- make students aware of their weaknesses in the context of professional empathy in design.
- make students aware of how to apply professional empathy within different types of user research during their design projects.
  Explanation: my tool was only tested in the context of user research. The tool could be broadened to other situations, but I am afraid it would lose its focus and its desired effect. Therefore, for now, I think this tool should just focus on empathic user research.

Application and competence
The design has to:
- help students improve their professional empathic abilities in design.
- help students make a plan on how to improve their professional empathic abilities in design.
- help students reflect upon their professional empathic abilities in design.

Structure and clarity
The design has to:
- offer a clear structure to the concept of professional empathy in design.
- offer a clear overview of different ways students can improve their professional empathic abilities in design.

Practical
The design has to:
- be easy to use by second-year CMD-students during their design projects.
- work without me being there to steer everything in the right direction:
  - The workshop needs to be given by CMD-educators without my interference.
  - The toolkit needs to be easily available to the CMD-students who have done the workshop.
  - The toolkit needs to be easy to use by CMD-students that have done the workshop, without extra explanation.
- be offered in Dutch.

Rotterdam University of Applied Sciences
- The design has to fit within the curriculum of the second year of CMD.
- The workshop has to fit within schedule times, which means it should not take longer than 2.5 hours consecutively.
- The design has to match the (work)level of the second-year CMD-students.



Chapter 10 - Detailing

This chapter is about my final concept: the Empathic Habits program. The chapter starts with an overview of my final concept. I go into my final findings and iterations and explain the key elements which make my concept what it is. Then, I go into my recommendations regarding the implementation and further development of the concept. I mention a few different options regarding further development, as there is no one set way my concept could be implemented.

10.1 Final findings

Before my last iteration, I interviewed the two CMD teachers who were present during my Empathic Habits workshops. See Appendix AB for the interview set up and a full list of quotes. Based on these interviews, I got some final interesting insights about my concept from an educator's perspective.

- As mentioned before, repetition is needed to make the knowledge stick. One advice that the teachers gave, was to offer the workshop twice a year and let it evolve with the curriculum. Another advice was to make sure teachers refer back to the workshop and/or toolkit during regular classes.

"It really is something you have to practise more often, what needs attention more often. (...) You know, it would be nice to print the cards and talk about it every once in a while during classes: 'Have you looked at the cards?' 'What did you do with it?'"

"Yes, this is not something you can learn in a 1.5 hour workshop. (...) sometimes you need a reminder, even if it is two times a year. Wow, that seems fantastic to me, that it evolves with the curriculum. (...) And to make it stick outside of the workshops? (...) make sure the teachers know the strengths and weaknesses of the students, and that the teacher can refer back to those and asks about them when students are doing something with the target group."

- The teachers did not see a significant change in the way students did their empathy reflections. My workshop was only mentioned once.

"One of the 15 students I assessed mentioned the workshop in the competence reflection. I had hoped for more. (...) It is also a consideration of what to mention in an assessment report, of course."

However, it could have been the case that students mentioned mini-activities without the teachers recognising them. I would have to read the reflections myself to know for sure. One of the teacher did notice one student mention one of the mini-activities during class:

"Yesterday, I let students give feedback on my interview skills and one of the students said: "you should pause more, you should give the other person more space." That immediately made me think of one of your mini-activities. (...) I do not know if they learnt that during your workshop, but it was a second-year student."

- As a follow up to that last sentence, one of the teachers said my concept would be a good tool for teachers to use as well. If the teachers are aware of the strengths and weaknesses of their students, and if they have access to the mini-activities, they can use this to adapt their coaching to the individual needs of each student.

"Something I hoped to gain from the workshop was to be able to more practically lead my students; that I have an overview of the skills my students possess. (...) To be able to give practical tips. (...) I think it would be a good instrument for a study coach to zoom in one-on-one with a student, as well as offering it to a whole class."

- The teachers were in unison about the most valuable part of my concept: students learn what their weaknesses are and they are immediately given the tools to easily improve those weaknesses.

"It is very valuable to understand where you are at, what your weaknesses are and how you can work with them during a conversation. (...) What I liked especially were those cards; that you can use those cards to decide what to train and what to work on. That is something the students struggle with."

"I think the most valuable part was the way you conducted that test, so the polar chart, and the follow up with those cards. So the combination of the abilities chart with the mini-activity cards."

- The workshop turned out to be not just useful for the students, but also for the teachers.

"What I liked was that only after talking about your research, I really started thinking about empathy. (...) In all those years, you feel what it is, but you never really pinpoint what it is exactly so that was very educational for me too."

