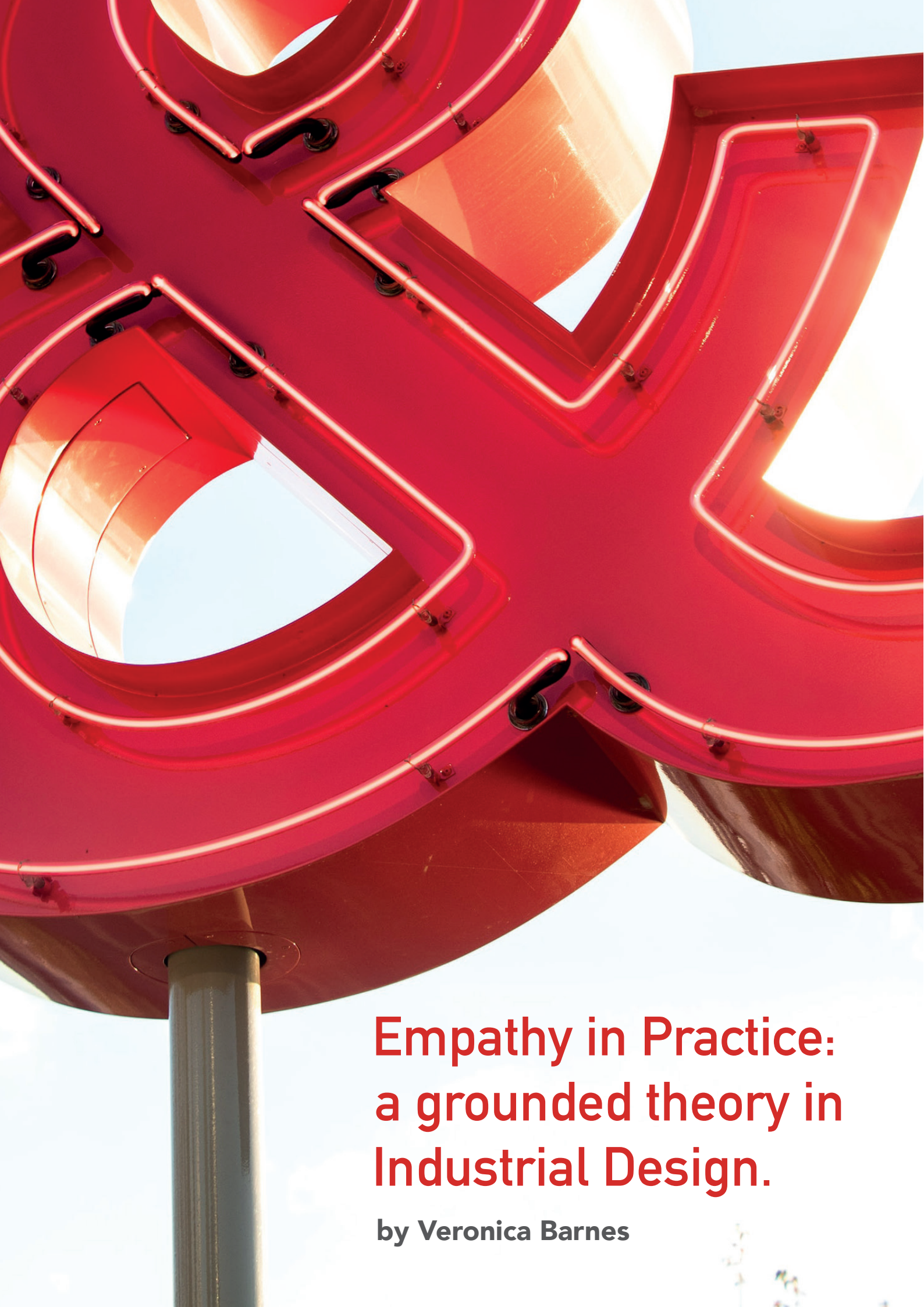




Empathy in Practice: a grounded theory in Industrial Design.

by Veronica Barnes

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Dissertation submitted in fulfilment of the requirements for the degree
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Submitted November 2019

DECLARATION

I, Veronica Barnes, declare that the contents of this dissertation represent my own unaided work, and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions, and not necessarily those of the Cape Peninsula University of Technology.

Signed 

Date: 28 November 2019

ACKNOWLEDGEMENTS

“Not all those who wander are lost.”

The Lord of the Rings, J.R.R. Tolkien

The journey of this research has been meandering, through varying landscapes. I fought the view of: “lost, turn back”, inside my own heart many times. However, I owe a debt of profound gratitude to those who supported me, whilst out wandering for years.

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ABSTRACT

The field of industrial design developed as a result of the Industrial Revolution, when mass manufacturing became a reality in the 18th and 19th centuries. Industrial designers embraced mass production and the specialisation in the design of objects and products that would appeal to a large consumer market, but users played no role in the design process. There has been a monumental shift in the perception of the role and value of users in the design process. This project is grounded in the complexities of the changing nature of design – from designer-focussed to human-centred.

Many different approaches suggest methods to understand the needs and context of the users, and many of them include empathy as part of the process. The World Design Organisation (WDO) defines industrial designers as follows (excerpt):

Industrial Designers place the human in the centre of the process. They acquire a deep understanding of user needs *through empathy* and apply a pragmatic, user-centric problem-solving process to design products, systems, services, and experiences (WDO, 2015, *italics inserted*).

So, while there is much theorising about the importance of empathy in product design process, the *practice* of designers is under-researched in this regard: it is unclear whether empathy plays a role in the engagement in the product design process between professional designers and the users for whom products/ solutions are being designed. In addition, empathy lacks a clear, consistent definition in the design process. The main objective of the research was to bring clarity in the area where empathy and industrial design professional practice intersect - by exploring the designer's engagement and the role and understanding of empathy in the process of co-design, in order to provide theoretical substance to the lack of definition in the literature – as to what counts as empathy.

Using a constructivist Grounded Theory methodology, a substantive *Theory of Being, Doing and Betweenness of Empathy in Design* (BDBED) was developed, in order to contribute real understanding in the field of industrial design, and provide clarity on use of the term *empathy* in the WHO 2015 definition. In addition, the study contributes a detailed analysis of the designers' perceptions of empathy in their professional practice, as well as the key factors determining the empathic nature of the user-designer interaction/s. A methodological contribution to the field is the further exploration of the use of a Constructed Grounded Theory methodology in the field of design. The rigour of Grounded Theory coding methods ensured a thorough analysis in the qualitative research field, thus contributing theory to the design field.

KEY WORDS/ TERMS: Empathy, Product design practice, Co-design practice, User-designer interaction, Grounded Theory

GLOSSARY

A list of terms or phrases are defined and/ or explained, as they will be used in this dissertation:

Term or phrase	Definition or explanation
Co-design	A collaborative design development process, involving designers as well as people not trained in design in creative activities. Can also be called co-creation (Sanders & Stappers, 2008: 6).
Empathic Design	A people-centred approach to product design that is focused on using empathy to gain a deeper understanding of the user. Techniques include observation, collaboration with users, and empathic modelling (McDonagh, Thomas, & Strickfaden, 2011: 303).
ICSID	"The International Council of Societies of Industrial Design (ICSID) is a non-profit organisation that protects and promotes the interests of the profession of industrial design." (ICSID, 2013)
Inclusive design	Appreciates the diversity and equality of users, in fact assuming that users will be non-standardised. Inclusive Designers aim to include people of all abilities, and to accommodate the widest possible audience. Also known as 'design-for-all' and Universal Design (Altay & Demirkan, 2014: 197).
Participatory design	Collective creativity involving designers as well as the users of the products/ services/ people who would be impacted by the design outcomes (Sanders & Stappers, 2008: 7).
Supra-functionality	Functionality that surpasses mere product functionality, and incorporates the dreams or desires of the user (McDonagh & Thomas, 2010: 459).

Universal design	Appreciates the diversity and equality of users, in fact assuming that users will be non-standardised. Inclusive Designers aim to include people of all abilities, and to accommodate the widest possible audience. Also known as 'design-for-all' and Inclusive Design (Altay & Demirkan, 2014: 197)
User-centred design	A shift in design approach first seen in computing and social sciences, where the user becomes more important than the object. Users are consulted about the possible new product, but play a largely passive role (McHardy, Olsen, Southern & Shove, 2010: 96).

ABBREVIATIONS

A list of abbreviations, which are then defined and/ or explained, as they will be used in this dissertation:

Term or phrase	Definition or explanation
CoGT	Constructivist Grounded Theory
GT	Grounded Theory
HCD	Human-centred design
UCD	User-centred design

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Chapter One: Introduction

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1.1. Introduction and purpose of chapter

The role of empathy in the practice of industrial design is the focus of this thesis. This chapter opens with an overview of the context for the research, beginning with an understanding of the birth of the field of industrial design. Changes to the nature of the field are evidenced in definitions of the industrial designer (by the main international body of industrial designers, ICSID¹). Further background is provided to the changing nature of design with user-people, as well as the designer's role in human-centred design.

The project is grounded in the complexities of the changing nature of design – from designer-focussed to human-centred. Many different approaches suggest methods to understand the needs and context of the users, and many of them include empathy as part of the process. Literature and definitions are limited within the design field, highlighting the need for an exploration of the role and understanding of empathy in industrial design practice.

The statement of research problem, objectives and contributions follow. A discussion of the ontological and epistemological (research) approach precedes the reflection on the role of the researcher in this project. An outline of the Grounded Theory methodology is followed by a description of the professional industrial designers – who are the sample of the study. The ethical approach adopted for this project is presented, and the chapter concludes with the outline of the thesis structure, chapter by chapter.

1.2. Background to the Research Problem

The field of industrial design developed as a result of the Industrial Revolution, when mass manufacturing became a reality in the 18th and 19th centuries. This new reality meant that many identical objects could be made in factories, and thus “the act of design became separated from the act of making” for the first time (Chang & King, 2016). Industrial designers embraced the technologies of mass production and began to specialise in the design of objects and products that would appeal to a large consumer market.

By 1957, there were several international organisations whose focus was the field of industrial design. They became ICSID² - The International Council of Societies of Industrial Design – and by 1959, 23 societies from 17 countries were represented (WDO, 2015). At

¹ICSID is the International Council of Societies of Industrial Design. More information on the organisation follows in section 1.2.

² ICSID was renamed in January 2017: The World Design Organisation

the first General Assembly in September 1959, the first definition of industrial design was adopted:

An industrial designer is one who is qualified by training, technical knowledge, experience and visual sensibility to determine the materials, mechanisms, shape, colour, surface finishes and decoration of objects which are reproduced in quantity by industrial processes (Joore & Brezet, 2015: 92).

For much of the 19th and the first half of the 20th centuries, the focus of the industrial designer was on the tangible object. The shift towards combined product-service systems means that the industrial designer is becoming more entwined in facilitating design with groups of users, than being the creator of a single object (Joore & Brezet, 2015:92). This development of the field was reflected in the new definition, adopted at the 2015 ICSID General Assembly in South Korea:

Industrial Design is a strategic problem-solving process that drives innovation, builds business success, and leads to a better quality of life through innovative products, systems, services, and experiences (WDO, 2015).

In *Designing Ways of Knowing*, Nigel Cross (1982) makes the case for design as a coherent discipline for study – in addition to the humanities and the sciences. This seminal work describes design as having “its own distinct ‘things to know, ways of knowing them, and ways of finding out about them’” (Cross, 1982: 221). Even in this early description of design, Cross describes the values of design culture as “practicality, ingenuity, *empathy*, and a concern for appropriateness” (Cross, 1982: 222, *italics inserted*). In his more recent work, *Design Thinking* (2011), he uses in-depth case studies and analyses to understand the nature of designing processes and interactions. However, despite chapters entitled, *Designing Together* (2011: 91) and *How Designers work: Collaboration* (2011: 116) there is little to no discussion about the interactions between designers and users of their products, the focus being on how designers collaborate with other designers or team members. In fact, the user-persons are almost entirely absent in the book, in line with the traditional “design *for*” model, and there is no mention of empathy.

The role of the designer has changed considerably since Cross’s (1982: 221) defence of design as “a coherent discipline” in the 1980s. The rise of user-centred design, co-design, participatory design and service design (among others) have seen a shift from the designer as “expert” to the user-person as the “expert” in their circumstances. The designer as expert is the traditional role, where the designer “designs *for*” the user of the product or service. Approaches such as user-centred design (UCD) have emerged, where the user-person plays a more important role in the design process. Other more human-focussed approaches, such as: co-design, design-for-all, inclusive design, universal design and participatory design (to name a few), also place designers in the role of

“designing *with*” the user.

In *Makeshift Users* (2010:96), McHardy, Olsen, Southern and Shove ascribe the “invention of users” to the 1980s, when a shift of focus from the object to the user was seen in several fields such as computing, social sciences and design. The fields of software development and human-computer interactions made UCD acceptable practice. However - particularly in software and systems development - the user is often represented by a ‘persona’ – who is made up of features of several potential future users, quite different to real people. Personas are user profiles that can be used by a design team as a point of reference when making decisions (McHardy *et al.*, 2010: 98). The singular representation of a user clearly does not reflect the ‘real’ diversity of people, as “users never equal people but are better understood as representations of people from a particular perspective and for a particular purpose” (McHardy *et al.*, 2010:96).

While the user-centred design approach began as an attempt to elicit more information about the future users of the product, the role of the user in user-centred design is largely passive (‘user as subject’). The designer/ researcher retains the expert role and observes and/or interviews the user. Sanders and Stappers (2008: 5) contrast this with the participatory approach to design, where users play a far more active role in the design process, particularly in the early stages of product development (‘user as partner’). Figure 1.1 illustrates the complex relationship between the varying user, designer and researcher roles in product development.

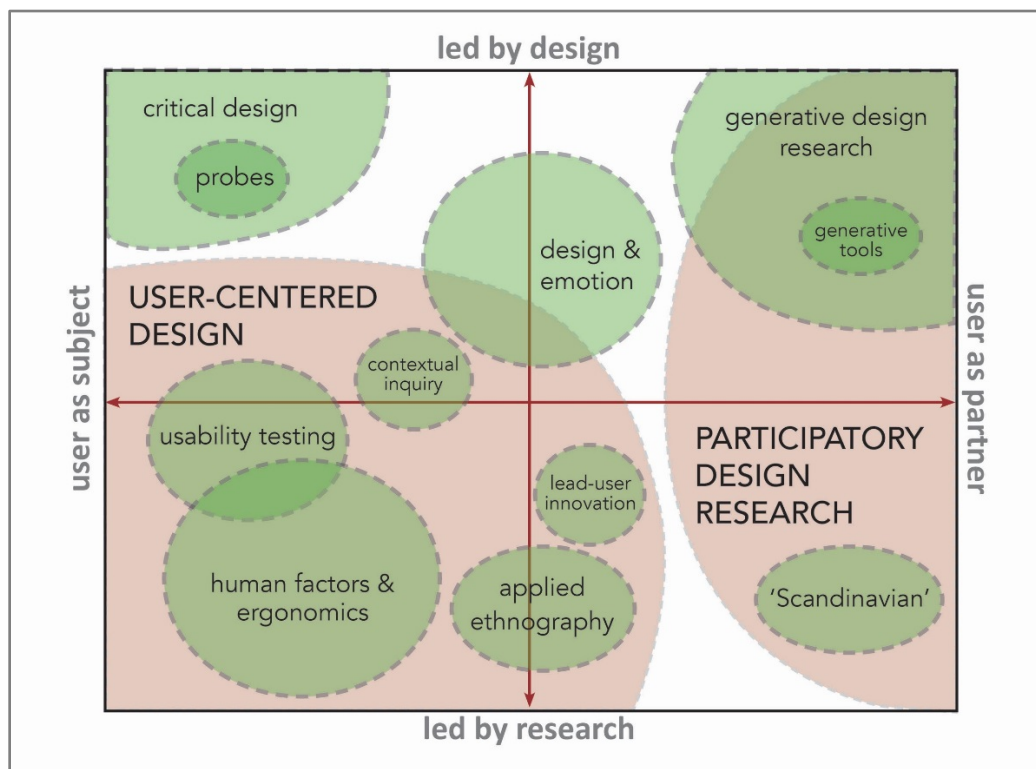


Figure 1.1: The current landscape of human-centred design research as practiced in the design and development of products and services (from Sanders & Stappers, 2008: 6)

Lee (2008:31) acknowledges the imperative to involve users in design practice. She asserts that a focus on people participating in design should be accepted, but that “the current focus of the Design Participation development should place more emphasis on the issues of ‘how’ or the actual design practice in order to avoid tokenism”. She suggests that users can play an active and meaningful role in making design decisions, as opposed to just window-dressing.

Co-design is described as a reaction to user-centred design, particularly in the sense that the co-designer plays a collaborative active role in the design process, as opposed to being a mere subject of research in user-centred design (Szebeko & Tan, 2010: 581). The idea of co-design is to create an equal relationship between different stakeholders in the process:

The key principle in its approach is to view all stakeholders of an issue as valued partners in the development and decision-making process, rather than being passive recipients of products and services. Co-design respects everyone’s experiences and views connected to the issue (Szebeko & Tan, 2010: 582).

Sanders and Stappers (2008: 6) describe co-design as a wide understanding: as the interaction between trained designers and individuals not trained in design, in order to collaborate in the process of developing the design. These human-centred fields, as relatively new approaches, lack a long history of literature and frequently share ill-defined terminology, which can be confusing. Sanders, more recently describes co-design as an interchangeable term, along with co-creation and human-centred design, with participatory design (2013: 62). Probably because of the wide spread of ways that codesign, participatory design, and human-centred design are currently practiced, the terms remain ill-defined. However, all of these approaches acknowledge the values of human participation as crucial, viewing the people involved as partners in the relationship (Sanders, 2013: 63, 67).

For Brown (2008: 86), design thinking is a discipline that relies on the methods that designers use to propose and match feasible solutions for people. As head of IDEO³, Brown advocates a human-centred approach to solving problems. Brown states that empathy is a key feature of design thinkers, in that the ability to see the world from many viewpoints contributes to a “people first” approach (2008: 87), which can tap into people’s real needs and desires. IDEO itself has a human-centred approach to design, an approach described in their Human Centred Design (HCD) toolkit that was published in 2009. An updated version, *The Field Guide to Human-Centred Design* became available in 2015. In the design thinking process, *empathise* is listed as an early stage in the design

³ IDEO is a human-centred company that uses design thinking tools to foster innovation and growth in private/public organisations (IDEO, 2016).

process. The designer is encouraged to understand the person, their context and their problems, in order to have a better understanding of the design challenge. While comparing the design thinking approaches of 3 groups of students, Goldschmidt and Rodgers analysed the practice of the students in the act of designing, including their levels of interaction with others. While design thinking has many definitions, the key shared component is “the user, or even, in the view of some, being *empathic* to the human condition” (Goldschmidt & Rodgers, 2013: 468, italics added).

Rauth, Köppen, Jobst and Meinel (2010) reviewed the design thinking education at the d.schools in Stanford (established 2005) and Potsdam (established 2007) in relation to fostering creativity, even amongst non-designers. The basic tenets of design thinking include: design thinking is a human-centred process, design thinkers have a metacognitive awareness, design thinkers can collaborate in multidisciplinary teams, and design thinkers place an emphasis on *empathy*, in that empathy should be developed through finding out about people’s needs. Empathy-building skills within the design thinking schools were described as interview training and observation, and these are listed as contributors to creative confidence and creativity (Rauth *et al.*, 2010: 3, 5, 7). Empathy in the design field, however, remains ill-defined (Dong, Dong & Yuan, 2018: 295).

Zhang and Dong (2008) studied several approaches that value people – and consider themselves as fitting under the umbrella of Human-centred Design (HCD). These included:

- Human-centred design
- people-centred design (also known as HCD)
- user-centred design (UCD)
- person-centred design
- user/client-oriented design

These terms are frequently used interchangeably - much like co-design co-creation and human-centred design, with participatory design (Sanders, 2013: 62). There are some who argue that HCD has a broader reach than UCD – offering more emphasis on varying needs of users (Zhang & Dong, 2008). Buchanan even dismissed user-centred design as a mere focus on design usability, arguing that:

...the principles that guide our work are not exhausted when we have finished our ergonomic, psychological, sociological and anthropological studies of what fits the human body and mind. Human-centred design is fundamentally an affirmation of human dignity (Buchanan, 2001: 37).

While there are a number of definitions of UCD and HCD (as seen in Table 1.1), what is consistent is the reliance of the designer’s focus on the human, the user and/or the

stakeholder community. Through interacting with the humans, the designer aims to gain an understanding of the issues, culture, needs, and contexts of use (among others). The person/ people becomes the focus of the whole design process.

Table 1.1: Definitions of Human Centred Design (Zhang & Dong, 2008)

Author	Terms	Definition
Norman (1988)	UCD	A philosophy based on the needs and interests of the user, with an emphasis on making products usable and understandable.
Jordan (2000)	Person-centred Design	To take a wider view of person-centred design and look, in a more holistic context, both at product use and at those using and experiencing products.
McDonagh-Philp & Lebbon (2002)	UCD	A design methodology utilising users as a designing resource, to increase the involvement of the user.
Brusberg (2003)	UCD	UCD aims to expand the designers' knowledge, understanding and empathy of users.
Walters (2005)	HCD	A creative exploration of human needs, knowledge and experience which aims to extend human capabilities and improve quality of life.
Alison Black (2006)	UCD	User-centred designers engage actively with end-users to gather insights that drive design from the earliest stages of product and service development, right through the design process.
IDEO	Human factors	• Applying human factors techniques to people across the ecosystem, not just end users / consumers; • Putting people at the heart of the process • Making things "useful, usable and desirable" for people.
HCDI, Brunel University	HCD	HCD is all about putting the human user at the heart of product, system, or process. Human-centred designers use knowledge of human capabilities and limitations across a variety of methods, combining biomechanics, psychology and engineering, to produce a solution which is safe, efficient, and satisfying to use.

1.2.1 Designers and users of the future

Lauren Tan presented *Perspectives on the changing role of the designer: Now and to the Future* at the ICSID World Design Congress Education Conference, in Hong Kong in 2009. It outlined the Designs of the Times (DOTT 07) initiative, building on Heskett's view that the discipline of design is continually expanding, adapting to designers' practices and circumstances. The UK-based project focussed on using design to drive sustainable development in the key areas of education, mobility, health and food (Tan, 2009: 2). The seven design projects were then analysed in relation to design methodologies and literature, revealing that the designers involved had assumed many different roles in the projects, in order to drive sustainable innovation.

Roles identified by Tan included:

- The designer as co-creator
- The designer as researcher
- The designer as provocateur
- The designer as social entrepreneur
- The designer as facilitator
- The designer as capability-builder
- The designer as strategist (2009: 3–7)

While the local outcomes of the DOTT 07 projects were meant to illustrate the use of design to innovatively solve a variety of challenges, the broader discovery of the varied roles of the practicing designer in such contexts points to the developing area of design for social good. Six of the seven roles have a very strong focus of designers interacting, facilitating and collaborating *with people*, a focus for designers of the future, and one that will require well-developed interpersonal skills.

The UNESCO⁴ transversal competencies, sometimes referred to as “21st century skills”, are broad-based abilities, selected to help the youth navigate a future of uncertain social, environmental, economic and technological changes (UNESCO, 2015: v). Ten countries and economies in the Asia-Pacific region collaborated on the ERI-Net 2013 research project (in 2013 and 2014), to report on the transversal competencies, viewed as crucial for the youth of the future. Table 1.2 below shows the extent to which *empathy*, compassion, and other social proficiencies form an important part of the skills required to embrace an uncertain future. The same can be said of the attributes of future designers, as they too face a future profession that will require much collaboration.

Table 1.2: UNESCO’s Working Definition of Transversal Competencies (UNESCO, 2015: 5)

Domains	Examples of Key Characteristics
Critical and innovative thinking	Creativity, entrepreneurship, resourcefulness, application skills, reflective thinking, reasoned decision-making
Inter-personal skills	Presentation and communication skills, leadership, organizational skills, teamwork, collaboration, initiative, sociability, collegiality
Intra-personal skills	Self-discipline, enthusiasm, perseverance, self-motivation, compassion, integrity, commitment

⁴ The United Nations Educational, Scientific and Cultural Organization (UNESCO) aims to build solidarity amongst nations by: mobilizing for education, building intercultural understanding, pursuing scientific cooperation and protecting freedom of expression (UNESCO, 2016).

Global citizenship	Awareness, tolerance, openness, respect for diversity, intercultural understanding, ability to resolve conflicts, civic/political participation, conflict resolution, respect for the environment
Optional domain: (Example) Physical and psychological health	Healthy lifestyle, healthy feeding, physical fitness, empathy, self-respect

Efforts to foster interpersonal skills, such as the implementation of the UNESCO transversal competencies, are encouraged to facilitate collaborative working in diverse communities in the future. *Empathy* is seen as a means “to enable people to relate to others in a way that promotes cooperation and unity rather than conflict and isolation” (UNESCO, 2015: 180).

Konrath, O’Brien and Hsing examined trends in empathy over time as a way to seek insights into certain societal trends that suggest a general decline in empathy. The study compared students from late 1970s to early 1980s with students in the 1990s and 2000s. The students were thus of the same age, but of different birth cohorts – exposed and responding to changes in sociocultural norms in the same country. Using the multidimensional Davis Interpersonal Reactivity Index, researchers were able to survey 4 areas: Empathic concern (EC), Perspective-taking (PT), Fantasy subscale (FS) and Personal Distress (PD) (Konrath *et al.*, 2011: 187). EC is a more emotional, other-centred concern, and PT is a way to imagine someone else’s perspective. They found that the major decline in dispositional empathy, significant in the areas of EC and PT, has occurred after 2000 (Konrath *et al.*, 2011: 187). They suggest several possible reasons for the decline in empathy including:

- Rise in narcissism and individualism, which have a negative relationship with empathy skills (2011: 187, 190)
- Explosion in growth of personal technologies and social media leading to self-focus and fewer interactions with real people (2011: 189)
- Smaller families present less opportunities to learn empathy-related skills in the home environment (2011: 189)

A further study of changes in adult attachment styles in American college students in 2014 links this decline in empathy with a rise in dismissing attachment style⁵ in college students. Konrath, Chopik, Hsing and O’Brien suggest that “dismissing individuals may not engage in perspective taking as frequently or may be less able or willing to discern the thoughts and feelings of others” (2014: 6). With this in mind, it is unclear whether practicing designers are willing or able to use empathic engagement as a means of learning about the user. Robson, in *Not Seeing Eye-to-Eye: Social Media, Disembodied*

⁵ Konrath *et al.* discuss the following adult attachment styles: Secure (positive self, positive other), Dismissing (positive self, negative other), Preoccupied (negative self, positive other) and Fearful (negative self, negative other) (Konrath *et al.*, 2014: 5).

Interaction and the Erosion of Empathy, emphasises the value of real face-to-face encounters, inferring that the narcissism and self-obsessive traits of college students may be undermining their ability to develop the skills needed as a foundation for an empathic connection (2015: 124).