- The current curriculum lacks depth regarding the empathy competence. Therefore, the students do not always realise the importance of the competence, and they do not know how to deal with it. They do not get the proper tools to learn the value of empathy within the context of design and they do not get the tools to actively develop their skills.

"I think that depth misses. It used to be there (...) We used to have a complete semester about laddering interviews and empathy and such. That is gone. Now the students have to understand it in one lesson."

"I would say empathy is incorporated in the curriculum, because it is a competence students are assessed on all the time. At the same time, we tackle it very indirectly. During your workshop, I realised that it was the first time the concept of empathy was actively mentioned and worked with in a workshop/class."

- The teachers did not agree on what the best place would be for the workshop within the curriculum. More about this in my recommendations.

"The curriculum does not have to be adapted. (...) it is the way it is. The workshop would nicely fit in a lab like Ellen's URT lab. You could tackle it once during the Design Challenge, and repeat it in a lab a few times."

"At the start of year 2 would be great, and that teachers refer back to it sometimes. That teachers get tools for that too. (...) I would say it fits in the design challenge, but the lab teachers and study coaches also need to be aware so they can all individually help the students. (...) The weird thing about the labs is that we all have our own store, but I think this concept tackles a universal thing: the student as a whole, and not just the student who does user research. I think it would be a waste to put this in a lab. (...) Empathy is something you not only use during user research. If you have more affinity with technology, man, you absolutely need empathy! If you do not notice the effect of technology on a human, yes, then we get very scary designers."

- There might be an added value for the (initial) workshop to be given by a guest lecturer.

It is nice that an outside person comes along to talk about it as an expert. We want that, because it makes it seem more real than when teachers talk about it.

10.2 Key aspects

My final concept can be summarised in a few key elements. These elements are essential for my concept to work the way it is intended.

Empathy concretised

My concept concretised empathy by dividing it into five easier to understand and easier to practise abilities. By doing this, I made empathy workable. Each student can focus on practising their weakest ability, hereby making the concept adaptable to students' varying needs.

Active introspection

In order to properly practise, active introspection is needed. Students need to know their strengths and weaknesses in order to know what they should focus on regarding their further development. They need to become conscious of their (in)capabilities. This can be difficult for second-year students so an empathic-abilities-test can help them with this process.

(initial) practise in a safe environment

Empathy can be quite scary, which means students are not likely to experiment with different techniques when working with their actual stakeholders. Therefore, it is best to practise in a safe environment, where students feel like they have the freedom to experiment and make mistakes. This way, they can find out what works for them and then apply those techniques in the 'real world.'

Easy practises

The practises, or the mini-activities, should be short and easy. This lowers the threshold for students to use them, and makes it more likely that they evolve into habits over time.

Practises applicable to many students and situations

The practises, or the mini-activities, should be very diverse. Any student should be able to find a card that could be useful to them. Ideally, the cards are written in a way that makes them applicable to different types of empathic situations.

Repetition

Empathy is not something you learn in a short workshop. Furthermore, students get handed so many tools that my Empathic Habits toolkit is likely to be forgotten in the grand scheme of things. To really make the learnings stick, students need to keep practising. Therefore, some kind of repetition of the workshop or the learnings is necessary. More about this in my recommendations.

10.3 Concept overview

The final product of my graduation project, the Empathic Habits program, is visualised in figure 52. Some final usability iterations are visualised in figure 51. These were based on the survey from my third workshop (see chapter 8 and Appendix Y).

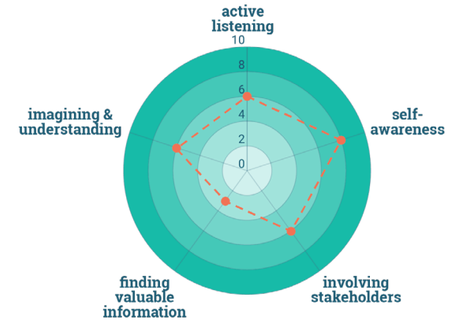


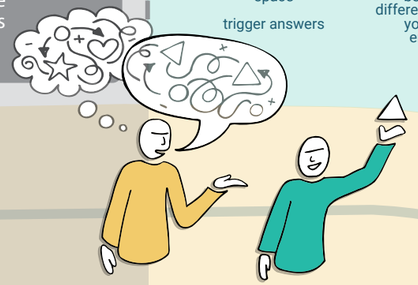
figure 51 - iterated versions of mini-activity cards and polar chart, based on survey

Final concept Empathic Habits program

lay experience

Empathy is one of the 8 design competences of the study Communication & Multimedia Design at Rotterdam University of Applied Sciences.
However, there is a gap within the curriculum regarding actively teaching students what it means to be an empathic designer, and it has not been completely clear what it actually means to be an empathic designer. That is where the Empathic Habits program comes in.