Referring back to the new ICSID definition of industrial design, it is in the extended version of the 2015 definition that focuses on the human and interaction becomes apparent:

Industrial Design ... is a trans-disciplinary profession that harnesses creativity to resolve problems and co-create solutions with the intent of making a product, system, service, experience or a business, better.... Industrial Designers place the human in the centre of the process. They acquire a deep understanding of user needs *through empathy* and apply a pragmatic, user-centric problem-solving process to design products, systems, services, and experiences. They are strategic stakeholders in the innovation process and are uniquely positioned to bridge varied professional disciplines and business interests. They value the economic, social, and environmental impact of their work and their contribution towards co-creating a better quality of life (WDO, 2015, *italics inserted*).

In this extended version, the term *empathy* first appears. Despite being publicly emphasised and considered within the design community – in both the arenas of academia and practice – the discussion about empathy in the design field remained “vague and obscure” (Dong, Dong & Yuan, 2018: 295). This research⁶ explored the empathic engagement of the designer and the user-person in industrial design professional practice. By using a Grounded Theory methodology, a theory of empathy was developed, in order to contribute real understanding in the field of industrial design, and provide clarity on use of the term *empathy* in the ICSID 2015 definition.

1.3. Problem Statement

Numerous design fields (such as user-centred design, co-design and similar fields) call for designers to gain a deeper knowledge of the user-person by using empathy. These fields all emphasise the need to develop empathy for the user-person in the product design process: in order to understand the real issues of others, so as to devise / co-design the most suitable solutions for the problem. Despite these calls, new products continue to fail to meet the user's functional and emotional needs (McDonagh & Thomas, 2010: 459). So, while there is much theorising about the importance of empathy in product design process, the practice of designers is under-researched in this regard: it is unclear whether empathy plays a role in the engagement in the product design

⁶ The research outlined in this document: empathy in practice.

process between professional designers and the user-persons for whom products/ solutions are being designed. In addition, empathy lacks a clear, consistent definition in the design process.

Co-design is an established practice within the product design field, and it places emphasis on the engagement between the designer and the user-person. The aim of the research was to explore the designer's engagement and the role and understanding of empathy in the process of co-design, in order to provide theoretical substance to the lack of definition in the literature – as to what counts as empathy. The resulting working theory for empathy is suitable to bolster the 2015 ICSID definition of industrial design.

1.4. Objectives, Research Questions & Contribution

The main objective of the research is to bring clarity in the area where empathy and industrial design professional practice intersect. This exploration aimed to explore the role of empathy in the product design process by professional industrial designers. By building a theory through a Grounded Theory methodology, the research could provide a means to understand the practice of empathy in industrial design, in relation to the ICSID 2015 definition.

There is one main research question, and two sub questions closely linked to it.

Main research question:

How is empathy realised in professional product design practice?

Sub questions:

- How is empathy understood by professional product designers?
- How are 'definitions' of empathy practiced in the industry?

As is evident from the research questions, the focus is on how *designers* understand empathy, and how they show/ do not show empathy in their professional product design practice. The emphasis is limited to the people and how they practice, not on any resultant products designed.

Contribution

Within the practical arena, this study will contribute a detailed analysis of the designers' perceptions of empathy in their professional practice, and a contextually relevant view of the role of empathy in the industrial design industry. With little existing research on designers in practice, this will be relevant, as well as the deeper understanding of the product designer – user-people interactions.

A new, emergent theory for product design incorporating the practice of empathy would be a valuable theoretical contribution to the fields of design research and practice, by providing a means to understand the practice of industrial design, in relation to the ICSID 2015 definition. The substantive theory, while not widely generalisable, can form part of further research to create a formal theory.

A methodological contribution to the field would be the expansion of the practice of a Grounded Theory methodology in the field of Design. The rigour of Grounded Theory coding methods ensures a thorough analysis in the qualitative research field.

In a broader sense, the outcomes of this research could be of interest for a range of people beyond industrial designers in practice - such as interaction and universal designers in practice, design researchers, co-design practitioners, design educators, as well as those more generally interested in the science of social interactions and qualitative methods of research.

1.5 Ontological and Epistemological position: Interpretivist

The ontological position of this research is interpretivist, as it is an exploration of the perceptions of empathy in design practice. Interpretivist studies are characterised by interpreting perceptions of meaning from observations, personal narratives or actions - as opposed to capturing an objectively perceivable reality that is independent of the researcher, which typifies a positivist approach (Guest, Namey & Mitchell, 2013: 5-6) often used in the physical sciences. A positivist approach insists that you can discover the truth through data gathered during scientific research. Testing this data can reveal answers that agree with a theory, then the true nature of the world is revealed – sometimes referred to as a *correspondence theory of truth* (Willis, 2007: 73). Because this research did not aim to reveal the true nature of the world, but rather *understand empathy* within a specific context, it finds its place - not with the positivists – but rather, within the interpretivist paradigm.

Positivists and post positivists are focussed on the material reality that can be experienced through the five senses, and making “laws” that are universal. Interpretivists choose less emphasis on the universal “laws”, because they understand that the understanding of a situation is contextual. Similarly, the understanding of empathy is embedded within the specific context of product design practice. In Table 1.3, Willis illustrates the primary differences between the interpretivists and post positivists.

Table 1.3: Differences Between Post positivism and Interpretivism on the Five Major Issues
(Willis, 2007:95)

	Postpositivism	Interpretivism
Nature of reality	External to human mind	Socially constructed
Purpose of research	Find universals	Reflect understanding
Acceptable methods and data	Scientific method	Subjective and objective research methods are acceptable
Meaning of data	• Falsification • Use to test theory	• Understanding is contextual • Universals are deemphasized
Relationship of research to practice	• Separate activities • Research guides practice	• Integrated activities • Both guide and become the other

The positivists and post positivists hold fast to the existence of the external, physical, measurable reality. Interpretivists, while not denying the existence of this physical reality, do not believe that the scientific method is able to accurately and objectively learn about this reality. The perceptions of designers are neither external, physical, nor measurable – and thus this study was not able to take a positivist view. Interpretivists understand that all research is influenced by the researcher, and their world views, life experiences, and more. The agreement reached about this meaning, is thus “socially constructed”, as is the “reality” the research describes (Willis, 2007: 95, 96). The interpretivist paradigm is more suitable to researching the experiences of designers in practice, as it embraces the human and variable nature of people - in an attempt to understand the idea of empathy.

The terms constructivist and interpretivist are frequently interchangeable in the research context, as they are concerned with the making of sense and meaning. Understanding and meaning-making is the goal, to inform future practice (Lincoln, Lynham, & Guba, 2011: 116). Table 1.4 indicates five main Research Paradigms, as well as the ontology, epistemology, theoretical perspectives and methodology associated with each paradigm.

Table 1.4: Research Paradigms - adapted from various sources, including Crotty (1998)⁷ (Patel, 2019)

Paradigm	Ontology <i>What is reality?</i>	Epistemology <i>How can I know reality?</i>	Theoretical Perspective <i>Which approach do you use to know something?</i>	Methodology <i>How do you go about finding out?</i>	Method <i>What techniques do you use to find out?</i>
Positivism	There is a single reality or truth (more realist).	Reality can be measured and hence the focus is on reliable and valid tools to obtain that.	Positivism Post-positivism	Experimental research Survey research	Usually quantitative, could include: Sampling Measurement and scaling Statistical analysis Questionnaire Focus group Interview
Constructivist / Interpretive	There is no single reality or truth. Reality is created by individuals in groups (less realist).	Therefore, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	Interpretivism (reality needs to be interpreted) • Phenomenology • Symbolic interactionism • Hermeneutics Critical Inquiry Feminism	Ethnography Grounded Theory Phenomenological research Heuristic inquiry Action Research Discourse Analysis Feminist Standpoint research etc	Usually qualitative, could include: Qualitative interview Observation Participant Non participant Case study Life history Narrative Theme identification etc
Pragmatism	Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations.	The best method is one that solves problems. Finding out is the means, change is the underlying aim.	Deweyan pragmatism <i>Research through design</i>	Mixed methods Design-based research Action research	Combination of any of the above and more, such as data mining expert review, usability testing, physical prototype
Subjectivism	Reality is what we perceive to be real	All knowledge is purely a matter of perspective.	Postmodernism Structuralism Post-structuralism	Discourse theory Archaeology Genealogy Deconstruction etc.	Autoethnography Semiotics Literary analysis Pastiche Intertextuality etc.
Critical	Realities are socially constructed entities that are under constant internal influence.	Reality and knowledge is both socially constructed and influenced by power relations from within society	Marxism Queer theory feminism	critical discourse analysis, critical ethnography action research ideology critique	Ideological review Civil actions open-ended interviews, focus groups, open-ended questionnaires, open-ended observations, and journals.

Within a design context - focused on the interactions between people - it is more appropriate to acknowledge, through an interpretivist paradigm, that there are multiple realities – different for each person: related to their context, life experience, emotions,

⁷ Crotty, M., 1998. Foundations of Social Research: Meaning and Perspective in the Research Process. Thousand Oaks, CA: Sage

etc. The interpretivist paradigm is used to find the underlying meaning of events and activities (Patel, 2019), which makes it a suitable outlook to be used to understand the designer's reported actions in relation to *empathy*. The research did not fall within the critical theory paradigm - as it was not seeking to identify the ideological structures or power relationships within a field – nor the pragmatism paradigm, as it was not seeking to solve a problem, nor aiming for a change in the situation.

Bhattacharya underscores the disclosure of meaning in interpretive research:

...meaning is disclosed, discovered, and experienced. The emphasis is on sense making, description, and detail. For the antinaturalistic interpretive researcher, human action constitutes subjective interpretations of meanings. Therefore, meaning-making is underscored as the primary goal of interpretive research in the understanding of social phenomena (Bhattacharya, 2012: 465).

This perspective rests upon the belief that “interaction is inherently dynamic and *interpretive* and addresses how people create, enact, and change meanings and actions” (Charmaz, 2006: 5-7). The knowledge gained from this research project is of a personal nature, a reflection on practice in design, as well as on the interactions between the designer and the user-person.

1.6 Researcher's Role

The *emic* and *etic* approaches to research studies and methodologies have been described and debated in many fields – including psychology, anthropology, social and behavioural sciences. An *etic* perspective would be a view from the outside – possibly a study of several cultures/ sites/ etc. *Etic* researchers believe that they are unable to view a context objectively, and thus need to study factors on a macro level. They need to reduce bias by becoming an outsider to the research context. The research could be related to more general themes, or culturally universal psychological concepts (such as, trust or identity) (Grossmann & Na, 2014: 8).

An *emic* approach could be described as more local and specific – often within a known or familiar context. An *emic* researcher would be one that is:

...interested in the ‘subjective’ experience of the people living in a culture, and how these people perceive and explain aspects of the world around them (e.g., social norms). *Emic* researchers tend to believe that studying subjective experiences is central to understanding how culture and the mind influence each other (Grossmann *et al.*, 2014: 8).

Although much debated, the blending of both *emic* and *etic* approaches within one research project is an emerging phenomenon. Insights of both an *emic* and *etic* nature

can be integrated in a meaningful manner (Grossmann *et al.*, 2014: 9). This researcher was in a unique position to understand the context from an emic point of view – as an insider: having been in industrial design practice, as well as having close contact with others who continue to do so. In addition, the etic approach to the much larger issue of empathy in practice was also possible by positioning the researcher as an outsider – enquiring about personal perceptions of designers.

While first used in an educational context, Vaughan (2017:10) uses the term “designer-practitioner-researcher” to describe “an individual, their work role or their understanding of these into their professional work.” The central point is practice – whether as a designer or as a researcher – as the results of both feed into practice. All three areas are viewed as providing fuel for development and expansion of knowledge into the others. The term designer-practitioner-researcher seems to best describe the researcher’s role in this study.

The reflective research process is well described by Lincoln *et al.*:

Reflexivity is the process of critically reflecting on the researcher themselves; understanding that one is both teacher and learner, visible and invisible in the process. A heightened awareness of the researcher’s experience in the research process, as well as the motivation for choosing the research issue in the first place (2011: 124).

The researcher’s perceptions of the role and importance of empathy in design were challenged throughout the process. Historically, the research period was also important globally – for the dramatic disruption of universities, in relation to decolonising curricula and campuses – and this had an impact on both the research process and the participants. This was in practical ways, such as limiting access to campus and resources, as well as bringing issues about relationships, knowledge and access to the fore.

1.7 Methodology: Grounded Theory

The choice of Grounded Theory as a methodology for this research is in line with the interpretative paradigm. This study used grounded theory as a methodology, in order to “allow the data to speak”, in an ill-defined context. Grounded Theory (GT) is an exploratory method that allows for researchers to respond to emerging issues. Grounded Theory has been described as:

An inductive methodology developed by Glaser and Strauss used to generate theory through systematic and simultaneous process of data collection and analysis (Goulding, 2002: 170).

Developed in the 1960s in response to the prevailing perceptions of qualitative research as unworthy of study and inconsequential, GT was thus a means of creating theory that could be considered scientific and valid (Goulding, 2002: 40, 42), and was first published in *The Discovery of Grounded Theory* (1967). Glaser and Strauss used the term “grounded” to indicate the source of the theory – which was based on the context, interpretations and interactions that occurred in the subject’s environment (Goulding, 2002: 40). Birks and Mills emphasise the nature of GT research, as being different to other methods that would seek to describe or explore phenomena:

Grounded Theory differs from other approaches to research in that it serves to explain the phenomenon being studied. The strategies used in data collection and analysis result in the generation of theory that explicates a phenomenon from the perspective and in the context of those who experience it. Theory as the product of the investigative processes is the hallmark of grounded theory research. This theory is directly abstracted from, or grounded in, data generated and collected by the researcher (Birks & Mills, 2015: 16,17).

The use of Grounded Theory is advocated when the area of study is underexplored and when theory generation is a beneficial outcome. Thus, in response to the dearth of literature on the subject of empathy in product design practice, grounded theory will be used as a means to build design theory in order to expand knowledge in the field (Birks & Mills, 2015; Goulding, 2002: 55). Whilst well known in the social sciences, the GT method is relatively unknown in the field of Design (Compton & Barrett, 2016: 335).

Charmaz emphasises that Grounded Theory provides “systematic, yet flexible guidelines” for the collection of and the analysis of qualitative data, and these are used to generate theory. The data provides the grounding for theories and concepts (Charmaz, 2006: 2). She describes Glaser and Strauss’s key tenets of GT as data collection and analysis taking place simultaneously, coding from categories emerging from the data (not preconceived ideas), constant comparisons through analysis, memo-writing as data, sampling for theory construction (not representativeness), and consulting the literature at the end of the process (2006: 6). Figure 1.3 shows the process of the GT methodology, moving from researching the problem, through data collection and initial coding, towards theoretical sampling and writing the first draft of the theory.

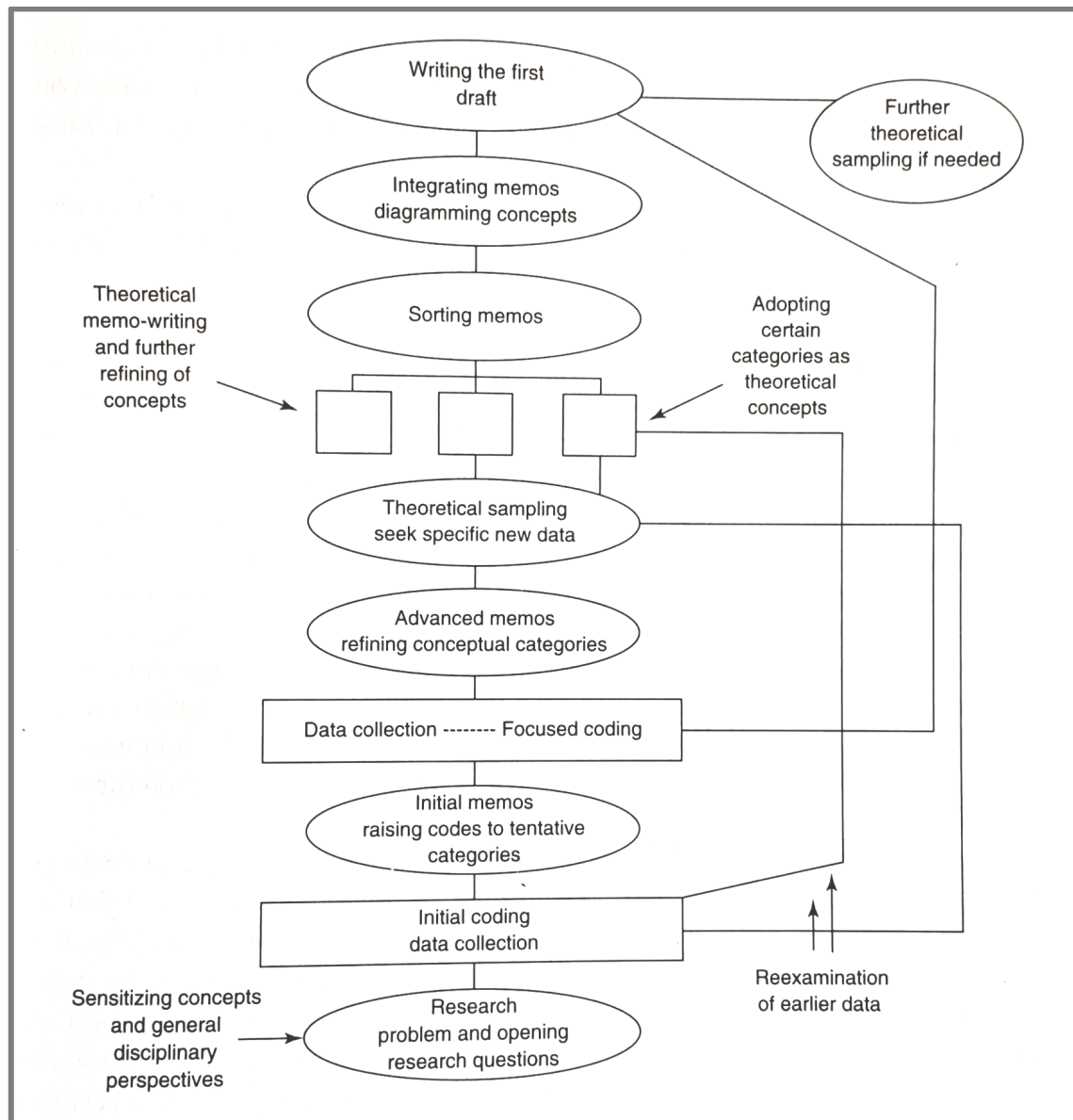


Figure 1.2: The Grounded Theory process
(Charmaz, 2006: 11)

The systematic approach of Grounded Theory has done much to demystify qualitative research, particularly in the early years. Used in multiple fields, there are now numerous versions of GT. El Hussein, Hirst, Salyers, and Osuji analysed GT as a means to encourage its use in the applied sciences (in the field of Nursing research), highlighting the main advantages and limitations in Table 1.5.

Table 1.5: Advantages, Disadvantages, and Limitations of GT as a method of enquiry
(adapted from El Hussain *et al.*, 2014: 3)

Advantages	Disadvantages/ limitations
Provides for intuitive appeals	Exhaustive process (Open coding is time consuming and laborious)
Fosters Creativity (Process of discovery, enables concepts to emerge)	Potential for methodological error (Novice researchers may only use one source of data in error)
Potential to conceptualise (Using the logic of constant comparison)	Reviewing the literature without developing assumptions. (This is a contentious area, with several schools of thought and practice. Frequently suggest literature review after data analysis.)
Systematic Approach to Data Analysis	Multiple approaches to GT (Positivist, interpretivist, objectivist, constructivist)
Provide for Data Depth and Richness (Extensive field notes/memos, several types of data generation)	Limited Generalisability

The main methods of data collection in this research will be interviews, observation (live and by recording), memo writing and photographing. Glaser said that “All is data” in Grounded Theory, allowing for the collection of rich, varied, detailed and complex, context-dependent data (Charmaz, 2006: 16).

Goldkuhl and Cronholm (2010: 200) argue that a new theory should be grounded in more than just empirical data in their article, *Adding Theoretical Grounding to Grounded Theory: Toward Multi-Grounded Theory*. They maintain that theories should also be grounded in existing theories (and compared and analysed in relation to such theories), as this would expand the possibilities for generalisation of the theory. They use *Grounding* as “a general term, however, and means justifying and presenting reasons for statements (and theories). To have just one type of knowledge source (empirical data as in classical GT) is one way of grounding. We could call this single-grounding....“data-grounded theory”. Their call for a multi-grounded theory offers the opportunity for theories to “avoid overgeneralisation”, as well as being better developed and more condensed from “confrontation with other theories” (2010: 200, 201).

1.7.1 Data Collection

Willis describes the data itself in qualitative research as rich and detailed, in contrast to quantitative data – “laden with meaning, from each person’s experience of the context and/or professional environment” (Willis, 2007: 95, 96) These data are frequently collected using a naturalistic, adaptable approach to data collection – observations, semi- or unstructured interviews, and including secondary data. These methods were selected and used in this study, for their ability to capture detailed data (see chapter three).

The main methods of data collection were interviews and observation of designers, as well as a co-design workshop. Other forms of data, such as memos, field notes, photographs, etc., were also be used, in keeping with the GT methodology, which requires as much rich, detailed and varied information as possible.

Designers interviewed were those who were involved in co-design projects, either in relation to completed projects, or almost complete projects. This allowed for a degree of reflection on the overall process of designer engagement with the user.

Charmaz acknowledges the role of the researcher in the research project, referring specifically to Grounded Theory:

Just as the methods we choose influence what we see, what we bring to the study also influences what we *can* see. Qualitative research of all sorts relies on those who conduct it... We are not scientific observers who can dismiss scrutiny of our values by claiming scientific neutrality and authority. Neither observer nor observed come to a scene untouched by the world (Charmaz, 2006: 15).

This means that the researcher needs to be continually reflective about their role, their assumptions and how this impacts what they can see in the research.

Goulding describes interviews as a much-used method in GT. A face-to-face semi-structured interview is often favoured, because of the potential to yield highly detailed information about the individual's life/ experience, whilst maintaining the flexibility for the discussion to move away from the main topic to another potentially relevant focus (Goulding, 2002: 59). Interviews should provide a safe space for the interviewee to express their views, particularly if they are on a sensitive, confidential or highly personal topic. In depth interviews are most useful to explore a topic/ phenomenon, or to explain patterns of behaviour, integrate multiple perspectives or identify variables in qualitative research (Guest, Namey & Mitchell, 2013: 116 - 118). There are numerous factors to take into account when planning an interview, see Table 1.6.

Table 1.6: Interview considerations (adapted from Goulding 2002: 59-60)

Factors to consider when planning an interview	
Accessing the setting	Permission to talk to members/ customers/ management of an organisation needs to be obtained before interviews begin
Understanding the language and culture	Crucial in a multi-cultural setting. An interpreter may be needed.

How to present oneself	How much about the study should be revealed to the participants? This will influence the level of openness of the responses.
Finding an informant	A willing informant can also introduce others who are suitable to be interviewed.
Gaining trust	Essential at the start of the interview, especially if the topic is sensitive.
Establishing rapport	The better the relationship with the interviewee, the better the chance of gathering accurate and honest information.

Guest *et al.* describe the benefits of *observation* as revealing highly contextual understandings and insights. Frequently observation is used in the early stages of a research project, to explore cultures, behaviours or phenomena, to provide contextual connections or later in the study to confirm ideas or theories (2013: 76, 82). They list three important features:

- Being on location – being in situ, wherever the appropriate action for the study happens.
- Building participant relationship – there needs to be a level of trust if the participant is to behave in a normal fashion in their environment.
- Committing the time – time is needed to build trust, observing, gathering enough data, and a wide range of experiences. This could mean repeated visits, over weeks/ months/ years.

(Guest *et al.*, 2013: 76-77)

Some general things to note under observation include: appearance (clothing, age, gender), verbal behaviour (who initiates interactions, tone of voice), physical behaviour (what do they do, who is interacting, how, body language in general), and personal space (indicates much about the relationship between people) (Guest *et al.*, 2013: 91-92). In this research the observation of the relationship between participants will form an important part of the data. Observation was used in this research primarily to record observations of participants in the co-design workshop and during interviews.

The *co-design workshop* involved designers in the industrial design field, working through a programme to explore their understanding of empathy in design practice. There were 3 participants. More information about the sample is shared in section 1.7.3.

1.7.2 Data Analysis

Grounded Theory is characterised by its iterative nature - patterns or concepts identified are incorporated into the next research activity, thus providing much richer data. The analysis of the data rest upon the coding process. Coding is a means of ‘taking raw data and raising it to a conceptual level’ (Corbin & Strauss, 2008: 66). While described as ‘exhaustive’, the GT coding method is also described as ‘meticulous’, because of its methodological rigour (Kearney, 2007). There are 3 levels of coding: open coding (to determine the first categories and concepts), axial coding (to determine the relationships between the categories) and selective coding (used to determine the core category for the theory) (Khambete & Athavankar, 2010: 14). In this project, the researcher used Atlas.ti⁸ software as a tool to facilitate the meticulous line-line coding. These codes are then reviewed into main concepts, and a working theory is developed: that describes and explains the phenomenon being researched.

1.7.3 Delineation and Sample of the study

The researcher used purposive sampling to find participants (practicing designers) for the study – for interviews and a co-design workshop. Designers that have worked on co-design projects that were complete, or close to completion (proof of concept) were selected for the research. They were designers who have projects in South Africa, as well as comparative projects in Europe. The participants included a Universal Design practitioner, an industrial designer who adapted a vehicle for a specific individual’s use, and an industrial designer who worked on several co-design projects in the rural areas of South Africa. This purposive selection has a bias towards empathy, because of the designers’ involvement in codesign. The co-design workshop participants were specifically chosen as they were freelance practitioners - with no company loyalties, code of conduct or ethos to depend upon. Their views on empathy within professional design practice were thus honed as individuals. More details as to the selection of participants for the workshop follow in Chapter 3, section 3.7 Recruiting Participants.

Table 1.7: Participant Profiles of Co-Design workshop and People Interviewed

Participant Profiles of Co-Design workshop - <i>Exploring Empathy in Design Practice</i>				
	Code	Gender	Age	Background
1	CH	Male	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: product design, direct client contact
2	DM	Male	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: Product Design, direct client contact
3	FC	Male	40 – 50 years	Diploma level: Graphic design Freelance Practitioner: Graphic & Packaging design for product design, direct client contact

⁸ Atlas.ti software is further discussed in chapter 4.

Participant Profiles of People Interviewed				
	Code	Gender	Age	Background
1	BQ	Male	30 – 40 years	Honours level: Industrial design, Masters level: Industrial Design, Doctor of Philosophy. Freelance Practitioner: Industrial Design, direct client contact
2	LB	Female	40 – 50 years	Consultant to Hasno Plattner Institute – D School at GSB UCT. NPO using Design Thinking and service design methods in community projects. Human-centred design practitioner: direct client contact.
3	CF	Female	30 – 40 years	Honours level: Industrial design, Masters level: Industrial Design & Universal Design, Freelance practitioner: Product & Universal Design, direct client contact
4	MA	Female	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: Product & Interaction Design, direct client contact
5	LM	Female	40 – 50 years	Honours level: Industrial design, Masters level: Industrial Design. Doctor of Philosophy: Product and Human-centred design. Freelance practitioner: Product Design, direct client contact
6	GC	Male	40 – 50 years	Honours level: Industrial design, Masters level: Industrial Design. Freelance practitioner: Industrial & Engineering Design, direct client contact

The number of research interviews was dependent upon the saturation point of coding within the Grounded Theory methodology. This concept of saturation point is further explained in Chapters 3, 4 and 5, in sections 3.7 Recruiting Participants, 4.4 Data Analysis in Grounded Theory and 5.3 Open Coding. In conclusion, the sample selected for the research were professionals practising within the industrial design field. In addition, the individuals selected for the interviews and co-design workshop had some experience of interacting with the user-people as part of a design project.

1.7.4 Theory and practice

The original aim of Grounded Theory was to generate theory, as stated in the very first book by Glaser and Strauss⁹ (1967). This remains the case, although some researchers use the method as a means of meticulously analysing data and do not develop the theory. Urquhart reduces the GT approach to theory as essentially:

- The aim of grounded theory is to generate or discover a theory.
- Theory asserts a plausible relationship between concepts and sets of concepts.
- The resulting theory can be reported in a narrative framework or a set of propositions (Urquhart, 2013: 5).

⁹ *The Discovery of Grounded Theory* was published in 1967 by Glaser and Strauss.

A theory acts as a means for us to frame and organise our research (Friedman, 2003: 513). The field of industrial design would benefit from theory development, particularly in an area as vague and undefined as the practice of empathy.

In general, the field of Design needs theory that is grounded in practice:

One of the deep problems in design research is the failure to develop grounded theory out of practice. Instead, designers often confuse practice with research. Instead of developing theory from practice through articulation and inductive inquiry, some designers simply argue that practice is research and practice - based research is, in itself, a form of theory construction (Friedman, 2003: 519).

While that may be true of practice-based research, the theory needs to be articulated as such, in either a narrative or guidelines or similar. However, as design becomes a more important player in world affairs, and the welfare of the human population rests upon innovative solutions, Design will never achieve its true potential until it “rests on all three legs of science, observation, theorizing and experimenting to sort useful theories from the rest. To do this, design practice and design research require theory” (Friedman, 2003: 522). In fact, some claim that Design needs a “theoretical basis in order to flourish” (Koskinen & Krogh, 2015).

1.8 Research Ethics

Because the research explored the role of empathy in the product design process by industrial designers, it was firmly focussed on designers’ perceptions of the interactions between themselves and the user-people. The complexities of the human condition are exposed by using methods such as in-depth interviews and observation, and the private matters that are then exposed through research are consequently of ethical concern (Brinkmann & Kvale, 2005: 157-158).

Research involving humans uses many varied methods and covers an almost limitless array of subjects. There are differing levels of risk for both the research participants and the researchers themselves, depending on the context of the research. The participants could be from vulnerable groups and a variety of cultures or backgrounds. In response to continually changing ethics codes, The British Psychological Society have identified four principles in their *Code of Human Research Ethics*. These were used as a basis for this research:

- Respect for the autonomy and dignity of all persons
(Respect for choice to participate; avoiding discriminatory practices; respecting the differing roles, cultures, religions and languages; respect for confidentiality and privacy)
- Scientific Value
(Ensuring the high scholarly quality and thorough design of the research; and transparency of research goals)
- Social responsibility
(Freedom of enquiry needs to be exercised with respect; in all contexts existing social structures need to be acknowledged with as little disruption as possible; researchers should be self-reflective, collaborative and aware of their responsibilities)
- Maximising benefit and minimising harm
(Harm to participants must be prevented as far as possible; avoid risk to personal values or dignity; sensitivity is essential; maximise the benefits of the research including dissemination) (British Psychological Society, 2010: 7-12).

With this in mind, the research key values from the *Research Ethics Guidebook* (2015) were used as guiding principles for the research activities:

- Research should be designed, reviewed and undertaken to ensure integrity and quality.
- Research participants must participate in a voluntary way, free from any coercion.
- Research staff and subjects must be informed fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involved.
- The confidentiality of information supplied by research subjects and the anonymity of respondents must be respected.
- The independence of research must be clear, and any conflicts of interest or partiality must be explicit.
- Harm to research participants must be avoided.

One does not become an ethical researcher by knowing the rules, but rather by being able to apply them. In the instance of interviews in particular, Brinkmann and Kvale (2005: 178) suggest that a thick, detailed, contextualising account is preferable, in order to produce new and valuable knowledge about human behaviour. This speaks to the GT methodology, where as much data as possible is collected – including researcher observations related to interviews or workshops (in the form of memos).

This study followed the CPUT ethical research guidelines, and permission was obtained from the Faculty of Informatics and Design Ethics Committee before proceeding with the research. The ethics permission for this research was granted to student no: 191008966, on 27/ 07/ 2016. Participants were recruited after clarifying the concept of voluntary participation, and were free to leave at any time. They were made aware of the objectives for each research activity, and informed consent in writing was obtained from each person. The ethical processes followed in this study are further detailed in Chapter Three (Methodology).

1.9 Structure of the Thesis

The thesis is structured around the process of developing the grounded theory. There are eight chapters, which follow the GT sequence for theory development.

Introduction: The contents of Chapter One serve as an introduction to the key aspects of the research, namely the tenets of the research that guided the whole process. This includes introducing Grounded Theory as a method, the delineation of the research project and research ethics, and the aims and significance of the research.

Establishing the Research Area: In keeping with a Grounded Theory methodology, Chapter Two is a very limited exploration of the literature of the research area - empathy in product design practice. This serves as a justification for the area of research.

Methodology 1 – Grounded Theory Method: In Chapter Three, the choice of GT as a method is explained, in relation to the complexity of the research area. The origins of GT and the three main methods are detailed, including the choice of Constructed Grounded Theory (CoGT), for this project. Ethical considerations and participant recruitment specifics are described, and the chapter ends by considering the use of Computer Aided Qualitative Data Analysis Software (CAQDAS) within the context of this project.

Methodology 2 – the GT Research Design: Data collection and the minutiae of data analysis within CoGT are discussed in Chapter Four. This includes an overview of the types of coding and memos used in CoGT, as well as the purpose and process of theoretical coding. The chapter concludes by describing how the main components of the emergent theory are identified.

Data Collection & Analysis: Chapter Five specifies the findings of the data collection process – co-design workshop and interviews, as well as the use of extant data. The coding process for theory building in GT is described: from open coding to focussed coding. The chapter ends with a discussion of the core categories that emerge from the process.

Reviewing the Context: In Chapter Six, the concept of theoretical saturation is discussed, followed by the CoGT approach to reviewing literature. Each core category is then contextualised in literature, highlighting any emerging concepts.

Building the Theory: The role of theory and the delicate process of building a theory from the data is discussed in depth in Chapter Seven. The role of coding families in theory development within GT is described, as well as the specific families chosen here. What follows is the process of developing a draft theory, and ultimately the final substantive theory is explained in detail.

Validating the Theory and Concluding the Story: Chapter Eight serves to describe the process of validating the emergent grounded theory using Glaser's criteria of fit, relevance, modifiability and workability. Within these criteria, the substantive theory is also explored in relation to four existing relevant theories (Personal Construct Theory and the Theory of Narrative Empathy, to name two). The rest of the chapter serves to reflect on the research project – by revisiting the research questions, and evaluating the GT process in relation to these. In addition, the contribution of the theory to the field is discussed, and recommendations for future research are made.

Chapter Two: Establishing the Research Area

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2.1 Introduction and Purpose of Chapter

In keeping with a Grounded Theory methodology, Chapter Two is a very limited exploration of the literature of the research area. The chapter begins with an introduction to the discussion about Grounded Theory methodology and the exploration of literature. A short introduction to empathy follows, and then the examination of empathy in product design practice. The method and findings of the systematic literature review of the topic are outlined, but it is the discussion that serves as a justification for the area of research for this study.

2.2 Grounded Theory & Literature

The subject of the literature in grounded theory (GT) is controversial and much disputed. While the intention of grounded theory is that the researcher remains as “uncontaminated” and unimpeded by the literature as possible, Charmaz recognises that this is not possible (Charmaz, 2006: 15). Acknowledging the role of the researcher in the study, Charmaz notes that:

Just as the methods we choose influence what we see, what we bring to the study also influences what we *can* see. Qualitative research of all sorts relies on those who conduct it... We are not scientific observers who can dismiss scrutiny of our values by claiming scientific neutrality and authority. Neither observer nor observed come to a scene untouched by the world (Charmaz, 2006: 15).

The approach of the central grounded theory researchers (Glaser, Corbin and Strauss) to research is mainly positivist/ post-positivist, and they hold the belief that objective knowledge can be *discovered* by using GT methods. Charmaz, however, developed Constructivist Grounded Theory (CoGT), acknowledging that the research process is embedded in the social, cultural, and physical context, and that the researcher plays a pivotal role in the *construction* of the theory (Ramalho, Adams, Huggard, & Hoare, 2015). Despite these differences of paradigms, all parties agree that a theory developed using grounded theory should be based in the data (and not in literature). Researchers should therefore steer away from immersing themselves in the literature of the field, as is the more traditional and quantitative approach. The researcher runs the risk of being constrained by the theories or studies that they have been exposed to, and thus not experiencing the freedom of a more open mind on the subject (Corbin & Strauss, 2008: 35,36; Charmaz, 2006: 6). By refraining from an early, immersive literature analysis, the theory would naturally emerge from the data collected, rather than being affected by the literature consulted (Ramalho *et al.*, 2015).

In contrast, by developing a “sensitivity” to the information in the field, nuances in the data can be more easily recognised (Corbin & Strauss, 2008: 37). Charmaz, in particular, recognises the value of the intrinsic knowledge that the researcher brings to the CoGT study, which contributes to the value of the theory:

We are part of the world we study and the data we collect. We *construct* our grounded theories through our past and present involvements and interactions with people, perspectives, and research practices (Charmaz, 2006: 10).

It has been suggested that the role of literature in the grounded theory process can be divided into 2 phases:

- Phase 1 – *Non-committal examination of literature in the field*
The purpose of this phase, is for the researcher to cultivate a sensitivity to the subject and identify research areas/ questions
- Phase 2 – *Integrative literature examination*
This phase is critical to the value of the emergent theory. The emergent theory is examined in relation to existing theories in the field.

Ultimately, the relevance of the existing literature is determined by the *generated/constructed* theory (Urquhart, 2013: 30). The rest of this chapter outlines some non-committal literature examination, in order to establish the area of research.

2.3 An introduction to Empathy

The subject of empathy requires an introduction, as empathy is a contentious, much debated subject in contemporary society, in a variety of fields. It has been associated with many pro-social behaviours, and hailed as the panacea for an ailing global population, as intolerance and hate crimes increase. As a basic definition, empathy can be considered as:

n. Psychol. the power of identifying oneself mentally with (and so fully comprehending) a person or object of contemplation (Concise Oxford Dictionary, 1992: 383).

Many attribute the English use of the word “empathy” to Titchener in 1909, who used the Greek to translate it for his *Elementary Psychology of Thought Processes*. *Empathy* was used as a translation from the German term *Einfühlung*, and was explained by him as “feeling one’s way into another’s perceptions or imagination” (Oxley, 2011: 4; Coplan & Goldie: 2011: xii). By the time of this translation, it was already a controversial concept in aesthetics, social science and psychology. While *sympathy* is a much older term, it seems

to be less about understanding the other, and more about feeling pity for the other. In contrast, empathy appears to focus on an understanding of the other (see Table 2.1 for etymology of the terms).

Table 2.1: Etymology of terms Empathy and Sympathy (From Concise Oxford Dictionary, 1992; Etymonline, 2016a-b)

Term	Origin	Meaning
Sympathy (late 16 th century)	<i>Sympatheia</i> Greek: <i>sýn</i> meaning “with, together with” Greek: <i>pathos</i> meaning “suffering, feeling”	Pity for someone experiencing misfortune, the state of being simultaneously affected with the same feeling as another
Empathy (early 20 th century)	<i>Empatheia</i> (Greek) Greek: <i>en-</i> meaning “within, in” Greek: <i>pathos</i> meaning “suffering, feeling”	Ability to imagine the other person’s situation, thereby experiencing the emotions of the other.
	<i>Einfühlung</i> (German) German: <i>Ein</i> meaning “into” German: <i>föhlung</i> meaning “feeling”	Feeling one’s way into another’s perceptions or imagination

The idea of empathy has subsequently been defined, described and viewed conceptually in countless different ways. Despite having been researched and debated in fields such as moral theory, medicine, psychology, personality theory, ethical theory, social science, and cognitive neuroscience (to name but some), no one definition of empathy has been determined (Yagil, 2015: 4; Oxley, 2011: 7; and Coplan, 2011: 4).

2.4 Empathy in Product Design practice

There has been a rise in user-focussed practice and participation in product design in the last two decades. And, while much is written in several fields about the importance of empathy as a means to “understanding the other”, there is limited literature as to how this should be embodied in the relationship between a product designer and user. Therefore, the purpose of this examination of literature is to establish the research area. The method of a systematic literature review, is a strategic examination – as opposed to an immersion in the literature. This is in line with a non-committal examination of the literature, as described in section 2.2 by Urquhart (2013: 30). The purpose is to systematically review the available literature on empathy in relation to product design practice, and to identify gaps and research opportunities from the literature. The study is then able to proceed with grounded theory methods, having identified the research area. Further details about the Grounded Theory Methodology follows in Chapter Three.

2.4.1 Methods

A systematic literature review was selected as a thorough method to review the existing published information on empathy in product design. Frequently used as a method for clinical and medical reviews, a systematic review “uses a process to identify comprehensively all studies for a specific focused question” (Garg, Hackam and Tonelli 2016, 253). The researcher can review methods, results and key findings across a broad range of published studies. Because the method of finding the articles should be transparent (see Table 2.2 and Figure 2.1), it allows reader/s to determine their own views on any potential biases (Garg, Hackam and Tonelli 2016, 253). The first step is to determine a sufficiently specific research question or keywords – critical when dealing with problematic terms such as “design”¹. The research protocol needs to be determined and described – such as which databases or journals to include in the review. The literature search follows, the goal of which is “to be exhaustive enough to develop a comprehensive list of potentially relevant studies” (Wright, Brand, Dunn and Spindler 2007, 25). This includes a further screening for duplicates, as well as excluding articles that fall outside the criteria of the review. Final reviewing of the selected articles then reflects a critical analysis of the contents in relation to the research question (Wright et al. 2007, 24 - 27).

This search was conducted using the following keywords: “product design and empathy” and “industrial design and empathy”. The interchangeable use of the terms “product design” and “industrial design” meant that both terms should be searched. The electronic databases that were searched are detailed in Table 2.2 below. The databases chosen included sociology, social sciences, and engineering because of the nature of *design* and design research. The combination of design with *empathy* meant that related fields such as health sciences, neuroscience and psychology should also be considered.

Table 2.2: Databases consulted for systematic review

	Database	Area of specialisation / discipline
1	Academic Search Premiere (EBSCOhost)	Social sciences, education, computer sciences, engineering, physics, chemistry, medical sciences, medical sciences, and many more.
2	Emerald	Management disciplines including: strategy; leadership; library and information management; marketing and human resource management; engineering, applied science and technology.
3	JSTOR	Arts & Sciences Collections and the Life Science Collection

¹ The term “design” can be used in a variety of ways – as a noun and verb. In addition, it can refer to many fields and in each field the meaning differs slightly.

4	Proquest (Social sciences)	Social Sciences, Telecommunications, Education, Science, Engineering, Dissertations & Thesis, Business, Economics, Medical, Agriculture and Computing.
5	Springerlink (humanities)	Biomedicine, life science, clinical medicine, physics, engineering, mathematics, computer science, humanities, and economics.
6	Dissertations and Theses A&I	Science and Engineering collection (Proquest)
7	Wiley Online Library (social sciences)	Life, health and physical sciences, social science, and the humanities

The inclusion criteria required the articles to be peer reviewed journal articles, conference proceedings or academic theses/ dissertations, and published between 2006 and the end of 2018². Only articles written in English were eligible for selection.

The initial search yielded 12 174 results. This is a huge number, but it is as a result of the vague nature of the use of the terms “design” and “product” in particular in the titles of the articles. The term *design* is also both a verb and a noun in English, which added to the number of results. In addition, the term *product* frequently includes software or marketing references, which fell outside the scope of product/ industrial design. By reading the titles, the researcher excluded other fields of design (such as software design, fashion design, service design, textile design, and graphic design), and this reduced the number of studies to 95.

The second revision was done by reading the abstracts to clarify relevance in relation to the research question. It still included articles that referenced students (as opposed to professional designers), but removed duplications between database results, thereby reducing the number to 39. A third revision removed articles that referenced students (as opposed to professional designers), and the researcher checked by full text article/ abstract whether any articles referred to engineering design or lacked reference to product design practice – the numbers were reduced to 19. The fourth and final revision used the full text articles to consider whether the article referred to empathy/ features of empathy in product design practice in user engagement, resulting in a final number of 10 articles.

² The original systematic literature review was conducted at the end of 2016, at the start of the study. It was, however updated to the end of 2018 in 2019. The systematic search from January 2017 to end of Dec 2018 yielded no results across all databases.

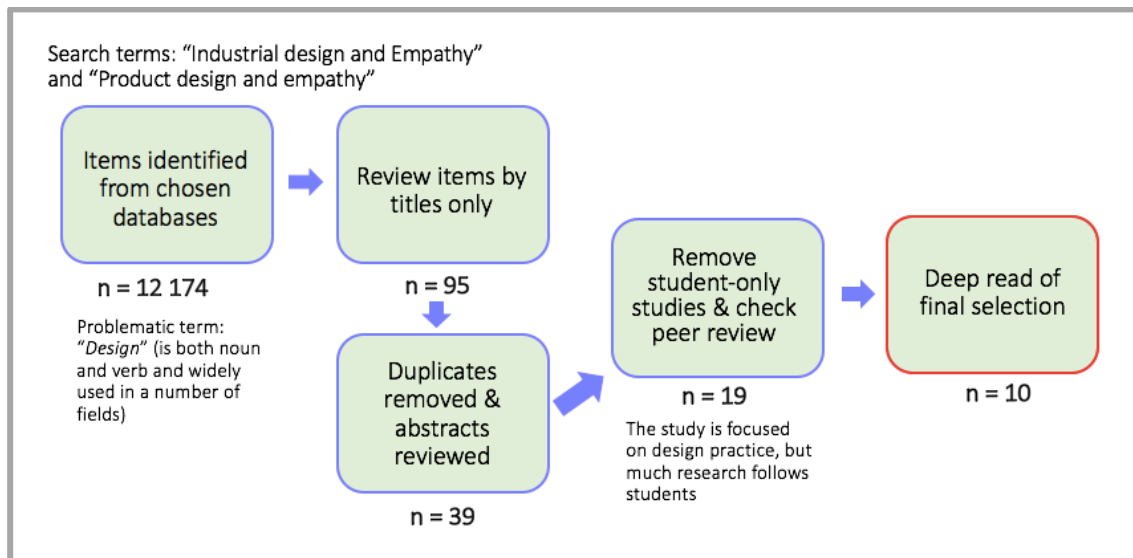


Figure 2.1: Diagram indicating the systematic literature review process

2.4.2 Results

This review identified 10 suitable studies, which yielded only three definitions of empathy/ empathy in product design practice, seen in Table 2.3

Table 2.3: The Article Collection yielded from systematic review

	Authors	Article
1	Creusen, M. (2011)	<i>Research Opportunities Related to Consumer Response to Product Design</i>
2.	Dalton, J. and Kahute, T. (2016)	<i>Why Empathy and Customer Closeness is Crucial for Design Thinking</i>
3.	Kouprie, M. and Sleeswijk Visser, F. (2009)	<i>A Framework for empathy in design: stepping into and out of the user's life</i>
4	Mattelmäki, T. (2008)	<i>Probing for co-exploring</i>
5	Mieczakowski, A. ; Langdon, P. and Clarkson, P.J. (2013)	<i>Investigating designers' and users' cognitive representations of products to assist inclusive interaction design</i>
6	Newell, A. F., Gregor, P., Morgan, E.M. Pullin, G. and Macaulay, A.C. (2011)	<i>User-Sensitive Inclusive Design</i>
7	Segal, L.D. and Fulton Suri, J. (1997)	<i>The Empathic Practitioner: measurement and interpretation of user experience</i>
8	Sleeswijk Visser, F.; Van Der Lugt, R. and Stappers, P.J. (2007)	<i>Sharing User Experiences in the Product Innovation Process: Participatory Design Needs Participatory Communication</i>
9	Stappers, P.J. (2006)	<i>Creative connections: user, designer, context, and tools</i>
10	Vyas, D., Van der Veer, G. and Nijholt, A. (2013)	<i>Creative practices in the design studio culture: collaboration and communication</i>

Although the term *empathic* was used more than 125 times, the meaning remained unclear. In one case, the term *empathic* was used numerous times, but *empathy* was never mentioned (Luh, Ma, Hsieh & Huang, 2012). While all articles under review referred

to the interactions between designers and users, few provided any guidance as to the practical application of empathy in product design practice.

2.4.3 Discussion

These articles reveal that there are numerous assumptions about what people understand about empathy, and even the very nature of empathy was vague in description. Empathy appears to be identified as:

- a way of thinking (Segal & Fulton Suri, 1997)
- a fundamental capacity (Segal & Fulton Suri, 1997)
- a means of understanding (Sleeswijk, Visser, Van Der Lugt, & Stappers, 2007: 40; Vyas, van der Veer & Nijholt, 2013: 437)
- a means of humanising the user (Vyas, van der Veer & Nijholt, 2013: 437)
- a quality of communication (Sleeswijk *et al.*, 2007: 36)
- a quality of the design process (Kouprie & Sleeswijk Visser, 2009)
- a way to identify with the user (Sleeswijk *et al.*, 2007: 40)
- a skill (Mattelmäki, 2008)
- an ability (Kouprie & Sleeswijk Visser, 2009)
- a tool (Segal & Fulton Suri, 1997)
- a way of being open (Sleeswijk *et al.*, 2007)

Sleeswijk, Visser, Van Der Lugt, and Stappers (2007: 36) developed a model to aid designers in developing a deeper understanding of user experiences (whilst designing). The important qualities of communication are: enhancing empathy, providing inspiration and supporting engagement. While not providing any definition of empathy, the authors suggest that step one - 'enhancing empathy' – means that designers need to develop an emotional understanding of the experiences of the users by applying empathy. This emotional connection with the personal experiences of the designer results in a deeper understanding of the user. Using empathy to enable "designers to make personal connections will lead to a deeper understanding" (Sleeswijk *et al.*, 2007: 36), thus suggesting that empathy is a *means for understanding*. However, the model itself (*Model of Communication of User Experiences*) labels empathy as a *quality of communication*.

In the study of the complexities of the design studio environment, the term empathy was used numerous times. The importance of designers developing empathy with their users and clients was emphasised (Vyas *et al.*, 2013: 419, 424, 437). The authors suggested that routinely collecting data to develop requirements was not enough – rather the designers need to use empathy to go much deeper into understanding users' experiences (Vyas *et al.*, 2013: 437), suggesting that *empathy is a tool/ means* for understanding the users.

In reviewing a small-scale study, using personal cards, the authors ask: does this tool convey empathy with the user? "Regarding empathy, the designers clearly identified with the users" (Sleeswijk *et al.*, 2007: 40), leaving the researcher to conclude that empathy means *identifying with the user*.

In *User-Sensitive Inclusive Design*, the authors describe a new way of working with older or differently-abled users. They propose that rather than "suggesting that designers rely on standards and guidelines, it is suggested that designers need to develop a real empathy with their user groups" (Newell, Gregor, Morgan, Pullin, & Macaulay, 2011: 235). The idea of using empathy in this context, is to change the designer perception of users/ subjects back into people. By developing an "empathetic relationship" with the people who will use the product, the outcome is likely to be more suited to the specific needs of the customer (Newell *et al.*, 2011: 237). The term "user - sensitive" is deemed more responsive and empathetic than the better-known term "user-centred" design.

Although they provide no definition of empathy at all, IDEO describes their aim of "...helping designers feel greater *empathy* both with the people who will be affected by their decisions, and with the experiences they face" (Fulton Suri, 2000: 795). The role of human factors professionals is highlighted here, as people who make the research information accessible to designers. This is achieved by making use of empathy-based strategies for designers:

- Contact with real people (the end users are often different to the designers)
- Gathering information
- Experiencing directly (designers have a real experience, e.g. giving blood)
- Roleplaying, improvising and body storming (enactment and empathy tools – such as deafness earplugs for physical simulation of a human physical limitation)
- Storytelling and scenario-building (designers discover product interactions through scenarios)
- Prototyping experience (creating a simulation of an experience) (Fulton Suri, 2000: 795 - 797)

However, why these are "empathy-based" strategies also remains unclear.

Concepts and definitions of empathy

There were only three definitions of empathy amongst the 10 papers that were reviewed. Mattelmäki (2008) introduced the concept of using empathy probes in co-design, and included her definition of design empathy:

Design empathy is the skill of trying to look at the world from another person's perspective, making interpretations and imagining how it could feel or look like. Design empathy supports human-centred design decision-making, but empathic imagination needs backup (Mattelmäki, 2008: 68).

While the rest of the definition falls in the camp of perspective-taking (from the field of Psychology), the phrase "but empathic imagination needs backup" is confusing. Thus, empathy is viewed here as *a skill*.

Design has changed so much, moving away from more traditional areas of artefact, environments and graphic symbols. The newer areas of creative practice include well-being, innovation strategies, sustainable development – focus areas that lend themselves to co-design and collaborative practices, and it is here that the user's role is critically and actively interwoven into the design process (Mattelmäki, 2008: 65). And the subjective approach to this engagement rests upon the skills of the designer to empathise with the user.

Although this Segal & Fulton Suri paper from the proceedings of the *Human Factors and Ergonomics Society Annual Meeting* (1997) falls outside the scope of the study in terms of time (2006 – 2016), it was included as it is one of the earliest public mentions of empathy in design practice, and is referred to in other peer-reviewed papers. They acknowledge empathy as *an important tool in research*, for human factors practitioners and designers, and thus open themselves to the possibilities of relying on subjective experience and personal insights as part of the process. They cite a very basic definition of empathy:

Empathy: the capacity for participating in the feelings or ideas of another
(Merriam-Webster Dictionary, 1974).

However, they further make the assumption that "people cannot *not* participate in the feelings of others...empathy is *a fundamental capacity*, one that is essential for our participation in society" (Segal & Fulton Suri, 1997: 452). Although this Merriam-Webster definition is basic, they do further start to consider the practical complexity of using empathy in practice, which they describe as a tool:

Empathy is a powerful tool; like all tools, it can be used or misused. Using empathy as a tool has its traps and drawback. The practitioner who uses empathy as a design tool faces a challenge that is well known in other, less strict, fields of psychology: how does one empathize and remain an observer simultaneously? (Segal & Fulton Suri, 1997: 453)

This complexity is further acknowledged in the labelling of empathy as "*a way of thinking* that should permeate throughout the design process" (Segal & Fulton Suri, 1997: 454).