During the first year, CMD students get introduced to their study. An abundance of new information is thrown at them, and they get to have many first-time experiences regarding, for example, designing, prototyping, and user research. These experiences are necessary to be able to reflect upon during the Empathic Habits program.



introspection

At the start of the second year, CMD-students who join the program participate in their first Empathic Habits workshop. At this point, most students are not aware of what they have yet to learn; they are unconsciously incompetent.
Before the workshop, students do an empathic-abilities-test in which they get rated on 5 empathic sub-abilities. Together, these abilities make up what it means to be an empathic designer. At the start of the workshop they analyse their results: what are their strengths and weaknesses?
In this introspection process, students move from unsconscious incompetence to conscious incompetence.

active listening

be open-minded and do not judge

do not fill in someone else's answers

give the empathee space

trigger answers

self-awareness

be aware of own biases and assumptions

be aware of own behaviour, emotions and motives

be aware of differences between you and the empathee

involving stakeholders

get in contact

communicate professionally

adapt to your empathee

know who to contact and how

finding valueable information

finding coherence in information

finding core values

knowing when you have enough information

imagining & understanding

be able to imagine a situation

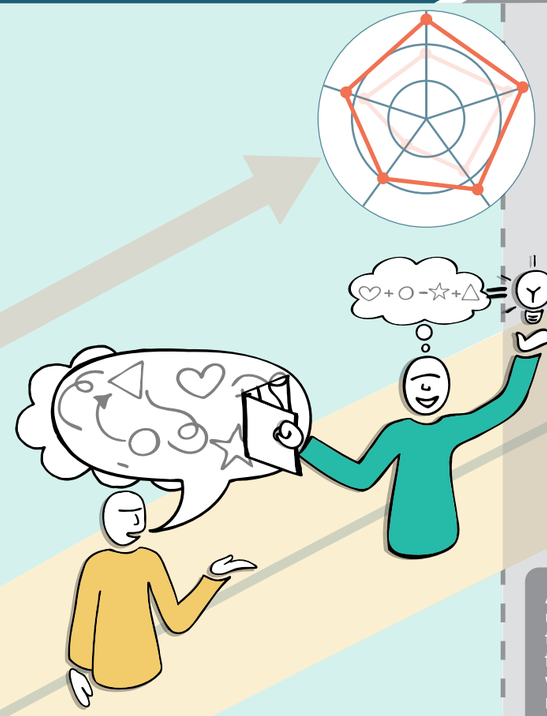
be able to imagine how someone feels/behaves

being able to know why someone feels/behaves the way they do

practise in a safe environment

During the next part of the workshop, students get to practise their weakest empathic ability by interviewing each other. They are to use at least 3 mini-activity-cards corresponding with the empathic ability they are going to practise. These cards contain short, simple assignments which students can use in any user research setting.

reflection & development



At the end of the first workshop, the students reflect upon what they have learned and how they want to further develop their empathic abilities.
For students who join the follow-up program, it continues over the next 6-8 weeks with weekly or bi-weekly reflection sessions with fellow students and a teacher. Every week, they are to try new activities and reflect upon what works for them and why.
By adding mini-activities to their repertoire one by one, they develop empathic habits, making them more empathic designers. They move from being consciously incompetent to consciously competent.

empathic habits

Assuming students keep using the mini-activities, through the years that follow, the mini-activities will become second nature: they will become unconscious habits. In this process, students and/or graduates move from being consciously competent to unconsciously competent.

If you are reading the pdf version of this thesis, you can click on the image below to go to a user experience video of the workshop:

or use this link:
https://youtu.be/HnJED9P702k

figure 52 - visual overview of the final concept: the Empathic Habits program

10.4 Recommendations

Of course, the concept is not finished. Therefore, I have compiled a list of recommendations for implementation and further development. I go into my advice for implementation at Rotterdam University of Applied Sciences, as well as Delft University of Technology. Furthermore, I go into my recommendations for further development of the concept.

10.4.1 Implementation

The way the concept is implemented into the curriculum has an influence on its success. Therefore, I have a few recommendations in regards to implementation. What works for Rotterdam University of Applied Sciences, is not necessarily the same as what works for Delft University of Technology and possibly other places. Therefore, I have written separate implementation recommendations for both of them.

CMD - Rotterdam University of Applied Sciences

Within the curriculum of CMD, there is room for a program that is spread over a few weeks. This means that the repetition key element, which has not yet been fully developed in my final concept, can relatively easily be implemented. An initial workshop could be offered either during a Design Challenge class or in the URT (User Research Techniques) lab. Students could then voluntarily join a longer program in which they get together once a week to reflect upon their application of the mini-activities. They get little nudges to try out the mini-activities during the program. This program could be part of their electives.

- Design Challenge or lab?
  Whether the workshop should be made part of the Design Challenge or URT lab, depends on what you want to achieve. With the Design Challenge, every student is reached, but empathy is not the only part that is important for the Design Challenge. To expect all teachers to give the proper amount of attention to my specific tool, during a project in which so many other elements are important as well, is probably too optimistic. When making my program part of a lab or a personal design challenge, there is more room for specific attention to my program and proper repetition and reflection. The disadvantage is that not every student will learn about it, but the students that do are probably more motivated because they have chosen to join that specific lab/program.
- Access to toolkit.
  Initially, I wanted the toolkit (the test + mini-activities) to be available to all students at all times. However, that is probably not the smartest thing to do. To properly introduce the students to the toolkit and to give them an extra reason to join the program, I would advise to offer the toolkit only to students who have (at least) participated in the first Empathic Habits workshop. This way, they know how to work with it and they have had the proper practise and experience to see the value of using it.

IDE - Delft University of Technology

Within the curriculum of IDE, there is less wiggle room. According to the IDE educators I have talked to, new programs are virtually impossible to launch. This means, a complete program like the one I would advise for CMD, would most likely not fit within the IDE curriculum, unless maybe it is turned into a 3EC elective. Therefore, I would advise to focus solely on the workshop. Especially in this case, I would advise to only offer the toolkit to students who have joined the workshop, for the same reasons as mentioned above.
The workshop could be implemented in many different courses. A few examples are as follows. It could be part of a course like Context and Conceptualisation, which offers the students different tools in regards to user research. In this case, the introduction, the workshop and the reflection could all be done on the same day. It could also be a part of IDE Academy or Product Understanding, Use and Experience, in which students get to choose what lectures and/or workshops they would like to join, depending on what they want to learn.

10.4.2 Further development

I have several ideas and/or recommendations for further development of the concept. I firstly go into different ways the toolkit element could be further developed. Then, I go into different recommendations regarding further research to improve and adapt the concept for CMD as well as IDE.

Shaping the toolkit

Depending on the way the Empathic Habits program is offered to the students, the toolkit could have different formats. More research needs to be done on what would work best for the different scenarios described in chapter FIXME. Below are examples with some pros and cons. Of course, these elements could also be combined in order to get the best results. Note that with the toolkit I mean the empathic-abilities-test combined with the mini-activity-cards.

- Physical cards
  If the workshop were to be given physically at a faculty, I think it would be best to have physical mini-activity-cards as well. Reading comprehension is better on paper than on a screen (Kong et al, 2018), and in my personal experience, it is just more fun and engaging to physically interact with a toolkit. The empathic-abilities-test however, would still have to be done on a computer to be able to quickly get the results on a polar chart.
- Website
  Offering the toolkit through a website has several advantages compared to offering a physical toolkit. Firstly, the information is available to the students wherever they go, as long as they have internet. Secondly, a website offers the opportunity to provide or link to more information about certain topics on the mini-activity-cards. Lastly, on a website students can easily filter the cards to find ones that fit their specific needs at a specific time.