This conundrum of empathising, and simultaneously being a researcher is addressed in the framework proposed by Kouprie and Sleeswijk Visser. The authors acknowledge the lack of clarity in the field:

... although the need is acknowledged, and techniques have emerged, a *fundamental understanding is lacking of what empathy in design is*, and how it can be achieved. In this study, we review the concept of empathy as discussed in design and in psychology and propose a framework of how empathy can be supported in designing (Kouprie & Sleeswijk Visser, 2009: 438, italics added).

Empathy is seen as *a quality of designing*, but is certainly undefined. The term “empathic” has been used as an adjective in relation to design since the 1990s, when companies started to consider that traditional methods of gathering user data was insufficient to develop products successfully, and that they would need to listen more carefully to customers (Leonard & Rayport, 1997). The authors acknowledge that “the empathic” is part of the design process, but the definitions thereof remain “rather vague” (Kouprie & Sleeswijk Visser, 2009: 438). The term “empathic” is used by Mattelmäki, (2008) as an adjective to describe nine different things – attitude, study, understanding, insights, approaches, imagination, probing, discussion and information. By reviewing the psychology model of empathy and *empatung*, authors discuss the affective and cognitive components of empathy, as well as the complexity of perspective taking (Kouprie & Sleeswijk Visser, 2009: 441).

2.4.4 Concluding thoughts

This systematic literature review was able to highlight the indistinct area of research around empathy in product design practice. While the need for designers to develop a deep understanding of their users is much recommended (Newell *et al.*, 2011: 235; Mattelmäki, 2008: 68), the details of how to do this are limited. The idea of empathy has not been well defined or described, and this vagueness continues to pervade the literature (Dong, Dong & Yuan, 2018: 295). Following the early use of the term empathic in the 1990s,

In the following two decades, empathy was frequently emphasized and discussed on public occasions in both academic and industrial circles. However, it seemed that *empathy just acted as an umbrella term for designers* and design researchers who tried to show their “Human-Centered” mindset, while the deep understanding of the nature of empathy was missing. It made the discussion about empathy in design field vague and obscure (Dong, Dong & Yuan, 2018: 295, italics added).

The empathy that product design wants to embrace *in practice* requires a more detailed exploration or definition. This is also true of the 2015 ICSID definition of industrial design – and thus the lacuna in the field is revealed. A Grounded Theory methodology was used in order to develop a theory grounded in the data, which can contribute to a better understanding of empathy in product design practice.

2.5 Conclusion

This chapter introduced the methodology of Grounded Theory in relation to the treatment of the literature. *Empathy* was introduced, from an etymological perspective. The systematic and strategic review of empathy in product design was described, and then used to identify the research area for this study.

As mentioned in the early part of this chapter, the term empathy is not well defined. This lack of definition is carried through into the fields of design practice and design research, as they began to embrace empathy – leading to many different understandings, ambiguities and uncertainties (Dong *et al.*, 2018: 295). The systematic literature review further pointed to the continued lack of definition and clear characteristics of empathy in design practice, thus establishing the research area for this study.

The main research question: *What does empathy mean in professional product design practice?* is thus confirmed as a researchable question, with the aim of producing a grounded theory to expand the understanding of empathy in the design field. This theory can be used to provide a more comprehensive understanding of the 2015 ICSID definition of industrial design. Chapter Three (Methodology) will provide a more detailed view of the methodology of Grounded Theory construction.

Chapter Three: Methodology – Grounded Theory

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3.1 Introduction and Purpose of Chapter

The purpose of Chapter Three is to offer an explanation of the researcher's choice of methodology, Grounded Theory method. The complex nature of the research area – empathy in product design practice – is described, along with some of the limitations of other methodologies under consideration. The origins and development of Grounded Theory are outlined, as well as the three main variations of the method. Constructed Grounded Theory is detailed, as the method used in this study, as well as limitations and considerations of the method. A description of the purpose of memos in grounded theory studies follows. An overview of the ethical considerations and actions of the researcher is offered, as well as the details of participant recruitment. The chapter ends by considering the affordances and limitations of using digital research tools – in the form of Computer Aided Qualitative Data Analysis Software (CAQDAS).

3.2 Managing Complexity: Researching Empathy

As the researcher began exploring the area of empathy in practice, it soon became clear that the choice of research methodology would be crucial because of the subject matter. In the *Journal of Patient Experience*, Reiss describes empathy:

Empathy plays a critical interpersonal and societal role, enabling sharing of experiences, needs, and desires between individuals and providing an emotional bridge that promotes prosocial behaviour. This capacity requires an exquisite interplay of neural networks and enables us to perceive the emotions of others, resonate with them emotionally and cognitively, to take in the perspective of others, and to distinguish between our own and others' emotions (Reiss, 2017: 74).

As quotes like the one above demonstrate, empathy is viewed in an overwhelmingly positive light, and as a gateway to prosocial behaviours. These assumptions affect how participants may respond to questions about their actions/ thoughts pertaining to empathy in design practice. This researcher was seeking a way to find a 'true reflection' of how the practice of empathy in the workplace would look – while product designers were interacting with clients. Preliminary research indicated a variety of perceptions about empathy - as a *physical response*, such as the mirror neuron response – or an *attitude or orientation* – or as a *decision* (cognitive). Therefore, the goal of the research became to develop an understanding of the phenomenon of empathy in design practice, in order to develop a conceptual paradigm.

As a result of the overwhelmingly positive view of empathy, particularly in the design field, the choice of a research methodology was critical. The researcher questioned the

use of observation as a method, but concluded that observation would inevitably disrupt the interaction by the researcher's presence. The researcher's presence would either disturb the natural relationship, or cause a "show" from either or both designer and client. In fact, the whole research study was vulnerable to the *Hawthorne effect*¹, due to the sensitive nature of the study. The Hawthorne effect is the tendency of the participants to alter their behaviour and behave in a way that *they think the researcher expects* – in response to their perceptions of the nature of the research study. This then, inevitably, creates a bias in the data collected (Frey, 2018: 766). If observation was not an option, the researcher then questioned if it was ethical to ask about behaviours of the designers in relation to the users, and how to ensure that they were truthful² in their response? This was also open to the Hawthorne effect. As the researcher herself was unclear as to what behaviours could constitute empathy, she was unsure of how to enquire along those lines. Would it be examples such as listening/ making a decision to ignore differences to the designer/ behaviours? It seemed appropriate that the examples needed to come from the designers in practice themselves – and thus needed a method to support this.

What soon became clear was that traditional methods from the social sciences, such as case studies, surveys, etc. were unlikely to deliver the complex understanding of empathy that was needed. These methods were likely to need to conform to a rigid understanding of empathy as an emotional or psychological phenomenon. Or, it would limit empathy to a series of behaviours as observed. Ethnographic immersion for an extended period was not only impractical in terms of time, but also in terms of the observation of a whole social setting. The way in which designers work meant that the interactions with users were at sporadic intervals, and of limited duration, and in order to gather enough information, the researcher would need to be immersed in several design settings. Textual analyses would also be limited to the etymological origins and explanations of the word 'empathy'. These kinds of texts are rare in the field of empathy in design practice, and the result would be of limited scope. Considering design methodologies, such as analysing the end product of a design process for evidence of empathy, not only lacks the appropriate language at this stage, but also would result in a very limited representation of the relationship between designer and user.

With these considerations in mind, Grounded Theory methodology (GT) was selected for this research study. As the aim of GT is to construct a theory that explains a complex issue, it is recommended when "little is known about a phenomenon". The substantive theory could explain the issue or any underlying process that is part of the area of study (Chun Tie, Birks & Francis, 2019). In addition, disciplines of practice, such as design:

¹ The *Hawthorne effect* is also known as the *observer effect*.

² Respondents could be untruthful in their response for a number of reasons – they could lie, they could forget, or they could misunderstand the question (among other reasons).

...need theories as efficient ways to communicate our current understandings of the dynamic conditions of human lives and behaviors (Bryant & Charmaz, 2007: 128).

The simultaneous gathering and analysis of data in GT suggests that it is a method that is flexible enough to deal with complexity. This constant comparison between methods and findings allows for iterative research development (Urquhart, Lehmann & Dyers, 2010: 357; Chun Tie *et al.*, 2019: 1, 2). The nature of the GT method means that the emergent theory is *grounded in the data*, and not tied to any expectation of the nature of the outcome. This feature of GT theory is the primary motivation for selecting it as a methodology, as it is not bound to describe empathy as any one physical response/behaviour/ attitude or cognitive response. A more detailed explanation of the GT methodology and its variations follows.

3.3 Introducing Grounded Theory

Willis (2012) describes qualitative studies as resulting in “understanding in context rather than rules or laws”. Given the nature of the research here – seeking to understand, and thereby developing a conceptual paradigm of, *empathy in product design practice* – qualitative research is the model of research best suited to the challenge. One of the major challenges of conducting interpretive qualitative research is choosing a suitable framework - within which the researcher will operate for data collection and analysis (Lawrence & Tar, 2011: 29). In addition, qualitative research is known to generate a large volume of data, thus the researcher needs an effective means of managing the data. The phenomena of *empathy in design practice* is the subject under study, thus making it a suitable starting point for a grounded theory study. In addition, there is (insufficient) little or no theoretical foundation in the area of study, which makes GT a suitable choice of methodology - as the primary goal of the GT method is to develop theory (Vollstedt & Rezat, 2019: 82).

The GT method was introduced to the world with the publication of *The Discovery of Grounded Theory* in 1967, by Barney Glaser and Anselm Strauss. This book introduced a research method that made use of empirical data to systematically develop theories of human behaviour. It was a response to the research environment in sociology of the time, which Glaser and Strauss perceived as focussing on the “quantitative verification of theories” - perceived by the establishment as finite (Urquhart, 2013: 14,15). They argued that qualitative research was more than merely a precursor to quantitative analysis, it could be an independent, legitimate methodological approach in its own right (Charmaz, 2006: 6). The focus of GT is primarily how people make sense of social phenomena *and* processes, and thus GT aims to explore this conceptually (Engward, 2013: 38), and it is this conceptual exploration that makes it suitable for this empathy study. Charmaz also asserts that the methodological rigour of the GT method was in sharp contrast with the

oral traditions of conducting research of the time – where qualitative research practices were mostly implicit (Charmaz, 2006: 6). Indeed, such was the ground-breaking nature of the book, that it remains a foundation of the many variations and applications of grounded theory today (Urquhart, 2013: 14,15).

Barney Glaser, at a 1999 conference, described Grounded Theory as such:

Grounded theory refers to a *specific methodology* on how to get from systematically collecting data to producing a multivariate conceptual theory. It is a total methodological package. It provides a series of systematic, exact methods that start with collecting data and take the researcher to a theoretical piece that is publishable. Now, all research is grounded in data in some way. It is implicit in the definition of research. Thus, research is grounded by definition, but research grounded in data is not grounded theory, although many would have their work designated that way. It is grounded theory only when it follows the grounded theory methodological package (Glaser, 1999: 836, italics added).

Despite differences that would later appear, Glaser and Strauss³ define the primary components of the GT method as:

- Simultaneous involvement in data collection and analysis
- Constructing analytic codes and categories from data, not from preconceived logically deduced hypotheses
- Using the constant comparative method, which involves making comparisons during each stage of the analysis
- Advancing theory development during each step of data collection and analysis
- Memo-writing to elaborate categories, specify their properties, define relationships between categories, and identify gaps
- Sampling aimed toward theory construction, not for population representativeness
- Conducting the literature review after developing an independent analysis (Charmaz, 2006: 5,6)

Thus, the full use of the GT methodology meant that the research should result in “a coherent, well connected set of concepts that *describes* as well as *explains* the phenomenon under study” (Khambete & Athavankar, 2010: 13).

With the publication of *Basics of Qualitative Research* (1990) by Anselm Strauss and Juliet Corbin, a protracted disagreement erupted between Glaser and Strauss. Glaser and Strauss were to wrangle over the true identity of GT until Strauss’ death and this dispute lead to the two major versions of GT method (Urquhart, 2013: 15). A third distinct version,

³ List collated by Charmaz from Glaser and Strauss (1967), Glaser (1978) and Strauss (1987).

Constructivist Grounded Theory (CoGT) was defined by Charmaz slightly later, in response to the post-positivist outlook of the Glaserian and Straussian GT methods. Glaser viewed both the Straussian and Constructivist versions of GT as merely “methods of qualitative analysis”, not true to the original GT method. His primary complaint with Straussian GT was that it was over-structured – prescribing too many methods and rigid constraints on the data during the process (particularly axial coding), and not allowing the grounded theory to *emerge*. The similarities and differences between the 3 versions of Grounded Theory method are outlined in the table 3.1 below.

Table 3.1: The similarities and differences between the 3 versions of Grounded Theory
(Developed from Kenny & Fourie, 2015)

	Glaserian/ Classic GT <i>Discover a theory</i>	Straussian GT <i>Create a theory</i>	Constructivist GT <i>Construct a theory</i>
Theoretical sampling/ data saturation	All three agree, that the entire procedure of data collection cannot be pre-planned, as it is dependent upon the data. The data continues to be collected until saturation is reached.		
Constant comparison	All three emphasise a constant comparison between codes and codes, codes and emerging categories, and categories with each other.		
Memo writing	Memo writing is an important activity in all three GT schools. The memos are a means of recording the researcher’s reflections on data, developing ideas, and a key part of the theorising process.		
Substantive vs Formal Theory	All agree that a <i>substantive</i> theory is created when focussing on a very particular, small area. The (limited) substantive theory created is then only applicable to that specific area. These smaller theories, however, form the foundation of formal, <i>all-inclusive</i> theories.		
Coding procedures	Line by line coding of data 3 stages of coding: Move from Open coding to Selective coding. At the Theoretical coding stage, the theory <i>emerges</i> from the different codes and conceptual categories.	Line by line coding of data (1987) but also embraced word by word coding 4 stages of coding: Move from Open coding to Axial coding, then Selective coding. Hereafter, the conditional matrix (an analytic aid) is used – to combine the three levels of coding. This includes 8 levels of influence – ranging from specific individual to a general international scale.	Line by line coding of data 3 stages of coding: Open/ Initial coding, followed by Focussed coding. Theoretical coding is part of the development of the theory.
Philosophical positions	Positivist and objectivist, (sometimes argued as post-positivist)	Post-positivist (with symbolic interactionist roots)	Interpretivist and constructivist

Use of literature	Glaser insisted that literature should not “contaminate” the GT study – either before or during the study. He asserted that consulting the literature before and during the study hindered the researcher’s ability to have an open mind when viewing the data.	Strauss and Corbin held that literature should be consulted <i>at all stages</i> of the GT study. They viewed consulting the literature throughout the process as complementary to the GT study – possibly revealing gaps in academic literature, aiding in theory development, guiding theoretical sampling or providing insights. The experience and prior exposure of the researchers to literature in the area is viewed as a benefit. However, an exhaustive literature review at the start of the GT study is <i>not</i> recommended – as it may constrict creativity in developing theories later in the process.	Charmaz acknowledged the importance of literature, but argued for delaying the immersion in literature until <i>after the data analysis</i> in the study. This is to allow the researcher maximum openness and creativity whilst developing the theory. The literature is then used to validate, justify or further explain the emergent theory. Consulting literature (to a lesser degree than immersion) throughout the research process is also encouraged.
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As mentioned previously, GT was conceptualised as a research method in order to generate or discover new theories, not just test existing theories. This is what makes GT a suitable choice for *this* study, in that the area of empathy and design is under researched and consequently, under-theorised (Holton, 2009: 37). In the uncertain, subjective area of research occupied by empathy in design, it seems prudent to assume that the world consists of multitudes of realities (influenced by culture, relationship, social circumstances, and more), and thus a methodology that embraces an interpretivist paradigm would be fitting. Within the three versions of GT, this would mean that CoGT would be most appropriate. The aim of all versions of GT to remain close to the data, and to make constant comparisons – thereby keeping the meaning and construction of concepts constantly uppermost in the mind of the researcher - is what suggests that GT would produce an authentic theory of empathy and design (Urquhart, 2013: 17). In addition, the particulate nature of GT is what makes it an appropriate choice for this study. The fracturing of data into small pieces in the coding process, in order to rebuild it into a theory, suggests that the researcher can discern what people *mean*, as opposed to what they *say* - an advantage in a subject area as controversial (and pregnant with expectations) as empathy in design.

The iterative nature of GT (in the sense of constant comparison) is similar to the field of Design. The simultaneous phases of data collection and analysis, leading to changes in methods and concepts as the data becomes available, is suitable for an area of research that is very subjective and under-theorised. This study into the nature of empathy in the product design process is extremely complex, as introduced at the start of this chapter. As the area of research could be emotional and/ or sensitive, the flexibility afforded by the iterative nature of GT was key – in that interview questions or activities may have needed adjustment, according to participant responses/ lack of response. The rigour of the GT method was particularly appealing for this subject, as qualitative research generates much data that requires a particularly methodological approach⁴. Glaserian (Classic) or Constructivist GT therefore allow the open approach that is needed in order to capture the intricacy of social behaviours and situations, without forcing the data into preconceived categories (Lawrence & Tar, 2013: 30). One of the primary benefits of using GT is that the researcher derives the categories by analysing the data from the phenomena in the field, thus the core categories are authentic representations of the data related to the complex area of study – empathy in design practice.

3.4 Constructed Ground Theory

Higginbottom and Lauridsen (2014) suggest that the original GT method was a product of its time – the 1960s – when the dominant theoretical lens used to approach research was post-positivism. These “beliefs in the existence of one reality and in researcher objectivity” is reflected throughout the original writings of Glaser and Strauss (Higginbottom & Lauridsen, 2014). Similarly, Charmaz presented her ideas at a time when questioning objectivity in research, exploring interpretive studies, constructivism and critical realism was acceptable (Higginbottom & Lauridsen, 2014, Charmaz, 2016). Charmaz, who was a student of both Glaser and Strauss, raised the profile of the researcher as author – by acknowledging that in the research process, the interaction between the researcher and participant is changed by constructivist Grounded Theory methods. Constructivist GT is characterised as “ontologically realist and epistemologically subjectivist” (Mills, Bonner & Francis, 2006: 31). From the outset, because of its objectivist outlook, the original GT method retained the researcher in “a position of distant expert”. Thus, Charmaz’s position of the researcher as a key author, who co-constructs data and meaning in the research process, was a refreshing change. CoGT was readily taken up by researchers in the fields of education, psychology and medical sciences (Mills, Bonner & Francis, 2006: 32). In a sense, this is a far more realistic positioning of the researcher – acknowledged as embedded in the research process. This

⁴ However, the Straussian version of GT that advocates the use of axial coding – when concepts are tested against and fitted deductively into a coding paradigm in order to generate a theory - has been criticised by both Glaser and Charmaz for being too rigid to allow for the creative development of new theories.

is also why it is an appropriate method chosen to explore empathy, when this researcher’s position is one of simultaneously a researcher *and* a practitioner of design.

The primary differences between the objectivist and constructivist versions of Grounded Theory are highlighted in table 3.2 below.

Table 3.2: Approaches to Grounded Theory (Charmaz, 2017: 5)

Objectivist	Constructivist
Avows no preconceptions (from the literature review and extant theories)	Grapples with preconceptions Advocates “theoretical agnosticism” (Henwood & Pidgeon, 2003)
Treats data as unproblematic and self-correcting: “All is data” (Glaser, 1998)	Assumes data are co-constructed, relationships matter
Reflexivity is optional	Reflexivity is crucial
Discover generalities abstract of time, place, or individuals—erases difference	Data analyses—and methods—are constructed in specific times, locations, and situations
Methods are neutral.	Methods reflect values.

Charmaz, through CoGT, has aimed to focus on the participants, and even the CoGT coding principles⁵ aim to preserve the authenticity of their voices in the data (Mills, Bonner & Francis, 2006: 32). It is this tenet of giving ‘voice’ to the subject and the focus on researcher reflexivity that makes CoGT an appealing choice for this researcher in the study of empathy in practice. Glaser’s assertion that the GT methods were so rigorous that, if the researcher followed them, they would *lead to a theory*, is in stark contrast with Charmaz’s view that the researcher was “simply proposing a theory that reflects the experiences and interactions of the participants and the researcher” (Higginbottom & Lauridsen, 2014). Given that this study focusses on empathy in practice, which relies on the relationships between designers and users, this emergent CoGT theory that reflects the interactions seems a fitting result for the study. In addition, the choice of CoGT for this study is in alignment with the expressed interpretivist paradigm of the researcher, as reported in chapter 1.

⁵ More detail on the CoGT principles of coding in the Data Analysis section in this chapter.

3.5 Memos in Grounded Theory

Memos are a means of keeping track of the complex thinking required in qualitative research. In addition, most research projects span over time: periods from several months to several years, and memos thus form a critical record of the thinking and ideas of the researcher. In team research work, memos record the thoughts of different researchers in an accessible way (Corbin & Strauss, 2008: 119). In GT, memos are considered to be a crucial part of the development of the theory - both as a record of the process (throughout sometimes very long research periods) and a means to remain involved in the data and analysis (Charmaz, 2006: 72). Corbin and Strauss emphasise the importance of memos:

In order to make sense out of the data one must first “chew” on it, “digest” it, and “feel” it. The researcher has to take the role of the other and try to understand the world from the perspective of participants. This can be done in memos (Corbin & Strauss, 2008: 140).

In fact, because they provide a space for exploration and reflection on data, categories and concepts, memos are key in identifying and defining patterns (Charmaz, 2006: 82). Memos give freedom to the researcher in *how* they see the data:

Memos don't just report data; they tie together different pieces of data into a recognisable cluster, often to show that those data are instances of a general concept (Lawrence & Tar, 2013: 33).

Diagrams can also form part of memos. Diagrams are a visual means of explaining concepts within the research, and can take a variety of forms – such as maps, charts or graphs. Frequently, diagrams are more efficient at describing relationships/ hierarchies between concepts, and thus form a critical step in the development of theories (Corbin & Strauss, 2008: 140, Charmaz, 2006: 117, 118).

There are now many different ways to record memos: in notebooks, cards, folders, audio voice clips, digital text, and many data management systems also have note-taking/ memo-ing programmes. *How* the memo is made is not important, just that it does get made, and stored in an accessible, logical place (Corbin & Strauss, 2008: 120). Because the sequence of concept development of the theory can be important, researchers recommend dating each memo (Corbin & Strauss, 2008: 121).

This researcher recognised the value of memos as a reflective tool early on in the process. However, despite having access to many digital tools, she mostly chose to use numerous notebooks for her memos. In the notebooks, note-taking and drawing of diagrams could happen swiftly and at any time or location. In addition, any other thoughts or ideas

recorded on other papers could be easily added. This researcher used a limited number of memos within the CAQDAS⁶ (Atlas.ti programme), mostly to capture her thoughts during the open coding process. The figures 3.1 and 3.2 below, show a sample of the notebooks used by the researcher for memos, as well as examples of a notebook memo and a digital memo.

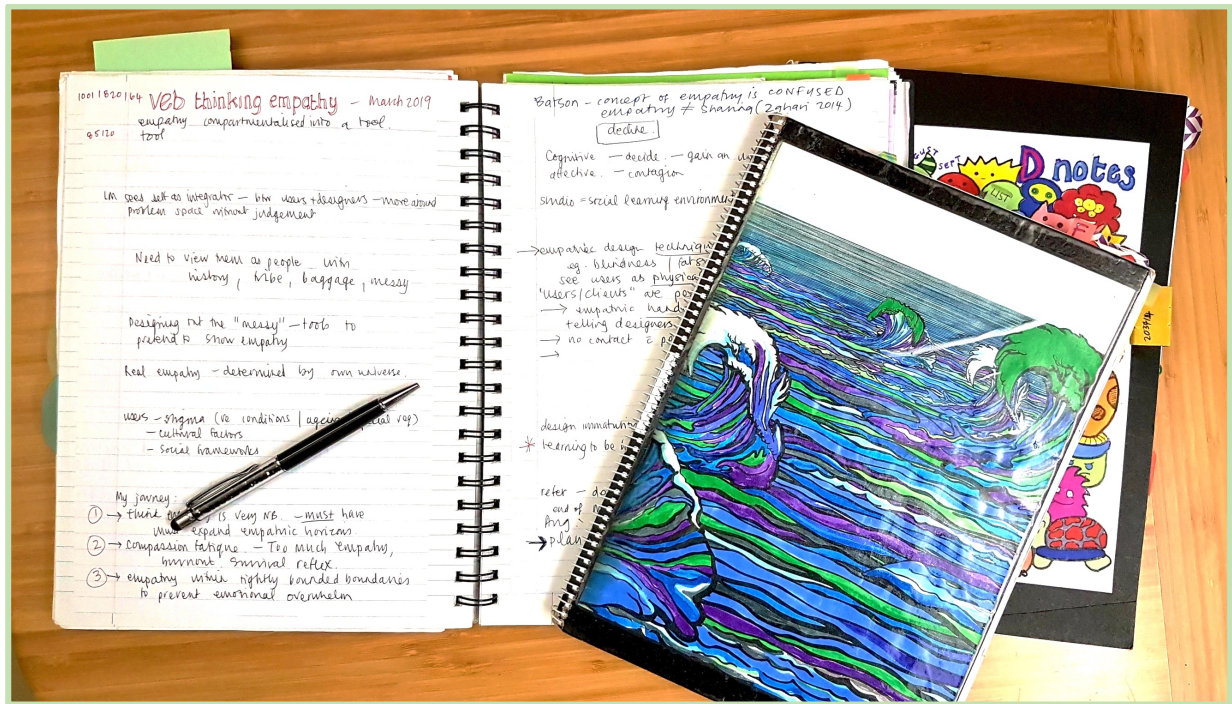


Figure 3.1: Notebooks used for memos

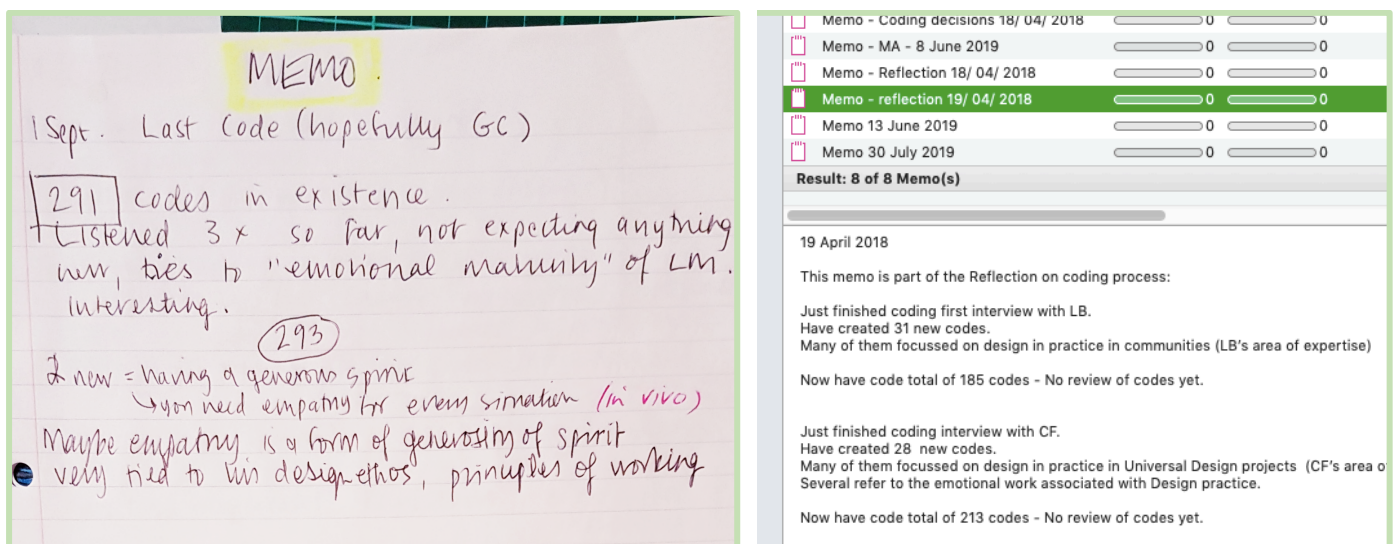


Figure 3.2: A example of a notebook memo and a digital memo

⁶ The use of computer aided qualitative analytical software (CAQDAS) is discussed in greater detail further on in this chapter.

3.6 Ethics in Practice

The premise that “*all humans have dignity which must be respected*, and that they have a fundamental human right to make choices” - which needs to be respected by the researcher – forms the basis for ethical practice in research (Kivunja, & Bawa Kuyini, 2017). This researcher also wanted to focus on human-centred design principles – that the people involved have intrinsic value and insights to offer. With this in mind, the key principles from the *Research Ethics Guidebook* (2015) were used as a template to guide the research actions in this study, see table 3.3 below:

Table 3.3: Ethical guidelines for this research project (adapted from the Research Ethics Guidebook, 2015).

Ethical guidelines	Research actions
<i>Research should be designed, reviewed and undertaken to ensure integrity and quality.</i>	The reasons for doing the study were thoroughly outlined and double peer reviewed in the proposal stage, with the approval of the Faculty Research Committee. While the benefits could be within the fields of product design, co-design and design theory, an additional benefit would be in the field of ethical practice for designers.
<i>Research participants must participate in a voluntary way, free from any coercion.</i>	The participants were invited to contribute to the study, on the basis of being designers, or collaborators in a co-design project. They had the option to refuse participation. They always retained the option to withdraw at any time throughout the study. All participants were of an age and sound mind to give informed consent.
<i>Research staff and subjects must be informed fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involved.</i>	The potential participants were fully informed of the purpose, methods and intended possible uses of the research, both in writing (introductory letter), as well as in person by the researcher. There were very few possible risks, as the subject was not of an extremely personal or sensitive nature (that would bring harm or distress)
<i>The confidentiality of information supplied by research subjects and the anonymity of respondents must be respected.</i>	All participants are anonymous (coded or pseudonyms) in the document. Permission was asked for observations and photographs. The participants could choose whether or not to be visibly identified in photographs or visual material. All results, transcripts, photographs and records have been kept securely, on a personal laptop and external hard drive. There was no disclosure of any data to 3 rd

	parties. Any research assistants involved in the project have treated the data in the same way, in order to respect the privacy and confidentiality of the participants.
<i>The independence of research must be clear, and any conflicts of interest or partiality must be explicit.</i>	The researcher was not able to identify any clear conflicts of interest; and neither the researcher nor the participants gained financially in any way from undertaking the research. As such, the researcher had no vested interest in the outcome of the research, beyond the development of a theory for product design interactions.
<i>Harm to research participants must be avoided.</i>	There appeared to be no risk of reputational damage or personal harm. The participants were interviewed in their own working environments or in considered, safe venues, thus reducing risk of harm. There was a small chance that the designer- user interactions were extremely negative, and this could cause temporary distress when the participants recalled this. However, this situation did not arise.

The following documents were supplied to participants in order for them to make an informed decision about participation in the study:

- a letter/ email outlining the aims, details and methods of the research project
- a letter of informed consent (see Appendix B)

These documents also provided contact details of the researcher and the supervisors, as well as using the institutional letterhead to add academic credibility. In the case of informed consent, the researcher explained the research activity (interview or workshop) at the beginning of the meeting, as well as the concept of consent. However, the signing of the consent forms was only at the end of the session, so that the participant would be *well informed* – and still have the option to withdraw completely, or withhold permissions (e.g. photographs). All participants gave voluntary, informed consent for their participation.

3.7 Recruiting Participants

Many grounded theory studies begin with purposive sampling for data collection (Chun Tie *et al.*, 2019: 3). In qualitative studies sampling is frequently non- random - “individuals are selected because they are ‘fit for the purpose’ of answering questions about the particular field of study, i.e. they are “experts” in one way or another” (Carmichael & Cunningham, 2017: 60). In addition, Charmaz (2006) advocates the researcher looking for

data in places where it is likely to be found for the purposes of CoGT. This approach ensures that the most suitable minds are available to offer insights, that can lead to theory development (Carmichael & Cunningham, 2017: 60). For this reason, the co-design workshop participants in the co-design workshop were chosen as they were freelance design practitioners, working in product design fields. They varied in age and racial demographic, but they were all male. This is, however, typical of product designers in South Africa, where the vast majority of graduates are male.

In the same way, the participants approached for the in-depth interviews had worked/ were working in the product design field, with a focus on co-design or designing with community consultation. They were involved in projects that meant that the designer had interacted directly with the users for particular projects. They were contacted by email and by telephone, in order to outline the research, and set up a time for the interview to take place. This researcher remained open to possibilities of experts unknown to her, by pursuing suitable referrals from other participants in the study. In keeping with GT principles, it was not known at the outset of the research how many interviews would need to be conducted prior to starting the study. The number of research interviews was dependent upon the saturation point of coding (data analysis). The details of the participants are in table 3.4 below⁷. As previously mentioned, the product designers are predominantly male in South Africa. However, the high number of female participants in this study was attributed to the participation of international designers (females from Finland and the UK).

Table 3.4: Participant Profiles of Co-Design workshop and People Interviewed

Participant Profiles of Co-Design workshop - <i>Exploring Empathy in Design Practice</i>				
	Code	Gender	Age	Background
1	CH	Male	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: Product Design, direct client contact
2	DM	Male	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: Product Design, direct client contact
3	FC	Male	40 – 50 years	Diploma level: Graphic design Freelance Practitioner: Graphic & Packaging design for product design, direct client contact

⁷ This table was first included in section 1.5.1 in Chapter 1 of this document. It is repeated here for clarity in relation to the sampling.

Participant Profiles of People Interviewed				
	Code	Gender	Age	Background
1	BQ	Male	30 – 40 years	Honours level: Industrial design, Masters level: Industrial Design, Doctor of Philosophy. Freelance Practitioner: Industrial Design, direct client contact
2	LB	Female	40 – 50 years	Consultant to Hasno Plattner Institute – D School at GSB UCT. NPO using Design Thinking and service design methods in community projects. Human-centred design practitioner: direct client contact.
3	CF	Female	30 – 40 years	Honours level: Industrial design, Masters level: Industrial Design & Universal Design, Freelance practitioner: Product & Universal Design, direct client contact
4	MA	Female	30 – 40 years	Honours level: Industrial design, Masters level: Interaction Design. Freelance practitioner: Product & Interaction Design, direct client contact
5	LM	Female	40 – 50 years	Honours level: Industrial design, Masters level: Industrial Design. Doctor of Philosophy: Product and Human-centred design. Freelance practitioner: Product Design, direct client contact
6	GC	Male	40 – 50 years	Honours level: Industrial design, Masters level: Industrial Design. Freelance practitioner: Industrial & Engineering Design, direct client contact

3.8 Research Tools: Computer Aided Qualitative Data Analysis Software (CAQDAS)

As early as 2002, David Brown was pondering the impact of digital convergence⁸ upon the field of qualitative research:

...the question that needs considerable thought is how we might digitize the process in ways that *enhance* rather than threaten the idiographic nature of our work? Where might we explore the potential of digital convergence in ways that provide catalysts to individual creativity, plurality of thought and representation, and at the same time benefit from the obvious efficiency gains from using the computer as a digital hub for the entire research process? (Brown, 2002)

Brown explored the potential of digital convergence in the processes of *capturing and storing digital data* (in the form of multimedia databases, digital research journals, as well as collecting digital data), *digital data analysis* and *representing digital data*. So, while the

⁸ Digital convergence refers to the combining of different types of digital files and formats (such as documents, audio files, video and animations) to serve a particular purpose.

digital realm serves qualitative research by extending the range of ways that data could be collected, the challenge is maintaining the integrity of the “interpretive researcher-led qualities of more traditional forms of qualitative research” (Brown, 2002).

Chowdhury observes that many of the manual data analysis techniques (such as coding and sorting of qualitative data) can now be executed digitally by using CAQDAS (Chowdhury, 2015: 1140). CAQDAS are particularly useful for efficiently handling large datasets. The primary concerns expressed were that machines - programmed with logic and rules - were incompatible with the “unstructured, ambitious nature of qualitative data”. Thus, any software with *predetermined* analytical categories, will certainly inhibit the creativity of the qualitative researcher, and struggle to retain the authenticity of language/ social interactions or nuances (Chowdhury, 2015: 1140). Controversies exist over whether CAQDAS “contaminates” the data, and is sensitive enough to accommodate human quirks in social behaviour.

Definitely, being human, researchers with their own senses, perceptions, and understandings have an unprecedented and unparalleled capacity of interpreting people’s lived experiences to a greater extent than a digital logic based computer programme (Chowdhury, 2015: 1140).

So, while human researchers remain the optimal ‘machines’ for processing the complex qualitative data, CAQDAS provides an alternative, efficient means of processing the data – coding, sifting and sorting – providing that there is enough flexibility within the software to allow for customised codes and categories (Chowdhury, 2015: 1141).

Despite the numbers of researchers using CAQDAS (also referred to as QDAS⁹) increasing each year, little was known as to *how* they used these available digital tools. Researchers from the USA and Australia conducted a study which analysed 763 empirical articles between 1994 and 2013. They focussed on the programs Atlas TLAS.ti™ and NVivo™ (Woods, Paulus, Atkins & Macklin, 2016). While the capabilities of the programs include data collection/ creation and multiple phases of the research process, the study found that “the vast majority of researchers are using it for data management and analysis”. The numbers using the programs for visual displays of methods or for data collection were far fewer (Woods *et al.*, 2016).

3.8.1 Using Atlas.ti

This researcher chose to use Atlas.ti™ as a tool for managing the data from this study. The primary reason for using this version of CAQDAS was availability – in that the University had licences available for post-graduate researchers. In addition, the researcher attended software training, provided by a certified Atlas.ti trainer prior to using the software for

⁹ Qualitative data analysis software is also known as QDAS.

this study. The software proved accessible and easy to use, and suitable for purpose. The online support through Atlas.ti, as well as videos on YouTube provided additional assistance.

In relation to the concerns raised by Chowdhury (2015: 1140), Atlas.ti allows the researcher to devise their own codes or create *in vivo* codes (there are no pre-determined codes in the programme), thus maintaining the integrity of the data. *In vivo* codes are referred to by Charmaz (2006: 55) as capturing the essence of the participants' views, and can later form a more substantial part of the data by being elevated to a category. There are also no predetermined greater categories that would stifle the researcher's impression of the data. There were a limited number of predetermined types of relationships (such as "*is associated with*", "*is part of*", *is a cause of*"), however it was easy to add any custom relationship types to the list.

This researcher found the management of the data a key benefit of Atlas.ti (Urquhart, 2013: 101), as she generated a large number of unique codes. Managing the numerous codes become a challenge when determining the relationships between codes. The researcher was able to use Atlas.ti to include different types of data into the data set for coding – text transcriptions as well as diagrams and pdfs¹⁰ – thus staying true to Glaser's tenet of "all is data" (1967). The network views and code books (which indicate codes, linked quotations and relationships between codes) were particularly useful during the code review process, as well as to visualise developing concepts. The researcher is convinced that the use of CAQDAS saved considerable time in the research process, and provided a clear and reliable record of the research and data analysis process – thereby facilitating the completion of this project within the time constraints.

3.9 Conclusion

This chapter introduced the complexity that became apparent at the start of the study into empathy in product design practice, that determined the choice of Grounded Theory as a methodology. This was followed by the origins and development of the Grounded Theory method. The guiding principles and the points of diversion between the main types of GT were discussed. Constructivist Grounded Theory was also examined and explored, as the researcher's choice of methodology for this study. Memos were described as a key part of the grounded theory process. The recruitment process and ethical conduct of the researcher in this study were examined.

¹⁰ Atlas.ti has the capacity to allow the researcher to import and use images, texts, pdf documents, diagrams and audio files for coding.

As the researcher progressed towards the data collection and analysis stage, the role of CAQDAS in the researcher project became a consideration. The motivation for the use of Atlas.ti as a research tool is described - prior to examining the phases of data collection and analysis within CoGT. The detailed account of the data collection and analysis phases of Constructed Grounded Theory will be provided in Chapter Four.

Chapter Four: Constructing the Research:

Data Collection & Analysis

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4.1 Introduction and Purpose of Chapter

Chapter Four is an extension of the explanation of the researcher's choice of methodology, Grounded Theory. While Chapter Three gave an overview of the GT method, and variations thereof, Chapter Four will now expand on the data collection and analysis phases within CoGT. Interviewing the designers, and the purpose and activities of the co-design workshop are also included, as well as the use of secondary data sources. The data analysis and role of different types of coding and memos in Grounded Theory is explained. The chapter ends with the purpose and process of theoretical coding, and the identification of the main components of the emergent theory.

4.2 Data Collection

4.2.1 Introducing the methods

Building a strong grounded theory relies upon rich data sources – and this can mean diversity in the *forms* of data collected and analysed. Field notes, memos, interviews, records and texts can all form part of the data that contributes to building theory (Charmaz, 2006: 14, Urqhart, 2013: 8). This researcher made use of both *elicited* (produced by participants in response to working with the researcher) and *extant* data (data already publically available, such as published literature) in order to build as much data around the issue as possible (Chun Tie, Birks & Francis, 2019: 4). The researcher made use of in-depth interviews, a co-design workshop (elicited data) and toolkits (extant data) as part of the data set.

4.2.2 Co-design workshop

Through literature and discussions with designers and researchers, it was clear to the researcher that complex issues were at play in this study. Because of the expectation (within the design field) that *designers should have empathy*, the matter of designing questions to ask interviewees or other research activities became crucial. The delicate nature of the subject (empathy) meant navigating expectations to get authentic responses from participants, and avoiding the Hawthorne effect (as far as possible). By having a workshop with designers, the researcher hoped to gain insights into their views on the subject of empathy in design practice - as well as explore suitable methods for collecting further data. In this way, the researcher was consulting the designers as *experts in the design arena*, but also as *people being researched*, and the complexity that brings.

Grounded Theory method gives considerable flexibility in responding to collected data, in order to reshape data collection methods as optimally fitting to the subject (Charmaz,

2006: 14,15). Vollstedt and Rezat describe the relationship between data collection and data analysis in GT as “not successive...intertwined and interdependent”, thus using data analysis to inform further data collection is appropriate (Vollstedt & Rezat, 2019: 85).

4.2.3 Interviews

While interviews are a common means of gathering data within GT (Chun Tie, Birks & Francis, 2019: 4), they have long been part of the different types of qualitative research. Interviews offer insights into the world of the participant and their experiences (Charmaz, 2006: 25). In CoGT, the researcher needs to remain aware that the data is constructed during the interaction between the researcher and participant. Therefore, it is important to build rapport and show respect to the participants, because this pervades the data collection, and shapes the data content (Charmaz, 2006: 19). Because this researcher was exploring the concept of empathy in product design, she needed to explore relationships/ interactions within the realm of design practice. Charmaz advocates a style of *intensive interviewing*, whereby the role of researcher in the interview is: “... to listen, observe with sensitivity, and to encourage the participant to respond” (Charmaz, 2006: 25). Most of the talking should be done by the participant.

Interviews are not like regular conversations - in that there the participants are able to express themselves without interruption, interviewers can ask for more details about an event/ feeling, the interviewer can observe the participant, the participant can choose how to express themselves without pressure. Other benefits of interviews as a means of data collection (as expressed by Charmaz) are detailed in Table 4.1 below:

Table 4.1: Affordances of interviews (from Charmaz, 2006: 25)

Interviews allow an interviewer to:	
Go beneath the surface of the described experience(s)	Stop to explore a statement or topic
Request more detail or explanation	Ask about the participant's thoughts, feelings and actions
Keep the participant on the subject	Come back to an earlier point
Restate the participant's point to check for accuracy	Slow or quicken the pace
Shift the immediate topic	Validate the participant's humanity, perspective, or action
Use observational and social skills to further the discussion	Respect the participant and express appreciation for participating

The interviews were semi-structured, with some questions used to guide the conversation. However, the interviewer was careful to allow the conversation to move into details that were appropriate to the data collection. This approach allows for the collection of the richest data for the study. In accordance with the GT dictums of *constant comparison* and *reflexivity*, the interview questions were adjusted throughout the study: in terms of usefulness or the emergent theory. The original interview questions are in Appendix C.

In terms of keeping a record of the interview, there are two schools of thought on making notes and recording the conversation. Glaser insisted on making notes during interviews, and that way the main points were preserved. However, Charmaz describes the limitations of manual note-taking as:

...that you get the main points... But I think some of them you get, and some of them you don't. You don't get the subtleties that you may hear in retrospect when you're transcribing. Or the emotion—when you have to concentrate on your pencil you may not be seeing the facial expressions. I think there are real limitations to that method (Charmaz, 2016).

Acknowledging the limitations of recording an interview – such as reluctant participants – Charmaz (2016) feels that the limitations are far outweighed by the richness of the recorded interview. The recording can be listened to several times, and the authenticity and flow of the conversation is preserved. As a constructivist, Charmaz believes that the interview data is co-constructed by researcher and participant. This researcher chose to record the interviews (and these were later transcribed), in order to immerse herself in the interview – to observe the participant whilst speaking and encouraging reflection and interaction. Although the transcription process was outsourced, the researcher listened to the interviews several times, to check the integrity of the transcription, and to “re-live” the interview. The interviews were conducted at the participant’s office or at neutral venues (chosen by the participants), and were between 50 and 90 minutes in length.

4.2.4 Toolkits

Given Charmaz’s statement that “researchers generate strong grounded theories with rich data” (Charmaz, 2006: 14), this researcher decided to supplement her primary data with secondary sources – in the form of design toolkits. Toolkits emerged in a very primitive form in the late 1980s in the field of custom integrated circuit design and manufacturing (Von Hippel & Katz, 2002: 2). The toolkits for product design, service design and design for development were only developed later. Freach describes toolkits as:

...design tools of the Information Age are made to catalyze interactions, build relationships, and enable diverse communities to creatively take action and innovate (Freach, 2019).

Design toolkits are aimed at diverse users, inclusive in character, focussed on human-centred activities to gain new perspectives (Freach, 2019). The IDEO and Frog Collective toolkits were among the first to be developed, and are well known in the design community. The presence and accessibility of design toolkits have increased in recent years, as more designers work with users (co-design, participatory design activities, etc.). In addition, some of the toolkits are designed for dealing with a *specific* group of users – such as in ‘developing contexts’ or disabled users. Given that the focus of this study was on empathy in design practice, several of the toolkits are known to advocate using empathy in the interactions between designers and users/ stakeholders, thus making them a possible source of useful data. The toolkits were selected through a google search for “best human-centred toolkits”, and these items were identified:

- IDEO HCD Toolkit (2nd edition)
- Connect with Me: Co-design toolkit
- Participatory Design Toolkit
- Frog Collective Action Toolkit (1st edition)
- Capability-Driven Design manual
- Empathy Tools

Details of the toolkits that were coded¹ in this study follow in table 4.2 below.

Table 4.2: Details of the Toolkits that were selected for coding

Date	Toolkit	Appropriateness to user interactions (self-described)
2017	Connect with Me: Co-design toolkit	“This toolkit will provide you with directions on how to successfully engage, connect and co-design with people with disability. Establishing and maintaining meaningful relationships with people with disability to understand and improve services” (People with Disabilities Western Australia, 2017).
2016	Capability-Driven Design manual	“The Capability Driven Design (CDD) approach is created to guide product design teams to efficiently and comprehensively explore the user context in what is called ‘Design for Development’ projects. By using the approach, the design team is supported to develop more appropriate products and services and to make deliberate decisions throughout the process” (Mink, 2016).
2015	The Field Guide to Human-Centered Design	“At IDEO.org, part of our mission is to spread human-centered design to social sector practitioners around the world. The Field Guide to Human-Centered Design reveals our process with the key mindsets that underpin how and why we think about design for the social sector, 57 clear-to-use design methods for new and experienced practitioners, and from-the-field case studies of human-centered design in action. The Field Guide has everything

¹ The concept of coding is explained comprehensively later in the chapter, in the Data Analysis section.

		you need to understand the people you're designing for, to have more effective brainstorm, to prototype your ideas, and to ultimately arrive at more creative solutions" (IDEO, 2015).
2014	Participatory Design Toolkit	"This toolkit is designed to better engage and involve the community in design projects. The Participatory Design Toolkit is also packed with activities, tips, and techniques to foster dialogue and create informed design goals" (Enterprise Community Partners, 2014).
2012	Frog Collective Action Toolkit (1 st edition)	"The Collective Action Toolkit was created to help community leaders bring together groups to solve shared problems and act on them. While intended for use by leaders in local communities, it draws from both our social innovation work and our expertise in encouraging grassroots innovation within startups and large-scale organisations" (Frog Design, 2012).
2019	Empathy Tools	"Designers may have difficulty empathizing with a user who has different abilities (e.g., a physical or mental impairment) or who lives in a very different personal or social situation. This makes it hard to design empathically without resorting to stereotyping or unintentional ego-design. Solution: Empathy tools are physical objects (such as a device that simulates an impairment) or cognitive or social techniques (such as a distracting task that simulates a mental impairment) that allow designers to get a sense of what a user experiences and feels, either in his or her day-to-day life or in the context of using a product or experience being designed" (Hoss & Rupani, 2019).

4.3 Workshop: Exploring empathy in design practice: co-designing the tools

The first workshop was designed in response to the researcher trying to design her interview questions. There were many issues to consider, including how to minimize the chances of the interviewees lying about empathy, or giving an "expected" answer. The researcher consequently decided to have a workshop to explore the idea of empathy in practice with some professional designers.

4.3.1 Workshop aim

The aim of the workshop was to investigate the views on empathy of these practicing designers. By exploring their understanding of empathy in a professional context, the researcher hoped to get the participants to co-design any tools/ questions for further *authentic* engagements with other designers on the same topic. The findings would inform how the researcher designed her interview questions and possible activities.

4.3.2 Real questions for the researcher

Having been sensitised to the topic through the non-committal examination of the literature, the researcher was aware of the delicate nature of the topic, because of the expectation (within the design field) that *designers should have empathy*. While this reinforced the use of Grounded Theory as a methodology (Chun Tie *et al*, 2019: 1, 2), the researcher explored perceptions and possible methods in consultation with designers in the co-design workshop. The researcher explored the area of empathy in practice with the participants, in order to gain insights into the following issues:

- What does the practice of empathy look like in the workplace for designers interacting with clients?
- Some of empathy is a physical response – e.g. mirror neurons. Is empathy an attitude/ orientation/ mind set?
- What does empathy involve? What are examples of this? (listening/ making decision to ignore differences to me/ behaviours?)
- Is any of it actually relevant to design practice?
- What are the barriers to showing empathy/ empathy behaviours?

The researcher also examined the complexity of researching empathy in practice² with the participants, in order to gain their insights into the following issues (based upon their experiences of being '*researched*' in relation to empathy):

- Is it ethical to ask about designer behaviours in relation to others? People lie.
- How do I find out if their reported practices are true?
- How does one ask about empathy without using the word *empathy*?
- What kind of questions/ activities will give me what I need to know in future engagements with designers?

4.3.3 Workshop structure and activities

The workshop was designed to create an environment for safe, non-threatening exploration on the topic of empathy in design practice. The venue was in a neutral meeting room, with a large table for all participants to sit around, for casual discussion. The role of the participants was two-fold – to explore their views on empathy in practice, as well as to explore their experience or perceptions of 'being the researched' – in an area of sensitivity (empathy in design practice). In this way, the researcher wanted to tap their expert experience. The participants were not researchers – although two of the participants had Masters level qualifications - but were primarily designers.

² The complexity of the research area is discussed in greater detail at the start of Chapter Three.

The overall questions of the workshop were: *What are designer perceptions of empathy in design practice?* and *How could you create a research tool to accurately gather information on empathy in design practice?* The activities (see table 4.3 below) were then planned to address these questions:

- How do you perceive empathy in Design practice?
- What are the barriers to getting accurate research information on empathy in design practice?
- What could the tool or tools look like to capture this research accurately?

In order to explore the issues of perceptions of empathy, and barriers to authentic research and tools, the researcher needed to set the scene. She gave an introductory presentation that explained and described the goals of the research, the concept of empathy, and contemporary views of empathy in design. The consent forms were then explained in detail, with the researcher preferring for the participants to sign the forms at the end, when they would have a better understanding as to whether they would like their views shared in research. By remaining in the room, the participants agreed to participate in principle, and consider signing formal consent forms at the end.

Table 4.3: Activity Plan for Workshop - Exploring Empathy in Design Practice

Exploring empathy in Design Practice: Co-designing the tools			
		Question	Method/ Activity
09h30 – 09h50	INTRODUCTION (Veronica)	Introducing the research area: Empathy in Design Practice	
		• Explain my research – my position • Different definitions of empathy/ lack of clarity • Buzzword/ trendy • Explain consent forms (signing at the end)	Show slides Show Empathy RSA/ Brene Brown short (3 min)
09h50 – 10h20	CONTEXT (30 mins)	Empathy in Practice: How do you perceive empathy in Design practice?	
		• How does it manifest in practice? • Features of behaviour? • What is the value? What do you think?	Post-its, open discussion, write it on tags
10h20	COFFEE & SNACKS Break (15 mins)		
10h35 – 11h05	PARAMETERS for the TOOL (30 mins)	Research into empathy is very complex. What are the barriers to getting accurate research info on empathy in practice?	
		• Concerns of the practitioner as the 'researched'? • Why would they hide their views?	Post-its, open discussion, write it on tags,

11h05 – 12h15	DESIGN the TOOLS (70 mins)	Reflecting on your experience as the ' <i>researched</i> designer': what do you think the tool/ tools could look like to capture the research accurately?	
		• What would be appropriate ideas? • Journals? Observation? • What type of interviews?	Show empathy map? Capture discussion on camera/ boards/ diagrams
12h15 – 12h30	WRAP UP & Thanks	• Consent forms • Any questions/ concerns? • Thanks for participation	

a) Activity 1: How do you perceive empathy in design?

The participants were given post it notes to write down any ideas about the subject; answering the general questions of:

- How does empathy manifest in professional design practice?
- What are the features (if any) of empathy in practice?
- Is there any value in considering the issue of empathy in relation to design practice?