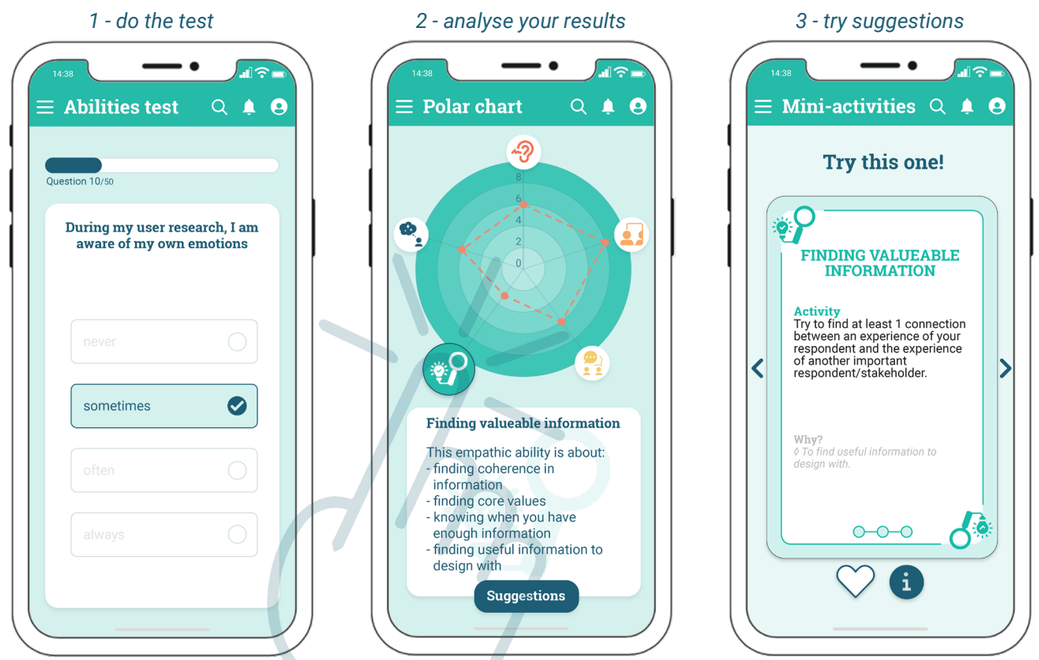


figure 53 - 3 sketches of what an Empathic Abilities app could look like

- App
  Offering the toolkit on through an app has the same advantages as offering it on a website, and more. For example, in an app students can easily add cards to their favourites. Furthermore, within an app students could track their progress, and they could even turn on notifications so the app can remind them to keep practising, for example, by prompting them to use a certain mini-activity that day. However, an app also has its disadvantages. Students might not want to download an app for many different personal reasons. Secondly, getting notifications from an app can be annoying, discouraging the students from using the toolkit. figure 53 shows some sketches of what such an app could look like.

CMD - Rotterdam University of Applied Sciences

To make sure the Empathic Habits program works the way it is intended, more research needs to be done. Below, I have listed some things that still need to be done and/or researched:

- The mini-activities need to be individually tested. I have not focused on iterating them to perfection so I can imagine much still needs to be improved.
- The program that takes place in continuation of the workshop still needs to be developed and the research about what format this program should have still needs to be done.

IDE - Delft University of Technology

If the Empathic Habits program is to be implemented within IDE, some other things needs to be done and/or researched:

- After the mini-activities have been iterated, they have to be translated to English.
- No research has been done yet as to what IDE students think of the Empathic Habits toolkit and program. If IDE students have a completely different experience than the CMD students, changes might have to be made.
- It would be interesting to see how my toolkit holds up against all the other toolkits that are offered to IDE students.

- For courses in which students join the workshop voluntarily, research could be done on how to best introduce the program to the students.

Chapter 11 - Discussion

In this final chapter, I reflect on my project and the resulting concept. The chapter starts with an evaluation of whether I have reached my original design goal(s). Then, I go into the limitations of my concept. After that, I elaborate on what my project contributes to theory, practise and education regarding empathy. The chapter ends with a personal reflection.

11.1 Reflection on design goal & concept

Circling back to my original design goal and the resulting design focus, to which extent did I reach my goals, and why? Did anything change along the way?

My original design goal and the resulting design focus were as follows:

I want to make students use empathy consciously throughout their design projects, by offering structure and clarity to the empathic aspects of design.

Within that design focus I had two sub-directions:

1. **Offering structure and clarity within the application and results of empathy in design.**
2. **Offering structure and clarity within the development of empathic abilities.**

All in all, I think during my project, my design goal has changed slightly. My original goal was to help students use empathy consciously throughout their entire design projects, however, my final concept focuses more on the user research part of the design process. Therefore, I think I did not reach the "throughout their design projects" part of my original goal. However, I do not think that is a bad thing as that goal might have been a bit too ambitious and optimistic. A common saying is "when you design for everyone, you design for no one", and I think that saying is applicable to my project as well. I think it was better to focus on a specific empathic element of the design project, rather than the entire design process. The way my concept is designed now, the Empathic Habits program has a clear place in an average design curriculum, students know exactly when to use the Empathic Habits toolkit.