Using the post its, the participants first reflected alone, writing on the notes, and then the researcher and assistant opened the discussion to the wider group, populating a whiteboard with the different post its, and additional notes in pen. The discussion was able to expand, as appropriate, and participants were able to continue adding post it issues to the whiteboard for the duration of the discussion.

b) Activity 2: What are the barriers to getting accurate research information on empathy in design practice?

The participants were asked to consider what the concerns of the design practitioners might be, as well as whether they would choose to/ need to hide their views on the subject of empathy in design. Following the same approach of the first session, the participants first reflected alone, and then shared and expanded their views with the wider group and researchers. The whiteboard was again used to collect these opinions on the post it notes, as well as with pens.

c) Activity 3: What does the tool/ tools look like to capture the research accurately?

The researcher recapped the barriers explored in the previous discussion, and posed the challenge of the right tool for the research. She asked the participants to consider what appropriate tools/ methods may be for collecting this kind of data; using examples such as reflective journals, and observation in the workspace as a starting point. She also

showed them an empathy map (see Appendix D for empathy map) as an example of a tool. The resulting discussion was captured on camera, whiteboards, and diagrams.

The participants were then able to choose whether or not they would like to sign the consent forms, and choose their own pseudonym (see Appendix B for consent forms). There was a research assistant in the room for the duration of the workshop. She was able to assist with photographs and writing any key points on the whiteboard. The research assistant was also able to discuss and reflect on the findings of the workshop after it was completed. Her opinion and observations - as an outsider to the research project - were valuable.

4.4 Data Analysis in Constructed Grounded Theory: Coding

Data analysis begins at the point when sufficient, but not necessarily *all*, data has been collected. Chowdhury identifies the analysis – the coding, sorting and sifting of qualitative data – as one of the most complex and least understood aspects of undertaking a qualitative research project (Chowdhury, 2014: 1137). The lack of a defined end point, and the search for theoretical saturation can be daunting for a researcher accustomed to the absolutes of statistical analysis (Chowdhury, 2014: 1137). *Theoretical saturation*, coined by Glaser and Strauss in 1967, can be defined as the point at which data collection can end – when new data no longer sparks new insights/ information about existing concepts or patterns to help build the theory (Charmaz, 2006: 113).

GT data analysis has identified different coding protocols, and, when diligently followed, should result in a rigorous theory that is well grounded in the data (Lawrence & Tar, 2013: 32, Holton, 2009: 45). In CoGT in particular, the researcher is acknowledged as present in the data collection and analysis. The researcher needs to be very engaged, as the process of analysis demands a considerable investment of the researcher's intellect, emotions, as well as physical effort (Chowdhury, 2014: 1138). The role of the researcher therefore becomes a key variable in the analysis process, as highlighted by Corbin and Strauss:

...we don't separate who we are as persons from the research and analysis we do. Therefore, we must be self-reflective about how we influence the research process and analysis that we do (Corbin & Strauss, 2008: 11).

However, the awareness of the researcher, and their interpretation of the attitudes, behaviours, routines, (and other factors) in their interactions with the participants are part of the strengths they bring to the process of CoGT analysis. These form part of the critical information needed to explore the area under study (Chowdhury, 2014: 1138).

Charmaz describes CoGT coding:

Grounded Theory coding generates the bones of your analysis. Theoretical integration will assemble these bones into a working skeleton. Thus, coding is more than a beginning: it shapes an analytic frame from which you build the analysis (Charmaz, 2006: 45).

As previously identified, this particulating of the data in order to identify the 'bones of your analysis' is one of the strengths of GT. It allows for a thorough examination of the data prior to theoretical development. Three coding phases occur in CoGT, namely: open/initial coding, focussed coding and theoretical coding³.

Coding is the process of identifying, categorising and deeply analysing the pieces of data, and allocating them each a short name. The name should be unique and descriptive. Coding is the start to the sorting process and begins the analysis (Charmaz, 2006: 43). Data can be coded in different sized 'bites':

- *Word by word* – this is very intensive coding. This is frequently helpful for coding extant texts (Charmaz, 2006: 50).
- *Line by line* – this technique is often used with detailed interview transcriptions. While the pieces of data are slightly larger than word by word, examining each line can give greater insights into actions or contexts (Charmaz, 2006: 50).
- *Incident by incident* – slightly larger bites of data than line by line. This is particularly useful when coding observations (Charmaz, 2006: 53).

One of the tenets of GT method (across all variations) is *constant comparison* (Urquhart, 2013 :17). This is actioned during the coding phases. As the library of codes grows, the researcher can compare codes with codes. The codes can also be compared with every addition of new empirical data. As the coding grows, and categories emerge in the data, the researcher can compare codes with categories, as well as original codes with newer ones. Eventually categories can be compared with categories. The researcher is seeking out "similarities, differences, patterns, relationships, refinements, definitions, dimensions, assumptions, and properties" (Carmichael & Cunningham, 2017: 62). These comparisons can result in codes being changed, re-assigned to a different category or becoming a sub-code to another broader code. Essentially, the constant comparison approach ensures a flexible mind-set of the researcher at all times – as nothing is reified (Carmichael & Cunningham, 2017: 62, Kenny & Fourie, 2015, Urquhart, 2013: 17).

³ These different types of coding will be explained in greater detail later in this chapter.

4.4.1 Open Coding

Open coding is where the data is 'fractured' into much smaller parts and then deeply analysed, with the aim of discerning the key idea in each part and devising a code to describe it (Vollstedt & Rezat, 2019: 86). The researcher should stay as close to the data as possible when choosing a code to describe a part (this could be in reference to actions, observations or technical terms). Open codes can also be developed *in vivo*, meaning that the code is derived from the data – for example, the actual words of the participant could be used as the code (Hernandez, 2009: 56, 57; Vollstedt & Rezat, 2019: 86). The process of open coding aims to generate numerous codes from the early data (Engward, 2013: 39).

Open coding can be seen as "shorthand defining and labelling" of the data. The researcher is in an *active* role – interacting with the participants again - while scrutinising their statements. The researcher chooses the open codes – from *their* understanding of the world and the data, so it's essential for the researcher to keep trying to understand the context from the *participant's* point of view. The constructivist grounded theory researcher is aware of their role in *constructing the codes*, which form the foundation of the emergent theory (Charmaz, 2006: 47). This awareness of the researcher's role is reinforced by Birks and Mills, who warn against imposing the researcher's preconceptions about the subject onto the data *through coding*. They emphasise the importance of the researcher being theoretically sensitive to the concepts of the subject area, whilst maintaining an open mind to identify new concepts in the data (Birks & Mills, 2016: 20). Previous reading and experience will have granted the researcher a level of understanding and a means of orientating them toward the field of study. This should sensitise them towards emerging theoretical codes (Birks & Mills, 2016: 23, Urquhart 2013: 16).

The researcher should ask themselves these questions at the start of the open coding process:

- 'What is this data a study of?' (Glaser, 1978; Glaser & Strauss, 1967)
- What does the data suggest? Pronounce?
- From whose point of view?
- What theoretical category does this specific datum indicate? (Glaser, 1978) (cited in Charmaz, 2006: 47).

Glaser emphasised the use of 'gerunds' (the noun form of a verb) for coding, as a means to maintaining the sense of action and processes (Glaser, 1978, cited in Charmaz, 2006: 49). In addition, it is helpful to stay as close to the participant's own words as possible, and the use of *in vivo* codes assist in this regard (Birks & Mills, 2016: 19). These are simply strategies to assist the researcher in reviewing the data with an open mind and furthering the analysis (Charmaz, 2016).

Charmaz suggests using her “code for coding” in the open coding process:

- Remain open
- Stay close to the data
- Keep your codes simple and precise
- Construct short codes
- Compare data with data
- Move quickly through the data (Charmaz, 2006: 49)

The idea of moving swiftly is recommended so that the researcher can remain engaged and immersed in the data. In GT, the number of interviews or data collection activities varies. It relies upon the concept of data saturation. This means simply that no new insights emerge, and the researcher keeps “finding the same patterns” (Charmaz, 2006: 113).

4.4.2 Focussed Coding:

Focussed coding is the second phase of coding for theory-building. It is in this phase that the researcher can find themselves with multiple categories and a huge volume of codes – largely as a result of the intensive line by line coding process (Urquhart, 2013:24). Once data saturation has been reached in the open coding stage, the purpose of focussed coding is to review the complete data set, in order to identify the core categories. Distinct themes will already have started emerging from the data in the open coding phase (Urquhart, 2013: 25; Charmaz, 2006: 57).

In order to further understand the pieces of the data, it is critical to review the relationships *between* the codes. In Straussian GT this takes the form of Axial Coding, with a pre-set framework, to create a sense of the relationships between codes. Charmaz prefers a more flexible approach, choosing instead to build links and define sub-categories in the data to create a more 3-dimensional/ conceptual understanding of the data (Charmaz, 2006: 61). This process may even lead the researcher back to the data – to check previous codes, or explore new insights (Urquhart, 2013: 24).

It is in focussed coding that the act of memo-ing really becomes useful. The development of the researcher’s ideas is recorded in an accessible way, and can be referred to repeatedly, as the theory is developed. The focussed coding process ends with the identification of the core categories.

4.4.3 Theoretical coding

The primary aim of Grounded Theory methodology is to generate a theory that is grounded in data (Corbin & Strauss, 2008: 1; Urquhart, 2013: 5; Vollstedt & Rezat, 2019: 83). Theory is needed for a particular area/ phenomenon when:

- it lacks important concepts
- relationships between concepts aren't detailed enough
- the relevance of concepts and their relationships have not been corroborated for the population/ phenomenon under study (Vollstedt & Rezat, 2019: 83)

In 2003, Friedman was lamenting the lack of theory in the field of Design. This is largely as a result of the “newness” of recognising Design as a discipline – far, far younger than the established academic fields such as sociology, or even mathematics or philosophy (Fu, Yang & Wood, 2016). Consequently, the establishment of “the rich literature of inquiry on theory construction” that makes up a body of disciplinary knowledge is still (even now)⁴ in development (Friedman, 2003: 516). By codifying and formalising the knowledge and principles of Design into theory, one creates a structure to guide researchers and practitioners (Fu et al., 2016). This should also feed into Design education, and contributes to the maturation of the field. And while recent years have seen growth in theory development activities and structures (such as conferences and doctoral programmes), Design still lags behind (Friedman, 2003: 516).

The acts involved in theorizing foster *seeing* possibilities, *establishing* connections, and *asking* questions... When you theorize, you reach down to fundamentals, up to abstractions, and probe into experience. The content of theorizing cuts to the core of studied life and poses new questions about it (Charmaz, 2006: 135)

Charmaz (2006: 135) emphasizes how the act of theorising would inevitably grow any area of knowledge, thus echoing Friedman's opinion (2003: 521) that theory's systematic approach contributes a deep understanding that can become a foundation of design practice:

To reach from knowing to doing requires practice. To reach from doing to knowing requires the articulation and critical inquiry that leads a practitioner to reflective insight (Friedman, 2003: 521).

Friedman and Charmaz are not alone in wrestling with the role of theory, with Bryant & Charmaz admitting that “the role of theory in a complex world is a continuing puzzle” (Bryant & Charmaz, 2007: 127). They ponder aloud: “what constitutes adequate grounding, and what degree of abstraction is appropriate in a postmodern age?” (Bryant & Charmaz, 2007: 127).

⁴ Author's view - that this expression of Friedman's in 2003 is still relevant in 2019.

Regardless of which GT approach is used (Glaserian, Straussian or Constructivist), a grounded theory is what should emerge from the data. It should be noted that theoretical coding is not part of Straussian GT⁵. The open coding process “fractures the data” into smaller pieces, while theoretical codes “weave the fractured story back together again” into an understandable complete theory (Glaser, cited in Hernandez, 2009: 52). Simply, having been pulled apart to understand it, the data is then put back together to find the deeper meaning in an abstract sense. The act of theoretical coding is detecting and describing the relationships between two or more categories (Hernandez, 2009: 52), thus theoretical codes specify the *nature of the connections* between the categories identified in the focussed coding phase (Charmaz, 2009: 63; Urquhart, 2013: 26). Because theoretical coding can be considered to be the action of distinguishing the relationships between codes or categories, it can actually occur while the researcher is in open or focussed coding phases (Hernandez, 2009: 54). It is this openness to identifying and exploring theoretical categories during the process of coding and data collection that distinguishes Grounded Theory from other types of qualitative research methods⁶. This enables the GT researcher to adjust data collection methods and or approaches as a result of what is emerging in the analysis, an iterative and responsive process (Lawrence & Tar, 2013: 30).

Hernandez points out that within the Grounded Theory research community the term *theoretical coding* is used as both a verb and a noun, which can cause confusion. The *process* of identifying the theoretical codes through emergence would be the verb form of theoretical coding, while the *kind of relationship* identified between codes or core categories would be the noun form (Hernandez, 2009: 54, italics added).

The understandings of theory in Grounded Theory are as numerous as the approaches to the method. Constructivist theories are different to Objectivist theories, for example. Table 4.4, below, illustrates the main points of diversion between a positivist theory and an interpretivist theory. As consistent with my stance confirmed in earlier chapters, a constructivist, interpretivist approach, which places priority on the phenomena of study and sees both data and analysis as created from shared experiences and relationships with participants and other sources of data, was used in this study. The complexity of the research area suggests that a positivist approach – that seeks causes or favours a broad, formal theory is unlikely to be suitable for this study. The construction of a conceptual understanding of empathy is far more likely to be achieved using an interpretivist approach (as described by Charmaz, in relation to CoGT). The authentic representation of the area of research, is supported by the researcher seeking patterns and connections in the data, rather than causal relationships (a characteristic of positivist theories).

⁵ Straussian GT makes use of the conditional matrix and a coding paradigm in order to develop the theory (Urquhart, 2013: 19).

⁶ Traditional qualitative data collection happens in its entirety before starting with data analysis (Lawrence & Tar, 2013:30).

Table 4.4: Positivist vs Interpretive Theory Building (from Charmaz, 2009: 125–132)

Positivist Theory	Interpretivist Theory
"Positivist theory <i>seeks causes</i> , favours deterministic explanations, and emphasises generality and universality (2009:126)"	"Interpretive theory calls for the <i>imaginative understanding</i> of the studied phenomenon. This type of theory assumes emergent, multiple realities, indeterminacy; facts and values as linked; truth as provisional; and social life as processual (2009: 126)"
Theoretical concepts are treated as variables	In order to understand the phenomena being studied, researcher must conceptualise it in abstract terms
Statement of relationship – between abstract concepts that cover a wide range of empirical observations	Emphasises understanding between concepts, rather than explanation
Aims for explanation (causes) and prediction, generalisability, and to systematise knowledge	Shows patterns and connections, rather than causality.
Verifies theoretical connections by testing hypotheses	Subjectivity in theorising - and consequently in the role of dialogue, relationship and understanding - is acknowledged.

The outcome of all GT should be a theory, however, the nature of the theory generated by the GT method is much discussed. That many researchers rely upon the thorough nature of data analysis using GT methods, but do not progress to the stage of theory development is an area of disappointment for many GT researchers (Urquhart, 2013: 107). Urquhart, Lehmann and Myers (2010) describe what they call the three general levels of theory within the Grounded Theory method:

- Narrow concepts

These are "seed concepts", often little more than a hunch, which kick off the theory - building process. This could be a hunch from the researcher's own professional areas of interest/ observed issues. These seed concepts have very little use - beyond starting the process (Urquhart, Lehmann & Myers, 2010: 363).

- Substantive theories

By following GT methods and engaging with the data within a specific area of research, a substantive theory can be developed⁷. This theory would be directly relevant to this *specific* area of enquiry (Urquhart *et al.*, 2010: 363)

⁷ The outcome of this research will be a substantive theory.

- Formal theories

A formal theory represents the highest level of abstraction within Grounded Theory. A formal theory has the highest level of conceptualisation and the broadest scope, and thus applicability (Urquhart *et al.*, 2010: 364).

Figure 4.1, below, shows a framework for analysing GT studies. The aim is that the GT researcher would start at the bottom left of the framework – with a seed concept and a description, and through data collection and GT analysis, build theories of increasing abstraction and broader scope. The researcher thus aims for the top right corner of the framework –to achieve a well conceptualised, formal theory with broad scope and generalisability (Urquhart *et al.*, 2010: 364). While this formal theory could be perceived as typical in more positivist approaches to theory-building, interpretivist theories are more likely to live at the substantive level. These substantive theories then form the basis of broader - reaching theories, with the addition of further research (Kenny & Fourie, 2015: 1272).

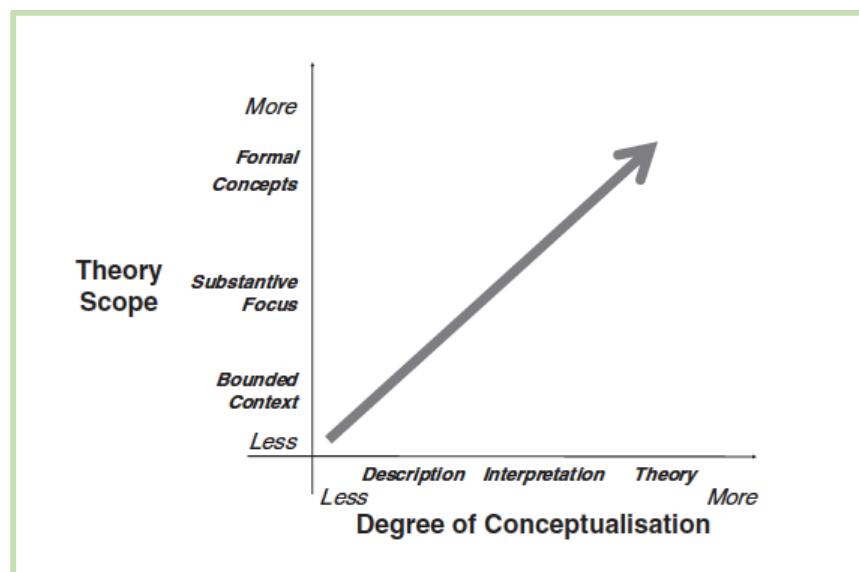


Figure 4.1: A Framework for analysing Grounded Theory studies (Urquhart, Lehmann & Myers, 2010: 366)

Glaser and Strauss, in *The Discovery of Grounded Theory* (1967), were careful to distinguish between substantive and formal theory, and emphasised the limited and *specific* scope of a substantive theory (Kenny & Fourie, 2015 :1272). Although limited, the substantive theories can have predictive power when used in the appropriate context – as a result of their grounding in empirical data (Khambete & Athavankar, 2010: 13). Although GT methods can generate both substantive and formal theories, Glaser and Strauss recommending focussing on developing one type of theory within one GT study (Kenny & Fourie, 2015: 1272). While substantive theories are acknowledged as the “bedrock for formal theory” or “a springboard towards formal theory”, further study is required. This

further study could mean a comparative analysis between substantive theories, and or reviewing the substantive concepts from a variety of different cases (Kenny & Fourie, 2015: 1272; Urquhart *et al.*, 2010: 364). It is worth noticing that the distinctions between substantive and formal theory is a point of consistent agreement between all three major types of GT – Classic, Straussian and Constructivist – and thus a real foundation of the method (Kenny & Fourie, 2015: 1272).

The notion of *theoretical sensitivity* was first introduced by Glaser and Strauss (1967). The researcher, while needing to remain open to their data, also needs to be open to theoretical possibilities (Charmaz, 2006: 138; Vollstedt & Rezat, 2019: 91). Researchers can build their understanding – and thus *sensitivity to* – theory building by examining GT examples and existing theories from related areas of research. This can be of considerable help in the development of the researcher’s own theory (Charmaz, 2006: 136). Glaser’s coding families (1978) can be seen as part of this process of building the researcher’s theoretical sensitivity. These coding families have been described as “sets of general sociological concepts organized into loosely connected frameworks”, and are a means to seeing the relationships between categories. These relationships form the core of theory-building (Vollstedt & Rezat, 2019: 91; Urquhart *et al.*, 2010: 370). Because these coding families illustrate many types of theoretical relationships, they can provide a skeleton upon which to build a theory - and while the list is not exhaustive, it *is* comprehensive (Urquhart *et al.*, 2010: 370). Contentiously, the ‘coding paradigm’ introduced by Strauss and Corbin in 1990, can also be viewed as part of theoretical sensitivity (Vollstedt & Rezat, 2019: 91).

Hernandez collated Glaser’s coding families from 1978, 1998 and 2005, and the full list can be seen in Appendix E. In Table 4.5 below, are a few selected examples of Glaser’s coding families from 1978, 1998 and 2005.

Table 4.5: Theoretical Coding: Examples from the Mapping of Coding Families & Theoretical Codes (Glaser, 1978, 1998 and 2005) (Collated by Hernandez, 2009: 62-66, examples selected by Barnes, 2019)

1978	1998	2005
The 6 Cs Causes Contingencies Consequences Covariance Contexts Conditions		Causal Family Conjunctural causation TC Amplifying causal looping Perpetual compounding Bias random walk Equifinality Reciprocal Causation Social Arena TC, (Social Worlds TC, Social Constraints TC) Social constraints TC (boundary maintaining conditions)

Process Family Stages, Staging, Phases, Phasing Progressions, Passages, Transitions, Trajectories Gradations, Steps, Shaping Ranks, Ordering, Chains Sequencing, Temporalizing, Cycling	The Basic Family Basic social process Basic social structural process Basic social structural conditions Basic social psychological process Basic psychological process	Temporal Family Timelines Pacing of action (self, others) Pacing growing conditions Cycling TCs: Temporal ordering of work, etc.; Organizational cycling of productions; Actions/interactions spiralling up or down
Identity-Self Family Self-image, Self-concept, Self-worth, Self-evaluation Identity, Social worth Self-realization, Transformations of self, Conversions of identity	Unit Identity Family Work, family, recreational life	Unit Identify Family Binary code TC (binary retreat, binary deconstruction)
Cultural Family Social norms, Social values, Social beliefs Social sentiment	Representation Family (Cultural Representation) Descriptive (e.g. conceptualizing, baselining, vaguing) Proscriptive (e.g., properlining) Prescriptive (e.g., interpreting) Sentimental, Evaluative	Frames TC (Political, Religious, Ideological, Cultural)

* TC= Theoretical Code

Theoretical sampling can occur at different times in the coding process, but usually happens after open coding. An important aspect of GT, theoretical sampling means that the researcher reviews their data and decides (guided by the data analysis thus far) where to seek further information (Urquhart *et al.*, 2010: 371). This ‘further information’ could be cases, events, people or other data that help to *explore* or *challenge* or *add to* emerging patterns in the data, or to *clarify* the relationships between your categories (Engward, 2013: 40; Charmaz, 2006, 103; Urquhart *et al.*, 2010: 371). Urquhart, Lehmann and Myers suggest that theoretical sampling can ensure the unbiased, emergent nature of the theory, because, “if the researcher is guided by the emergent theory when collecting data, then there is very little chance of the researcher imposing preconceived notions on the data” (Urquhart *et al.*, 2010: 371).

Engward describes *theoretical saturation* as the point at which the emergent pattern or theory becomes established/ saturated, and needs to be examined in relation to literature (Engward, 2013: 40). While the literature examined may be related to each element of the core categories, it could also be in relation to the theory as a whole. Locating the emergent theory in the context of other theories in the field can be described as *theoretical integration*. Examining theories (substantive and formal) from other research areas is also possible (Urquhart *et al.*, 2010: 373).

4.5 Conclusion

This chapter introduced the specifics of the data collection and analysis phases for this study. The aims and activities of the co-design workshop and process of the interviews were outlined. In addition, the use of extant data, in the form of design toolkits (and the choices thereof), was explained. The phases of analysis: open coding, focussed coding and theoretical coding were discussed in detail. Chapter Five will provide a detailed account of the findings of each data collection activity. It will also cover the data analysis - by the use of open and focussed coding - and further exploration of the emergent core categories.

Chapter Five: Data Collection and Analysis

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5.1 Introduction and Purpose of Chapter

Chapter Four gave a detailed account of the data collection and analysis methods within GT, and more particularly - Constructed Grounded Theory. Further details of the data collection activities are described in Chapter Five. The findings of the data collection activities are also detailed here - the outcomes from the interviews and co-design workshop. The minutiae of the coding process are exposed, from the development of the open and *in vivo* codes and code reviews, up to the focussed coding phase. The method and findings of focussed coding are shown, until where the core categories emerge from the data. This chapter ends with an overview of the relationships within the core categories.

5.2 Data Collection

5.2.1 Co-Design Workshop

The workshop - *Exploring empathy in Design Practice* - was held on 19 January 2017 at a meeting room in Cape Town. The participants were practising designers, chosen for their involvement in product design projects, in alignment with Charmaz's suggestion to look for data "in places where it is likely to be found" for the purposes of CoGT (Charmaz, 2006). That way, experts are sensitized to the subject, and can offer valuable insights. The recruitment of the three participants is discussed in great detail in Chapter Three, and in Table 3.4: *Participant Profiles of Co-Design workshop and People Interviewed*.

The workshop aimed to address the following questions:

- *What are designer perceptions of empathy in design practice?*
- *How could you create a research tool to accurately gather information on empathy in design practice?*

As referred to in Chapter Four, the researcher hoped to gain insights from the designers – not only about the subject matter – but also further data collection suggestions. By doing this, the designers were being consulted "as experts in the design arena, but also as people being researched, and the complexity that brings" (Chapter 4). The activities are detailed in Chapter Four, and in Table 4.3: *Activity Plan for Workshop - Exploring Empathy in Design Practice*. The researcher began by introducing herself and the topic – using a Power point presentation that described the concept of empathy and current views in the design field, as well as explaining the goals of the research and the workshop itself. Figure 5.1 below shows the title and first slides of the presentation. The researcher also

showed a short (three-minute) movie clip of *Show Empathy RSA* by Dr Brené Brown¹, to further sensitise the participants to the concept of empathy and its complexity.



Figure 5.1: Title and first slides of introductory presentation for Co-design Workshop

The broad pattern of the workshop was that the researcher would pose a question/ a couple of questions, and ask the participants to reflect on their own – making notes or writing questions on post- it notes. The discussion would then be extended to the rest of the group, for discussion and reflection. The post-it notes were then used to populate the white board – creating a visual sense of the topic – and also allowing for additional notes to be added on the whiteboard (by the participants, the researcher or the facilitator). This approach allowed flexibility in terms of expanding the discussion or adding questions, as needed. Figure 5.2 below illustrates the use of post-its in the workshop.

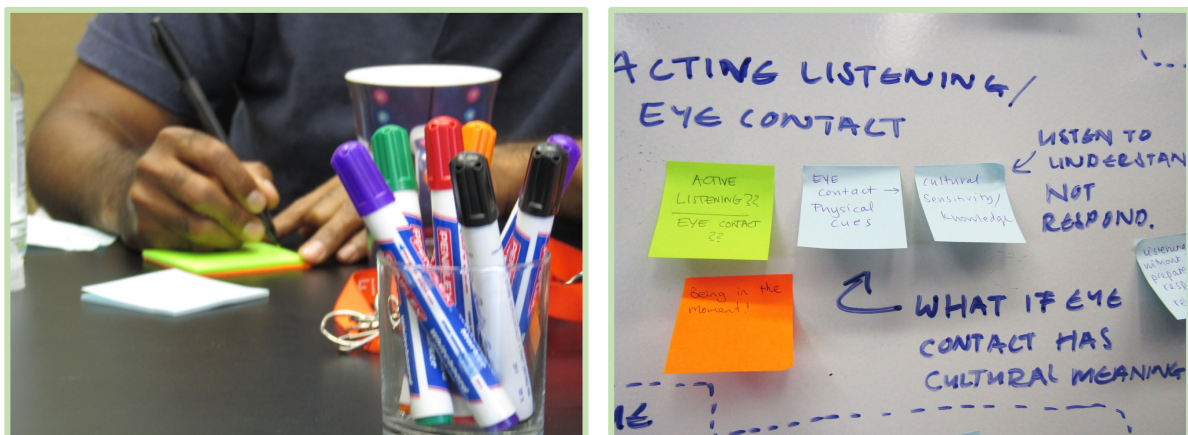


Figure 5.2: Using Post-its in the Co-design Workshop²

¹ Dr Brené Brown's animated short can be found on YouTube at <https://www.youtube.com/watch?v=1Evwgu369Jw>.

² All photographs that do not credit a source are the researcher's own.

5.2.1.1 Activity 1

In Activity 1, the researcher asked the bigger question: *How do you perceive empathy in design?*

And then expanded the topic by adding:

- How does empathy manifest in professional design practice?
- What are the features (if any) of empathy in practice?
- Is there any value in considering the issue of empathy in relation to design practice?

The participants all appeared interested and engaged in the activity, but pointed out that this was not an area they'd previously considered in much depth. The very concept of empathy, without even considering the role of empathy in product design practice, needed a level of discussion. The participants were able to draw on experiences with clients and users, to consider whether empathy played a role in the interactions, and if so – what did it look like?

Interesting observations included:

- Whether empathy was simply a built-in characteristic of a person, or a kind of skill

“To be an EMPATH truly, you need to be emotionally vulnerable to situations constantly” (FC, 2017)³.

“Wouldn't that go with honesty? A level of knowing the person. Because if the person is not answering, you're not going to know them” (CH, 2017).

“But empathy is a skill, because empathy without understanding is sympathy at the end of the day” (DM, 2017).

“A lot of this animal you're trying to describe relies heavily on EQ. Yeah, and not everybody has that, hey? It is something that is probably a lost skill” (FC, 2017).

- Actions that the designer could perform in order to “do empathy”

“I guess you kind of “check yourself in” at the door, so you are open to anything. You don't pre-empt anything. You don't come in with an agenda” (FC, 2017).

“Sharing an experience not related to work. That's vulnerability, yeah. Sharing. Seeing your client: not as a job or a paycheck. The designer is not only delivering a service, I think that relates to “having no agenda” ... “being in the moment” (DM, 2017).

³ The reference is for the code of participant, at the Co-design workshop in January 2017. This format will be used throughout the document for participant quotes. The same format is used for quotes from interviewees.

“Active listening, I put there. Eye contact, personal cues, those kinds of things, that one would not necessarily do overtly, I think it’s pretty important: those physical things. Physical cues are important in the way that people perceive you, or perceive what it is that they think is happening” (FC, 2017).

“I think with that (physical cues), you need to be culturally sensitive. I know in some cultures, eye contact is considered rude or confrontational” (CH, 2017).

“I think the immediacy of the personal connection can’t be translated via/ through by anything digital. It would need to happen in a space, where you are able to read personal cues or clues, where you can see someone physically. That is what the “face-to-face” is” (FC, 2017).

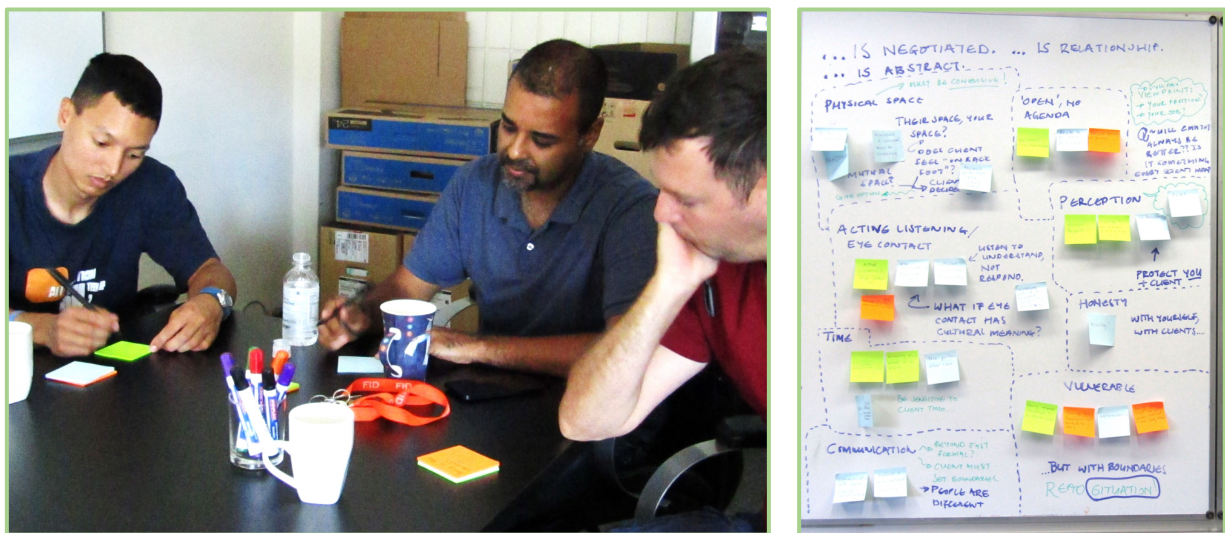


Figure 5.3: Participants reflect on their own, before contributing to the larger conversation in the Co-design Workshop

- Much discussion of how heavy a burden empathy could be, and how to prevent a negative effect of empathy on the designer

“If you want to be empathetic you need to invest a lot of yourself and your energy into the interaction, the person, the process. It may be self- destructive and killing to you” (FC, 2017).

“... you said “where do you draw the line, in terms of how much you take on?” Because otherwise, at the end of the day, you need a shrink also, because you’ve taken on too much. To protect yourself” (CH, 2017).

“... at what point does it become too much? What are the boundaries within which you operate? Because we can’t all be those kinds of “empaths”, where it becomes totally self-destructive” (FC, 2017).

- The role of the environment where meetings/ interactions took place

"But I do think that the importance of environment is critical, for the right kind of interaction to occur. If the environment sucks, and there's lots of negativity in that space, it'll affect the outcome of what's happening" (FC, 2017).

"Also, saying that, a neutral space is not a bad thing either. Like a coffee shop or something" (DM, 2017).



Figure 5.4: Perceptions of Empathy in Design Practice from the Co-design Workshop

The participants generated a large number of post-it notes, that were grouped on the whiteboard as they were discussed in the group. Comments and observations were added in marker. This was collated by the researcher into a diagram, Figure 5.4.

5.2.1.2 Activity 2

In Activity 2, the researcher asked the bigger question: *What are the barriers to getting accurate research information on empathy in design practice?*

And then expanded the topic by adding:

- what would design practitioners be concerned about when sharing their views on empathy?
- Why might they choose to hide their views on the subject?

These questions formed the basis of very lively discussion around the subject. Key issues raised included the following:

- The difficulty of the personal vs the corporate view on empathy (there may be a code of conduct or similar, there may also be a misalignment between these views)
- “Perceived image assassination” (libel): the use of the information could lead to a different perspective on designers perceived as ‘successful’. Anonymity could thus be very important in the study.
- Vulnerability of the designer – in exposing their views: which may be in conflict with corporate views/ own expectations of designer identity/ public perceptions of empathy.
- Conflict between the ‘ideal world’ and the ‘real world’: an ‘ideal world’ design project would always include empathy, however time and money constraints in the ‘real world’ may hamper these ambitions.
- The issue of the age of the designer was raised for the second time in this discussion. Young designers were perceived as “narcissistic”.

5.2.1.3 Activity 3

In Activity 3, the researcher asked the big question: *What does the tool/ tools look like to capture the research accurately?*

And then expanded the topic by adding:

- what appropriate tools/ methods could be selected for collecting this kind of data?

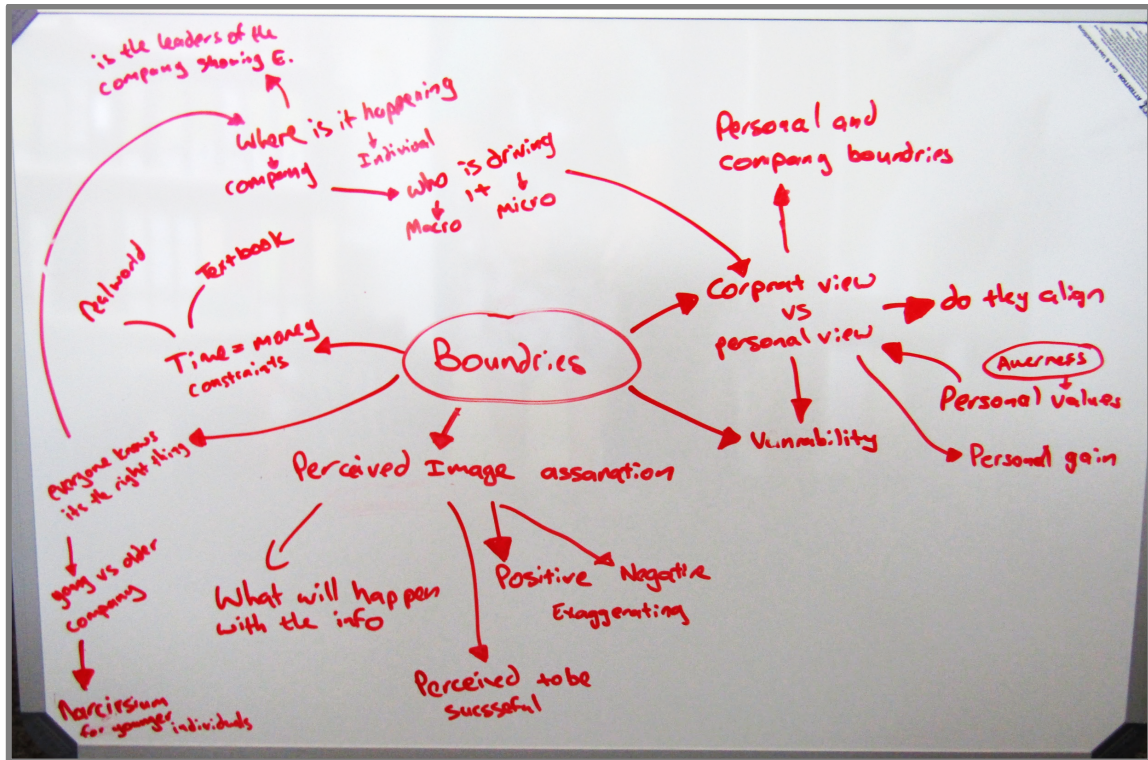


Figure 5.5: Barriers to collecting accurate information on empathy in design practice from the Co-design Workshop

- The researcher showed some examples of research 'tools': reflective journals, and observation in the workspace, as well as an empathy map.
- How does the researcher encourage the participant to share their views on the subject?



Figure 5.6: Discussion about tools and methods to investigate empathy in practice in the Co-design Workshop

By reviewing the previous discussion, the researcher was able to again reiterate the complexity of the subject matter, and the challenges posed by choosing the research methods. It is here that the role of the designers – reflecting upon their own experience of 'being researched' – was most valued. While the researcher and facilitator were expecting a more dramatic outcome, the participants suggested fairly conservative methods of data collection.

The participants' suggestions for conducive discussions around empathy included:

- A flexible environment
- Semi-structured/ open-ended questions
- Not a lot of questions, more conversation
- Speaking of empathy – but unnamed/ subconscious understanding
- Ask vague questions about 'empathy' behaviours/ actions
- Questions about empathy could focus on the design process
- A group setting may be helpful – allows the participants to build on the others' contributions

5.2.1.4 Reflection on the workshop

The researcher was able to reflect upon the workshop with the facilitator, after the workshop had been completed. This took the form of a voice memo – which was then transcribed. The reflection included considering the structure of the workshop, the venue, the observations of the participants and interesting issues raised. Among the points of interest were:

- The very high level of engagement
"... much higher than what I originally anticipated."
- The discussion about the environment was interesting
"Sometimes the physical environment is not so important as the negotiation of where the meeting's going to be. That's almost like a sign of a flexible attitude, as opposed to the actual physical thing. I hadn't actually thought about that."
- The lack of reference to 'perspective taking as a technique
"The one thing that was missing for me, is trying to imagine that you're the other person – so perspective-taking. So, walking in another person's shoes, was mentioned in the video, but did not come up again, until I said something about it. "

This workshop formed a solid start to the research project. The participation and outcomes for the workshop far exceeded the expectations of the researcher. The

workshop generated much data, captured in three sets of voice files, three transcripts and numerous images. These all served as ‘codable objects and documents’ for the purposes of analysis.

5.2.2 Interviews

An overview of interviewing as a technique within GT is found in Chapter Four, with the benefits of interviews as a means of data collection described in Table 4.1: *Affordances of interviews*.

The suggestions made by ‘the researched’ – designers in the product design world – in the Co-design workshop in 2017 were seriously considered by the researcher. The delicate and complex nature of empathy in design required an additional layer of consideration for the research design. Table 5.1 below shows how the suggestions made by the participants were actioned in the execution of data gathering.

Table 5.1: How workshop research method suggestions were actioned

Suggestion of action	Planned research	Reality of research
A flexible environment	A flexible, neutral environment. Aim to make the designer feel at ease.	Designer’s choice of venue: either the workplace/ office or a coffee shop/ restaurant
Semi-structured/ open-ended questions	Semi-structured/ open-ended questions – allowing the conversation to flow, enabling focus on appropriate details for the research.	Semi-structured/ open-ended questions. One participant had English as a second language, and she requested a list of questions before the interview, in order to prepare. These were more detailed than used in other interviews, but the interviewer was able to steer the conversation in a responsive way.
Not a lot of questions, more conversation	Building rapport is crucial, so that an informal tone is appropriate, and the participant feels at ease.	A rapport was established, an appropriate, informal tone was achieved. The participants felt comfortable to relax and talk about the subject. In several cases, the conversation went as long as 90 minutes.
Speaking of empathy – but unnamed/ subconscious understanding	This was perhaps the most difficult part of the research. Initially, the researcher did not mention ‘empathy’ at all. She	Initially, the researcher did not mention ‘empathy’ at all. She asked questions about the nature of the interactions between the designer and the user –

Ask vague questions about 'empathy' behaviours/ actions	asked questions about the nature of the interactions between the designer and the user – during the research and design process.	during the research and design process. In most cases, the word 'empathy' was first used by the designer, which then enabled the researcher to respond, and enquire further as to the designer's understanding of empathy.
Questions about empathy could focus on the design process		
A group setting may be helpful – allows the participants to build on the others' contributions	Due to the sensitive nature of the subject, and in order to avoid the Hawthorn effect, the researcher decided to use individual interviews instead.	The individual interviews allowed the participants to feel comfortable, and to share their voices on the subject. In addition, the individual was able to freely explore the topic.

Because the interviews in CoGT are part of *co-constructing* the data, this researcher was always aware of her role in the process. Charmaz (2006: 25) describes the researcher's role as "... to listen, observe with sensitivity, and to encourage the participant to respond". In addition, the researcher needed to maintain an open mind – in order to follow clues or markers in the data. This included being open to suggestions as to where to find data or sources. This interviewer found participant LB from a referral by BQ, as they had worked together on several co-design community projects.

The interviews yielded rich, detailed data. The debate around recording interviews or taking notes is described in greater detail in Chapter Four. The researcher decided to record the interviews (using the voice recorder app on her smartphone) in order to maintain eye contact and interest in the participant. Permission was requested prior to the interview, but none of the participants were unhappy about being recorded. The recording ensured that the interviewer did not miss any details or nuances in the conversation by focussing on note-taking. The interviews were recorded and then transcribed. The researcher then listened to the audio clips several times, to check the integrity of the transcription before using them for data analysis, as well as to immerse herself in the data.

5.3 Analysis: Open Coding

Open coding is the beginning of the data analysis stage of Constructed Grounded Theory.

Urquhart describes coding as:

...the term used for attaching conceptual labels to data. When we attach a particular label to a particular chunk of data, we start to analyse that data. If we start to link together these codes in relationships, we can start to theorise about the data (Urquhart, 2013: 35).

Because of the constant comparison of GT, the analysis and coding can start at any time when some data has been collected. The data is analysed, in conjunction with the continuing collection of data, and methods or questions can be adjusted as required. As the coding begins, it is clear that the choice of that code is critical, as *constructing these codes* form the groundwork for the emergent theory, and the researcher has to guard against imposing their own ideas upon the data (Charmaz, 2006: 47, Birks & Mills, 2016: 20).

Charmaz suggested a “code for coding” in the open coding process (also referred to in Chapter Four), and this is how the researcher responded in the coding process:

- Remain open

This researcher’s response: cultivating a constant awareness of her role in the coding process, and being open to unexpected insights from the data.

- Stay close to the data

This researcher’s response: reflecting on the workshop/ interview as soon as possible afterwards. Also by re-listening to the audio recordings of the interviews and workshops to immerse herself in the data.

- Keep your codes simple and precise

This researcher’s response: consciously using gerunds where possible, keeping actions in mind, and continuously reflecting on the accuracy of the codes.

- Construct short codes

This researcher’s response: consciously using shorter codes, and continuously reflecting on their accuracy.

- Compare data with data

This researcher’s response: reflecting on the variety of codes generated, and doing code reviews to compare the codes used earlier and later in the data collection process.

- Move quickly through the data (Charmaz, 2006: 49)

This researcher's response: the interviews were coded as soon as possible after transcription, in order to keep the data uppermost in the researcher's mind.

The researcher coded the following documents during the open coding process:

- the co-design workshop documents
(2 x transcripts, 1 x reflective memo and the generated diagram)
- the transcripts from the interviews
(6 x interview transcripts)
- the identified toolkits
(6 x toolkits)

This researcher chose not to code any of her other memos at *this* stage of open coding, as the contents were not different from the content of the data – insights were reflected in the coding. The sequence of data analysis becomes important in GT, as adjustments will be made as the data is analysed. The researcher coded the co-design workshop, diagram and reflection at the beginning. This was followed by the interview transcripts and the toolkits.

The researcher imported all documents into the Atlas.ti software (CAQDAS) in order to manage the coding and data management for the study more efficiently. She reviewed the data line by line (as appropriate) and generated short, open codes, in the form of gerunds (as far as possible) in order to maintain a sense of action from the data. Figure 5.7 shows examples of open coding in a workshop document (as seen in this screenshot from Atlas.ti). In keeping with the researcher's aim to maintain the action and authenticity of the participant's voice, the researcher also generated several *in vivo* codes (see figure 5.8 for examples).

It was also crucial to review the codes at intervals – to check for repetitive codes (were they really unique?) and to check that the codes captured the essence of the action/concept. Code reviews also gave the researcher opportunities to group or rename codes that were of similar but distinct nature – as seen in Figure 5.7. The grouping of '*empathy = ...*' codes is clearly visible, in examples such as: *empathy = appropriate response*, *empathy = don't be pushy* and *empathy = engage holistically*. As part of the concept of *constant comparison* in GT, it was also important to review documents that were coded earlier, to see if any of the newer codes could actually be seen in the data that was coded before. This researcher reviewed the early coded documents several times – as the group of codes grew to over 190 in number.

that.		
re a Space and we can meet here, or I its way they want to meet.	2:38... Empathy - giving the other pe... Empathy - prioritising other's ...	2:39 cll... Empathy - giving the other pe... Empathy - physical environme...
ctic schedule and commitments, and i space here there and somewhere. Bi for the right kind of interaction to oc negativity in that space, it'll affect th	2:40 f t... Empathy - physical environme... Negative environment = negat...	2:44... Empathy - physical environme... Empathy = investment of self Negative environment = negat...
ll meet you at Vida", and you say, "oh ou go, "ew" (not nice).	2:42... Awareness of lack of empathy... Empathy = engage holistically	2:41 An... Empathy - small tal Empathy = commun Empathy = investing Empathy needing in You're not just beir
o engage more holistically with the cli end an email: saying hi, how's your w the job, or "not seeing your client as :	2:43... Awareness of lack of empathy...	2:45 Re... Empathy - physical environme... Empathy difficult to manage i... Who determines interactions ...
just in terms of what it is that you're c the space within which you and they So if your client is not necessarily tha ns of that space. You Can't kind of say of rain check you need to do at the b empathy then?	2:46... Empathy = appropriate respon... empathy = don't be pushy Empathy = mutual respect	2:47... Empathy dilemma
athy) always something that's going t ol it can be positive, or is that going to at does this person want "(too much, h you or with your client? I dunno.	2:50... Empathy - always positive? empathy = positive outcome Empathy dilemma	2... Empathy - question motives Empathy can create negative i...

Figure 5.7: Examples of open coding in a workshop document

1:2	I don't think we really incorporate those kinds of things (like empathy) into the process.	I don't think we really incorporate tho...	Co d
1:3	Not consciously,	Not consciously,	Co d
1:4	I think it would create a richer, more diverse outcome	I think it would create a richer, more d...	Co d
1:5	Q: I speak as a designer; we operate as designers within the system that is known. The de...	I speak as a designer; we operate as...	Co d
1:6	I think on a bigger level we would hope there are students who will operate that way (with...	I think on a bigger level we would hop...	Co d
1:7	I don't think we teach towards that outcome	I don't think we teach towards that ou...	Co d
1:8	Because we never think of that kind of experience.	Because we never think of that kind o...	Co d
1:9	I think for me empathy takes a while	I think for me empathy takes a while	Co d
1:10	It does happen when you know the person, and then its not just the client anymore	It does happen when you know the p...	Co d
1:11	It's like do know the client and you know they have kids, you then know the kids names, a...	It's like do know the client and you kn...	Co d
1:12	Q: You're not just being there to provide a service	You're not just being there to provide...	Co d
1:13	I don't think there's that much time to generate that with students	I don't think there's that much time to...	Co d
1:14	I think later when you know students better you can generate another connection	I think later when you know students...	Co d
1:15	If you want to be in empathetic you need to invest a lot of yourself and your energy into th...	If you want to be in empathetic you n...	Co d
1:16	It may be self- destructive and killing to you	It may be self- destructive and killing...	Co d
1:17	spending many hours listening to students' problems	spending many hours listening to stu...	Co d
1:18	Then imagine that kind of situation in a professional level. That's like a bazillion times wor...	Then imagine that kind of situation in...	Co d
1:19	As the starting point is – the outcome of the interaction.	As the starting point is – the outcome...	Co d
1:20	You invest herself completely with the client and take on the emotional baggage, in order...	You invest herself completely with th...	Co d
1:21	To be an EMPATH truly, you need to be emotionally vulnerable to situations constantly.	To be an EMPATH truly, you need to b...	Co d
1:22	Q: Where is the line then between something that is self destructive and killing, as oppos...	Where is the line then between somet...	Co d
1:23	Q: Who is going to decide on that line? At what point is enough? Is there an enough?	Who is going to decide on that line?...	Co d
1:24	We are "cotton woolled within cotton wool" in this environment. We are not out there in pr...	We are "cotton woolled within cotton...	Co d



Figure 5.8: Examples of *in vivo* coding – shown within a list of quotations

As discussed in Chapter Four, there is no recipe for the amount of data that is collected, it relies upon the concept of data saturation. Saturation can be described as the point when no further unique codes can be generated (Corbin & Strauss, 1998) or when no new insights appear (Charmaz, 2006: 113). Practically, this becomes apparent in open coding when no new codes can be identified. The Co-design Workshop documents and the Reflective Memo generated 134 unique codes, and the Diagram contributed a further 20 codes. The LB interview contributed 31 codes, CF interview contributed 28, and MA interview contributed 35 unique codes. At that stage, the researcher returned to check the coding of earlier documents to see if she had missed anything, or created any duplicate codes. This researcher thought she was at data saturation after coding the co-design workshop and the five interviews that followed, as the number of codes being generated had slowed so dramatically. She conducted another interview, and after coding that interview (GC) and the identified toolkits, realised that no new insights were emerging, and the study must have reached data saturation. Thus, the interview with GC served as a test for data saturation, which was confirmed. The analysis of the toolkits revealed no new codes at all, and thus the final number of unique codes was 293.

5.3.1 Surviving apparent chaos

Holton describes the coding processes in GT:

...the procedures espoused by classic grounded theorists may initially appear loose and perhaps even messy or confusing. These procedures... do require the researcher to grapple with both chaos and control (Holton, 2009: 43, 44).

The GT method is meticulous in attending to the detail of the data, but requires that the researcher trusts the method in the uncertainty. This researcher struggled with the inability to see the end point of the research – especially given that the area of research was so abstract - but fully appreciated the minutiae of the process.

The chaos is in tolerating the uncertainty and subsequent regression of not knowing in advance and of remaining open to what emerges through the diligent, controlled, often tedious application of the method's synchronous and iterative processes of line-by-line coding, constant comparison for interchangeability of indicators, and theoretical sampling for core emergence and theoretical saturation (Holton, 2009: 43, 44).

The discipline required of the researcher to remain composed whilst particulating the data, is rewarded in the focussed coding phase: as the fragments of data are rewoven to create meaning - towards a grounded theory.

5.4 Analysis: Focussed Coding

Focussed coding is the phase of data analysis - after data saturation has been reached in open coding – where the whole data set is reviewed, in order to identify the core categories. Clear groupings or themes may already have started to appear in the open coding process (Urquhart, 2013: 25; Charmaz, 2006: 57).

These themes began to be apparent in the coding reviews for this researcher, who was adjusting her codes to reflect this. By allocating the open codes into loose groups in this focussed coding phase, the researcher found it easier to manage the 293 individual codes. These groups are described as *loose* – meaning that they were changeable at any time, as new themes emerged in the sorting process. The researcher made 26⁴ different groups in order to make building of relationships possible. These groups were formed from an overview of all the data: each separate code was on a piece of paper, and the papers were arranged into appropriate groups (a loose theme). These loose groups also aided in the abstraction of the theory (Urquhart, 2013: 24). By physically reviewing the codes, this researcher was able to immerse herself in all the codes, and allow maximum flexibility when grouping (and regrouping) them. This reflects the active involvement of the researcher in the data that is recommended by Charmaz (2006: 59) at this stage of the process.



Figure 5.9: Sorting the individual codes (on paper) into loose groups

⁴ This number of groups emerged from the data, it was not a predetermined number.