As for the design focus, I think I reached my goals completely. I made the concept of empathy workable, by making its definition clear and by offering students simple tools to work on specific elements of said definition. My sub-focus for the Empathic Habits concept was the second one: offering structure and clarity within the development of empathic abilities. Through my program, students learn exactly what they need to work on and how they need to further develop their skills. Therefore, I think I have reached this goal.
Moreover, I think I unconsciously also reached the first sub-focus: offering structure and clarity within the application and results of empathy in design, because many of the mini-activity cards focus on applying empathy within a user research setting and analysing results. All in all, I think my concept works for both sub-focuses.

Looking at my list of requirements (the one I adapted in chapter 9), I think I have reached most of them (see table 5). Some depend on how the concept will be implemented, which means I cannot definitively say whether I have met those requirements. If my recommendations are followed, I think it should be possible for my concept to meet the complete list of requirements.

Category	Requirement	Does the Empathic Habits program meet the requirements? NO	MAYBE	YES
Awareness and introspection	The design has to make design students more aware of the value of professional empathy in design.			X
	The design has to make students think consciously about their own empathic abilities as a designer.			X
	The design has to make students aware of their strengths in the context of professional empathy in design.			X
	The design has to make students aware of their weaknesses in the context of professional empathy in design.			X
	The design has to make students aware of how to apply professional empathy within different types of user research during their design projects.			X
Application and competence	The design has to help students improve their professional empathic abilities in design.			X
	The design has to help students make a plan on how to improve their professional empathic abilities in design.		X	
	The design has to help students reflect upon their professional empathic abilities in design.			X
Structure and clarity	The design has to offer a clear structure to the concept of professional empathy in design.			X
	The design has to offer a clear overview of different ways students can improve their professional empathic abilities in design.			X
Practical	The design (the toolkit) has to be easy to use by second-year CMD-students during their design projects work without me being there to steer everything in the right direction.			X
	The design (the program) has to work without me being there to steer everything in the right direction: • The workshop needs to be given by CMD-educators without my interference. • The toolkit needs to be easily available to the CMD-students who have done the workshop. • The toolkit needs to be easy to use by CMD-students that have done the workshop, without extra explanation.		X	
	The design has to be offered in Dutch.			X
Rotterdam University of Applied Sciences	The design has to fit within the curriculum of the second year of CMD at Rotterdam University of Applied Sciences.			X
	The workshop has to fit within schedule times, which means it should not take longer than 2.5 hours consecutively.			X
	The design has to match the (work)level of the second-year CMD-students.			X

table 5 - Does the final concept meet the requirements set in chapter 9?

11.2 Limitations

Like any concept, the Empathic Habits program has its limitations. Below is a list of limitations I have thought of.

Privacy
If teachers of the Empathic Habits program want access to the individual empathic-abilities-test results in order to more individually help each student, there is the issue of privacy. Would it be okay for teachers to automatically have access to these results or do the students need to grant permission first?

(lack of) repetition
As mentioned before, the (lack of) repetition could make or break the effects of the concept. The goal of the mini-activities is for the students to develop empathic habits over time. However, without repetition or nudges, at least the CMD students are not likely to keep practising the mini-activities, which would mean they would not develop these empathic habits.

Does it stand out?
Following the last limitation, I cannot be sure that the Empathic Habits toolkit stands out between all the other tools that are handed to the students. Yes, the students who used my toolkit liked using it and told me they plan on using it again, but in the end, the teachers could not immediately see this in their empathy competence reflections. I could be biased in regards to the positive effects of the concept.

Incomplete representation of empathy
There could be elements of empathy that I have completely missed in my division of empathic abilities.

Misplaced confidence
I have not seen this in my field research, but it is possible that some students will lean on the Empathic Habits toolkit too much. If they blindly apply the mini-activity-cards, they might stop to think for themselves or they might become overly confident regarding their empathic skills, thereby taking a step back towards unconscious incompetence.

11.3 Contributions to Theory, Practice & Education

My research and the resulting concept have contributed a few things to theory, practise and education. Below is a list of things I think my project has contributed. Of course, it is possible that these things have already been researched or described, but I have not found them in my literary research.

Separating private and professional empathy
Something I had not seen before, was the division between empathy in a private setting and empathy in a professional setting. I think I have added to knowledge about empathy by separating these two different ways of looking at the concept, hereby, making it easier to work with in specific settings.

Division of empathy into sub-abilities
Whilst dividing empathy up into different components might not necessarily be anything new, the way I have done it is. Instead of dividing it into different types or phases of empathy, I divided it up into sub-abilities. These abilities were the result of a clustering of all empathic abilities I have found during my research. Therefore, they hopefully encompass what it means to be an empathic designer.

Different way of teaching soft skills: promoting easy habits
The way I approached the teaching of soft skills is also quite new, I think. Offering students a card set of short and easy activities they can apply to their user research in order to increase certain sub-abilities of empathy, offers them securance. Furthermore, because these activities are so short and easy, they can quickly turn into habits when students use them more often. Habit by habit, a soft skill is increased. It makes the formation approach, which is usually used to teach soft skills, a bit more conscious.

Keeping the individuality of students in mind
Because I split up empathy into sub-abilities, and thought of practises for each of them, I was able to design for many different students at the same time. I have not yet seen this modular approach regarding the teaching of empathy.

11.4 Personal reflection

If I were to write down all the things I have learnt and experienced during the past year, I could write a whole new thesis. Therefore, I am going to keep it short with 4 things I would like to have done better and 4 things I am proud of.

11.4.1 Learning points

Be more realistic
Though I am very satisfied with the end result, looking back, I think I should have done a bit less. I was so invested in the subject that I wanted to do every type of user research I could think of within the limited timespan: interviews, surveys, tests, focus groups, etc. Processing all that information was way too much work to do on my own. Being used to working in a group, I felt a strong pull to deliver the same amount of work as would have been done in a group. Even though I knew that was not possible, I noticed I was not satisfied with merely doing what I could.

Information overwhelm & trusting myself
During this project, I got overwhelmed by information quite a few times. During my literary research, I was overwhelmed by the different information about empathy going around. During my field research, I was overwhelmed by all the different input I got from the many sources I gathered. Though I was able to gather the proper information to work with, I would like to stress about it a bit less next time. I need to trust myself that I will get there in the end, and I think I need to put a limit on the amount of sources I am using next time.

Documentation
Looking back, I could have done better regarding the documentation of my project, especially the documentation of my field research. I worked very quickly, by drawing conclusions fast and immediately moving on to the next concept and/or iteration. However, in that process, I forgot to do things like transcriptions. I had to do all that work at the end of my project, which was inconvenient.

Comparing myself
In the future, I would like to compare myself less to other people. I kept comparing my work to other people's graduation projects, focusing on the best parts of each. This resulted in me never being satisfied with my work. Of course, other projects can be inspiring, but I think I would have been a bit less stressed had I compared myself less.

11.4.2 Things I am proud of

Communication
I think my communication with my graduation commission, company, end users and other stakeholders went really well. I felt like we all were able to express ourselves comfortably, and there were very little to no miscommunications.

Designing and facilitating successful workshops
I am proud of the way I was able to design and facilitate successful workshops. I have gotten compliments from CMD teachers and students about how fun and engaging the workshops were, which is not easy, especially for young students.

Dealing with Covid-challenges
I was able to adapt to the challenges that came forward during Covid times. I learned to work with programs like Miro, was able to fully facilitate engaging virtual workshops, and I was able to sufficiently follow an at-home work schedule. I was not used to all of this, so I am proud that I was still able to end up with a project that I am proud of.

Turning something abstract into something workable
Looking back at how incredibly confused I was regarding empathy at the start of this project, I am especially proud that I was able to turn it into something workable.

References

A

Adams, L. (2012) *Learning a New Skill is Easier Said Than Done.* (2012, May 15). Gordon Training International. Retrieved from https://www.gordontraining.com/free-workplace-articles/learning-a-new-skill-is-easier-said-than-done/

B

Baron-Cohen, S., & Wheelwright, S. (2004). The Empathy Quotient: An Investigation of Adults with Asperger Syndrome or High Functioning Autism, and Normal Sex Differences. *Journal of Autism and Developmental Disorders,* 34(2), 163–175. https://doi.org/10.1023/b:jadd.0000022607.19833.00

Batson, C. D. (2009). These Things Called Empathy: Eight Related but Distinct Phenomena. *The Social Neuroscience of Empathy*, 3–16. https://doi.org/10.7551/mitpress/9780262012973.003.0002

Bohorquez, F.A.T., (2018). *Developing Empathy in the Academic Design Studio: Conclusions from an Empirical Study in Graduate and Undergraduate Programs in Industrial Design.* Proceedings of the 17th International Image Festival: New Expeditions, 2018.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–848. https://doi.org/10.1037/0022-3514.84.4.822

Burch, N. (1970). *Four Stages of Learning.* Gordon Training International, CA

C

Chang-Arana, L., Piispanen, M., Himberg, T., Surma-aho, A., Alho, J., Sams, M., & Hölttä-Otto, K. (2020). Empathic accuracy in design: Exploring design outcomes through empathic performance and physiology. *Design Science*, 6. https://doi.org/10.1017/dsj.2020.14

Clear, J. (2018). *Atomic Habits.* Van Haren Publishing.

Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2014). Empathy: A Review of the Concept. *Emotion Review*, 8(2), 144–153. https://doi.org/10.1177/1754073914558466

D

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology,* 44(1), 113–126. https://doi.org/10.1037/0022-3514.44.1.113

Duhigg, C. (2014). *The Power of Habit.* Turtleback.

G

Gordijn, F., Eernstman, N., Helder, J., & Brouwer, H. (2018). R*eflection methods : practical guide for trainers and facilitators: Tools to make learning more meaningful.* Wageningen Centre for Development Innovation. https://doi.org/10.18174/439461

Grant, A. M., Franklin, J., & Langford, P. (2002). The Self-Reflection and Insights Scale: a New Measure of Private Self-Consciousness. *Social Behavior and Personality: an international journal,* 30(8), 821–835. https://doi.org/10.2224/sbp.2002.30.8.821

Grassler, M. (2014). *The Empathic Negotiation Canvas A3* (EN) (pdf download version). Retrieved from https://www.stattys.com/en/negotiation-canvas-a3-pdf-download-version

Gray, D. (2018, 21 juli). *Updated Empathy Map Canvas* - The XPLANE Collection. Medium. Retrieved from https://medium.com/the-xplane-collection/updated-empathy-map-canvas-46df22df3c8a

H

Hess, J.L., & Fila, N.D. (2016). *The Development and Growth of Empathy Among Engineering Students*. ASEE's 123rd Annual, Conference & Exposition, New Orleans, LA, June 26-29, 2016

Hickok, G. (2014). *The Myth of Mirror Neurons: The Real Neuroscience of Communication and Cognition* (1ste ed.). W. W. Norton & Company.

Hoffman, M. L. (2000). E*mpathy and moral development: Implications for caring and justice.* Cambridge, UK: Cambridge University Press.

K

Kong, Y., Seo, Y. S., & Zhai, L. (2018). Comparison of reading performance on screen and on paper: A meta-analysis. *Computers & Education*, 123, 138–149. https://doi.org/10.1016/j.compedu.2018.05.005

Kohlberg, L. (1976). Moral stages and moralization: The cognitive-developmental approach. *Moral Development and Behavior: Theory, Research, and Social Issues,* 31-53.

Kolb, D. (2014). *Experiential Learning: Experience as the Source of Learning and Development* (2nd ed.). Pearson FT Press.

Kouprie, M., & Sleeswijk Visser, F. (2009). A framework for empathy in design: stepping into and out of the user's life. *Journal of Engineering Design*, 20(5), 437–448. https://doi.org/10.1080/09544820902875033

L

Leonard, D., & Rayport, J. F. (1997). Spark innovation through empathic design. *Harvard business review,* 75, 102-115.

López-León, R., & Gómez-Valdez, G. (2017). Understanding Empathy in Design Education. *International Journal of Educational Research and Innovation*. 10. 51-63.

M

Mattelmäki, T., Vaajakallio, K., & Koskinen, I. (2014). What Happened to Empathic Design? *Design Issues*, 30(1), 67–77. https://doi.org/10.1162/desi_a_00249

Morse, J. M., Anderson, G., Bottorff, J. L., Yonge, O., O'Brien, B., Solberg, S. M., & McIlveen, K. H. (1992). Exploring empathy: a conceptual fit for nursing practice?. T*he journal of nursing scholarship*, 24(4), 273-280.

L

Lanzoni, S. (2018). *Empathy: a History* [E-book]. Yale University Press

O

Osterwalder, A., Pigneur, Y., Papadakos, P., Bernarda, G., Papadakos, T., & Smith, A. (2014). *Value proposition design*. John Wiley & Sons.

P

Pagán, B. (2020). *The Creative Empathy Field Guide* [E-book]. Bookboon Learning

S

Sleeswijk Visser, F. (2009). *Bringing the Everyday Life of People into Design* (doctoral thesis). Delft University of Technology, Delft.

Sutphen, M., & de Lange, T. (2015). What is formation? A conceptual discussion. *Higher Education Research & Development,* 34(2), 411-419.

W

Wilkins, K. G., Bernstein, B. L., & Bekki, J. M. (2015). Measuring Communication Skills: The STEM Interpersonal Communication Skills Assessment Battery. *Journal of Engineering Education*, 104(4), 433–453. https://doi.org/10.1002/jee.20100