Figure 5.10: Sorting the individual codes (on paper) into loose groups



Figure 5.11: Groups of individual codes on paper

4	Designer contributing	Designers contributing to a community/ solution/ relationship <u>Code examples:</u> Community - designers bringing fantastic skills Design transforming communities	3
5	Designer dealing with emotions	Designers needing to face/ cope with emotions arising in interactions <u>Code examples:</u> Design - responding to unmet emotional needs Designer - building relationships & trust Designer - exposing people's emotions	12
6	Designer's identity and role	Designer's sense of responsibility, their role as designer in interactions/ design projects <u>Code examples:</u> Designer drawing lines of responsibility with user/ client Designer = being a facilitator	12
7	Designer perceptions of empathy	What designers perceive empathy to be <u>Code examples:</u> Empathy - you can't be an outsider Empathy = a kind of connection Empathy = a skill Empathy = an experience	18
8	Designer know thyself	Designer's sense of self awareness, introspection, sense of their role as designer <u>Code examples:</u> Design maturity = being empathic? design practice = personal identity? Designer - needing to know themselves	13
9	Effects of empathy	What are the perceived effects of empathy on the relationship/ the project? <u>Code examples:</u> Empathy = more diverse outcome Empathy = ongoing relationship Empathy = positive outcome	11
10	Empathy actions	What are the actions of empathy that the designer can do in a relationship/ the design project? <u>Code examples:</u> Empathy - engaging in activities to build bridges Empathy = active listening Empathy = appropriate response Empathy - giving the other person choices	28
11	Empathy and time	Where do the concepts of empathy and time intersect? <u>Code examples:</u> Empathy can't be rushed Empathy needing to be constant Empathy taking time	7

12	Empathy as a tool	Empathy can be used as tool/ means to an end <u>Code examples:</u> it's weird to talk about something like empathy in terms of a tool (<i>in vivo</i>) Empathy is a drawback for a project	13
13	Empathy decisions	Empathy can be a decision by the designer <u>Code examples:</u> Empathy - can be a decision Empathy needing investment Empathy needing to be planned	4
14	Empathy as part of who I am/ personal ethos	I am born with empathy; it is part of my person. I recognise and articulate empathy as part of my personal ethos <u>Code examples:</u> Design is my calling (<i>in vivo</i>) Empathy - part of who you are? Empathy = personal ethos	21
15	Empathy related to environment	The environment in which interactions take place can impact empathy <u>Code examples:</u> Designer - being IN the users' environment Empathy - needing a no pressure environment Empathy needing a neutral meeting space? (<i>in vivo</i>)	8
16	Empathy related to age/ experience	Suggestions that empathy is related to age/ life experience <u>Code examples:</u> Next generation don't have empathy Older people show more empathy	5
17	Interacting: Designer and user	The user- designer relationship from the designer's side <u>Code examples:</u> Designer - communicating with client/user Designer - putting skills at service of client (<i>in vivo</i>) Face to face better than google forms (<i>in vivo</i>)	15
18	Interacting: User and designer	The user- designer relationship from the user's side <u>Code examples:</u> involving users is necessary. It's like a... You always need to have real users there (<i>in vivo</i>) User needing to feel the designer is interested in their challenges	4
19	Lack of understanding of empathy	Lack of understanding of empathy or any of its features <u>Code examples:</u> Empathy is abstract Empathy is different to sympathy Empathy is not discussed How much empathy is enough?	18
20	Living as a user	Understanding how the user lives/ experiences the world <u>Code examples:</u> Empathy - invited into their world	7

		Empathy is based on the user's lived experience Users can have heavy stories	
21	Negative effects of empathy	What are the negative effects from showing empathy in design? <u>Code examples:</u> Empathy = emotional labour Empathy = self-destructive Empathy = taking on emotional baggage	17
22	Physical signs to recognise empathy	What physical signs to look for in order to recognise empathy? <u>Code examples:</u> Physical clues vary according to culture Empathy - including body language	9
23	Practice vs educational environment	Practice environment is perceived as very different to the educational environment <u>Code examples:</u> Empathy in professional context different to educational context Not teaching empathy skills	9
24	Recognising little/ no empathy	What are the features to look for in order to recognise little/ no empathy? <u>Code examples:</u> No empathy = creating a barrier No empathy = managing relationship in terms of deliverables No empathy if you appear closed	9
25	Technology and empathy	The role between technology and empathy has been established as negative <u>Code examples:</u> Empathy = can't be translated via digital means Technology contributing to lost empathy	2
26	User contributing to interaction/ process	Users contributing to a community/ design solution/ relationship <u>Code examples:</u> Users - can be resistant Users - can come up new ideas Users - knowing what they need	15

5.4.1 Relationships and networks

In order to create a more rounded, multi-dimensional understanding of the codes, it is important to define the relationships between codes (Charmaz, 2006: 61). The relationship types used in this study are shown in Table 5.3:

Table 5.3: Key to the Relationship Types between codes

	Relationship	Colour
1	Contradicts ...	Light green
2	In order to ...	Black
3	Is a ...	Pink
4	Is associated with ...	Orange
5	Is cause of ...	Black
6	Is opposite to ...	Light blue
7	Is part of ...	Purple
8	Is property of ...	yellow

By assigning different colours to the relationship types, the researcher was able to better visualise the relationships when they become visible in network diagrams using Atlas.ti. This also has an impact on reading the diagrams, as the research progresses towards the theoretical coding stage. Figure 5.13 below shows an example of what the network of relationships between codes can look like once defined (screenshot from Atlas.ti).

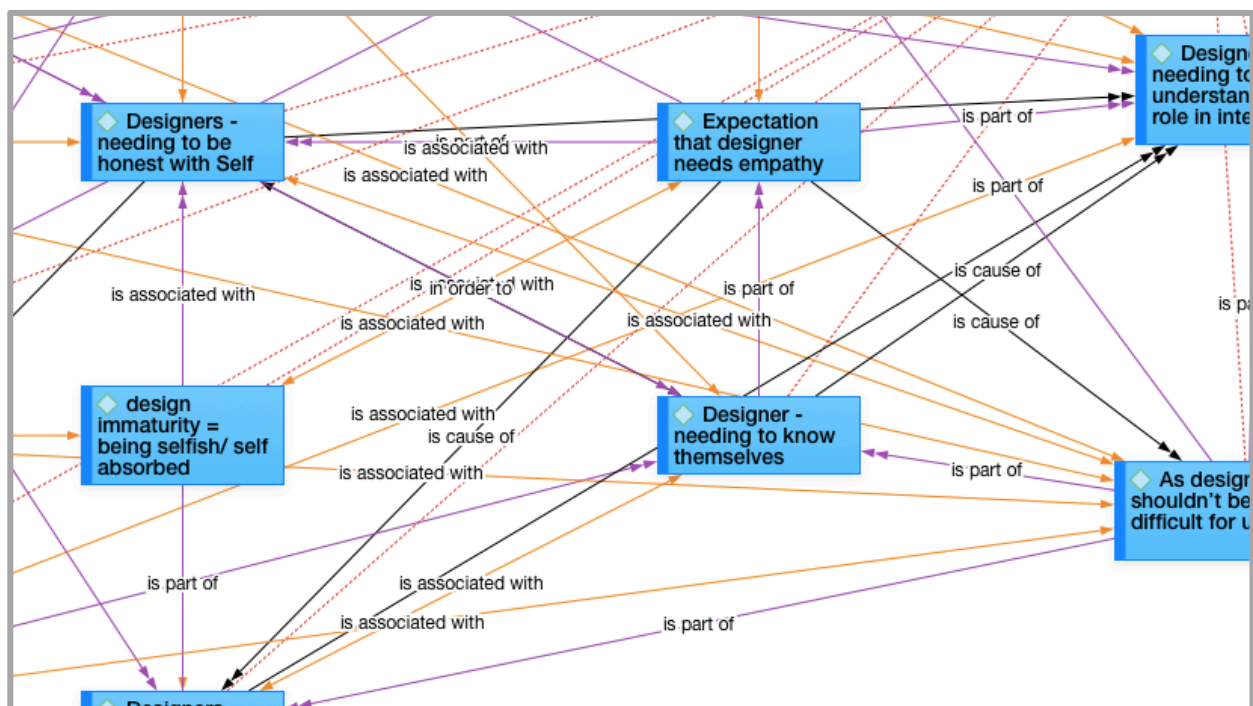


Figure 5.13: Some of the relationship types visible in networks

The process of determining the relations between codes is critical work. It allows for the development of networks of relationships between the existing codes. When these relationships are visualised, such as Figure 5.13 above (a fragment of a much larger network), they are referred to as network views. Network views thus illustrate the process of focussed coding:

- a) establish relationships between codes in the *same* group
- b) Extract the networks around the code groups (the 26 loose groups referred to previously)
- c) establish relationships between codes in the *different* groups

This process of identifying relationships forms part of another code review – the examination of the data (and consequent immersion in the data) also provides an opportunity to reflect on the existing codes (is the initial coding appropriate? conflating any duplicate codes). This intense work ultimately leads to a visual version of each group's networks between codes. It is easy to spot relationship density or outliers in the coding, especially if there are numerous codes. By printing out each groups' network view, this researcher was able to review the codes again in a more comprehensive way. This was crucial for the final categorisation – the identification of the core categories.



Figure 5.14: Some group networks printed for easy reference

The researcher, through the immersion in the data, will frequently start to develop a hunch about what kinds of core categories will appear. These are often recorded in memos at this stage. Holton references Glaser's term of 'personal pacing' (1998) when she describes seeking the core categories:

Thus, the researcher must pace herself, exercising patience and accepting nothing until this inevitable emergence has transpired. Surviving the apparent

confusion is important, requiring the researcher to take whatever time is necessary for the discovery process and to take this time in a manner consistent with her own temporal nature as a researcher: ...personal pacing. Rushing or forcing the process shuts down creativity and conceptual ability... (Holton, 2009: 45).

While this researcher had a hunch about the 'dichotomous'⁵ nature of designers – referred to as “inside-outside” in her memos – she preferred to go back to the data. She referred to the categories of density and groundedness that become visible in Atlas.ti:

- *Groundedness* refers to the number of times that code was used in the primary and secondary documents to describe an event/ issue. Thus, a code that has a groundedness factor of 35, has been used 35 times within the entire data set. A code that was used once (groundedness factor = 1) describes an outlier issue, that was not seen/ referenced again in the entire data set. (See Figure 5.15 below, screenshot from Atlas.ti. Note the highest groundedness score of 52.)

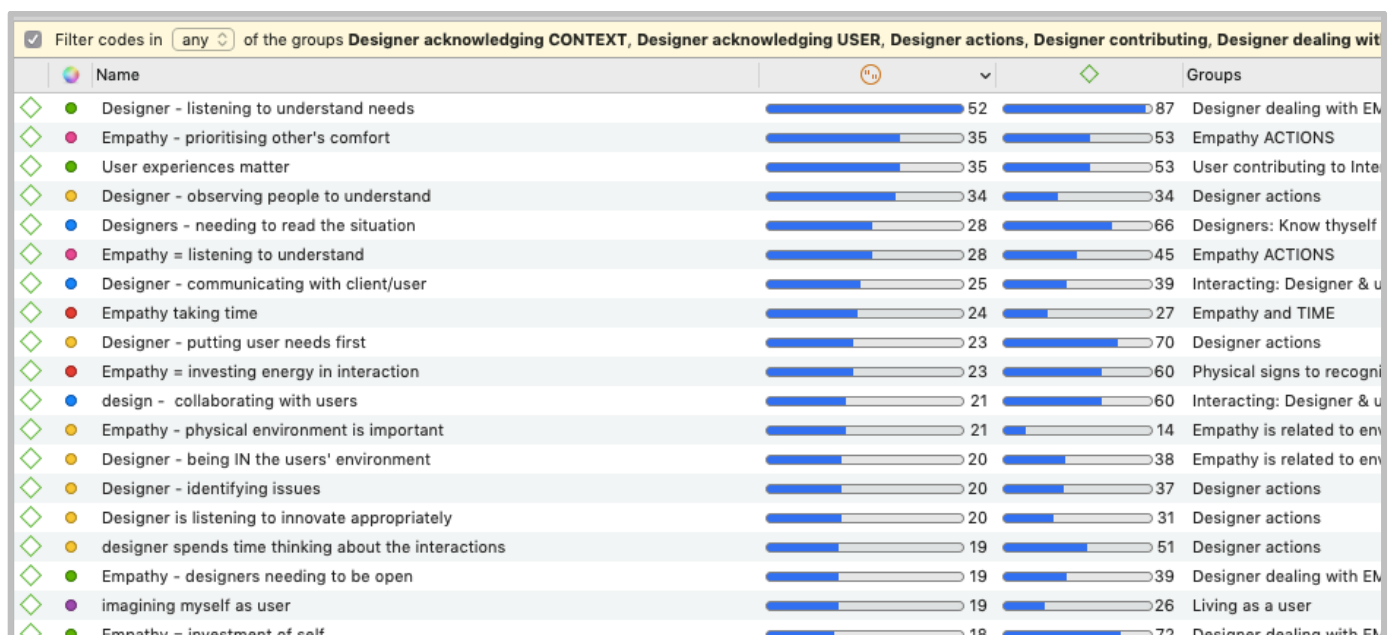


Figure 5.15: Screenshot indicating the groundedness of sample codes

- *Density* refers to the number of other codes that the specific code is linked to/ related to, thus the density of the relationships and networks around that code. A code with a density of 40 would be linked to 40 other codes - across all groups within the whole data set. (See Figure 5.16, a screenshot from Atlas.ti. Note the highest density score of 91.)

⁵ 'Dichotomous' here refers to two distinct parts.

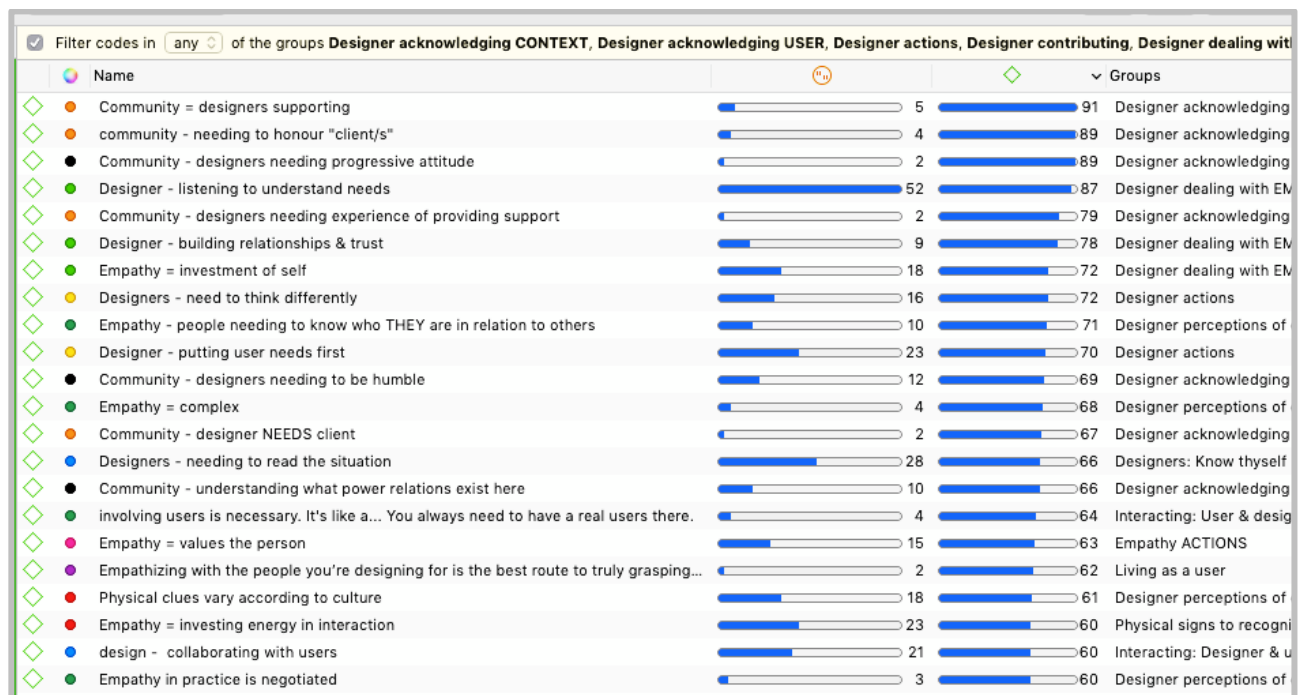


Figure 5.16: Screenshot indicating the density of sample codes

Reviewing the list of groundedness and density of the codes, the researcher noticed the number of “inside” categories that were represented – codes that referred to soft skills, self-awareness, personal ethos, and others of a similar kind. This lead the researcher to try and regroup the codes, and thus discern the core categories, by asking of each group: “What is this group part of? What more abstract idea is it part of/ represent?” This time, the groups were far fewer, as the overarching categories absorbed many groups each.

From the data, the five core categories for this study were identified as:

- Beliefs about empathy
- Self-awareness
- Value of user in design
- Perspectives that drive actions
- Motivation for self-awareness

5.4.2 Core Categories

Because the relationships between the original codes had already been defined, these relationships remain, and are able to describe in more detail, the relationships between the codes in each core category. Thus, network views of each core category were relatively easy to generate, in order to visualise the new bigger relationships.

5.4.2.1 Beliefs about empathy

This category covers the designer's belief about what empathy is within the field of practice. This could be an understanding – or a lack of understanding - but it plays a key role in *how* the designer is able to use empathy (as he/ she understands it) in their professional practice.

This category has absorbed 177 codes, which were divided into 2 groups: *Intrinsic beliefs about empathy* and *extrinsic beliefs about empathy*, in order to manage the volume of individual codes.

The *Intrinsic beliefs about empathy* group had 80 codes, including:

- Empathy - designers needing to be open
- Emotional investment varies according to type of project,
- Empathy - people needing to know who THEY are in relation to others
- Empathy = Being born with it.

Again, because of the density of the networks, Beliefs about Empathy was split into 2 network diagrams. Figure 5.17 shows the networks around the core category: *Beliefs about Empathy: Inside*.

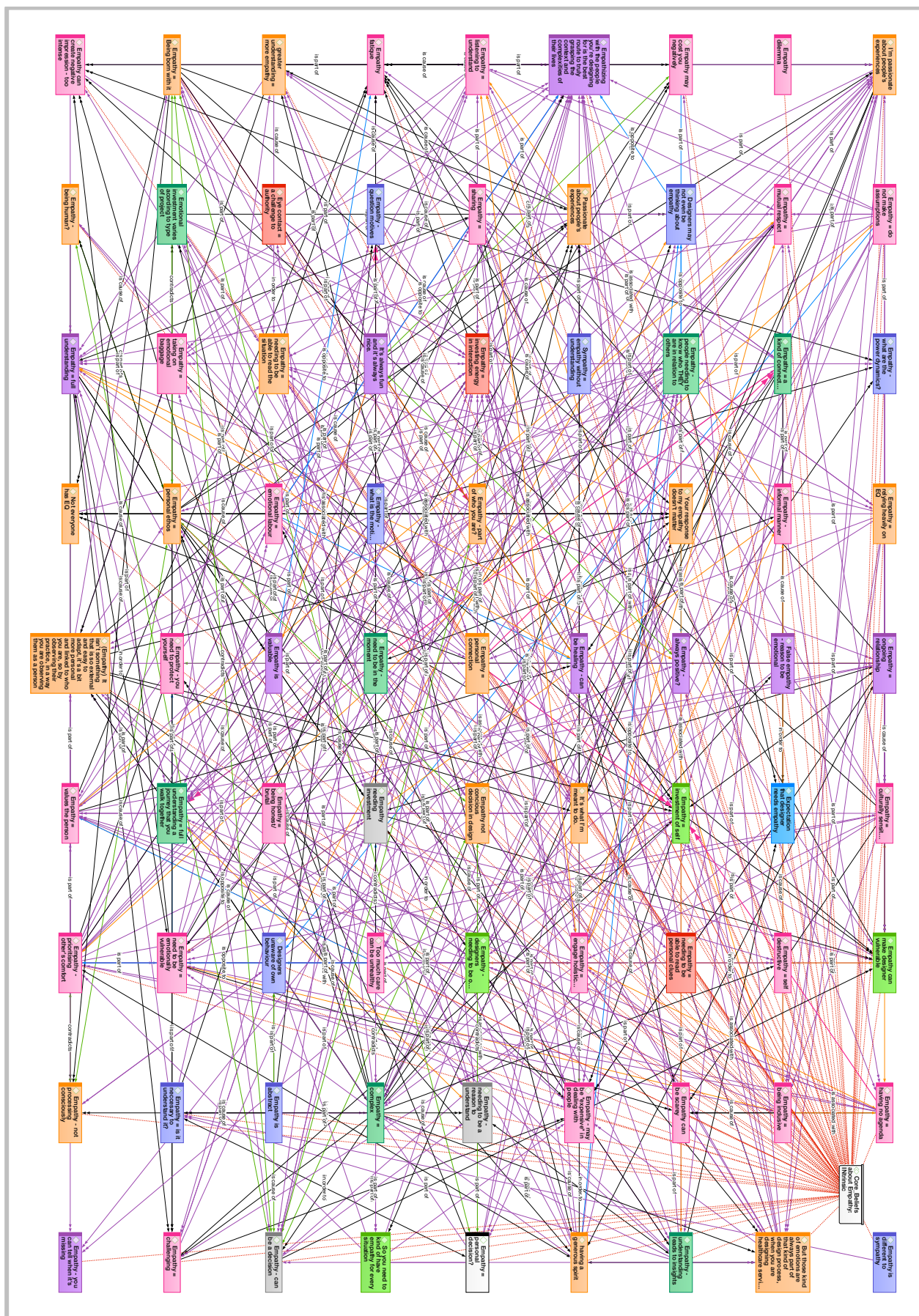


Figure 5.17: Network view of core category: Beliefs about Empathy: Inside

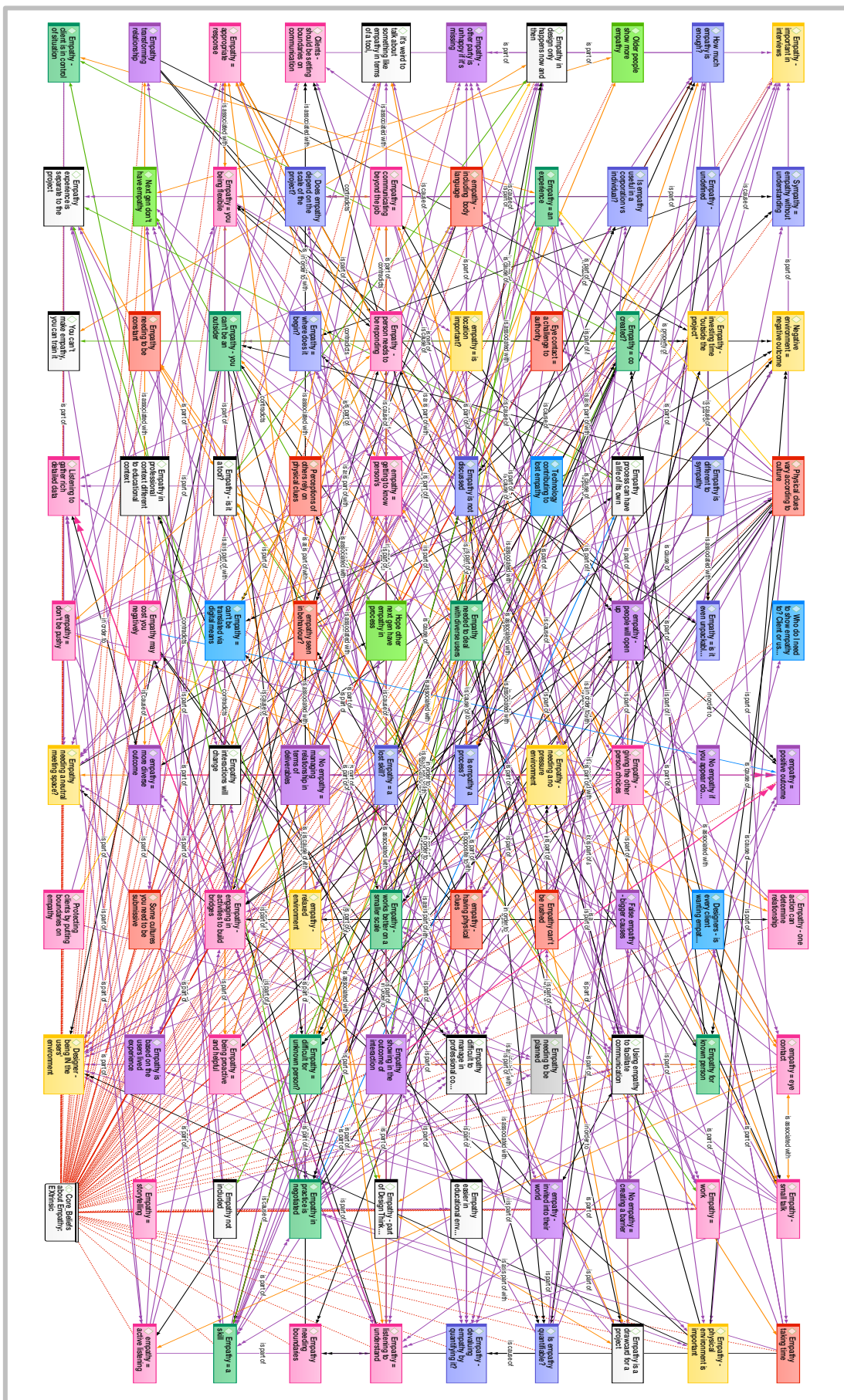


Figure 5.18: Network view of core category: Beliefs about Empathy: Outside

The *Extrinsic beliefs about empathy* group had 97 codes, including:

- Empathy = appropriate response
- Empathy = being proactive and helpful
- empathy = don't be pushy
- empathy = eye contact
- Empathy in practice is negotiated

Figure 5.18 shows the networks around the core category: *Beliefs about Empathy: Outside*.

5.4.2.2 Self-awareness

Any individual's self-awareness would impact their personal and professional behaviour. Understanding their own behaviours, relationships to people, and intrinsic and extrinsic motivators could certainly produce a more reflective professional. This has benefits related to self-control and personal restraint in relationships, which would benefit user-designer relationships as well. This category had 54 codes, including:

- (Empathy) It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are, so by observing their practice, in a way you are observing them as a person (*in vivo*)
- As designers, it shouldn't be that difficult for us to do that (*in vivo*)
- Design is my calling
- Designers - needing to understand THEIR role in interaction
- designers - needing to acknowledge own prejudices
- Designers - needing to be honest with Self

Figure 5.19 shows the networks around the core category: *Self-Awareness*.

5.4.2.3 Value of user in design

This category covers the designer's belief about what value the user offers in the design process. While there are designers that believe that the user is the expert in their field of use and therefore hold opinions useful and necessary to the product design process, there are also designers that view the consultation with users in the design process as merely a formality, with no true significance. This can also be restricted by logistical issues of time or financial concerns. The interactions of the designer are clearly determined, to a degree, by the view they hold of the user's role in contributing to design solutions.

This category had 36 codes, including:

- design - collaborating with users
- Users - can come up new ideas
- Users - knowing what they need
- Users - always needing to be part of the design process
- Involving users is necessary... You always need to have a real user there (*in vivo*)

Figure 5.20 shows the networks around the core category: *Value of User in Design*.

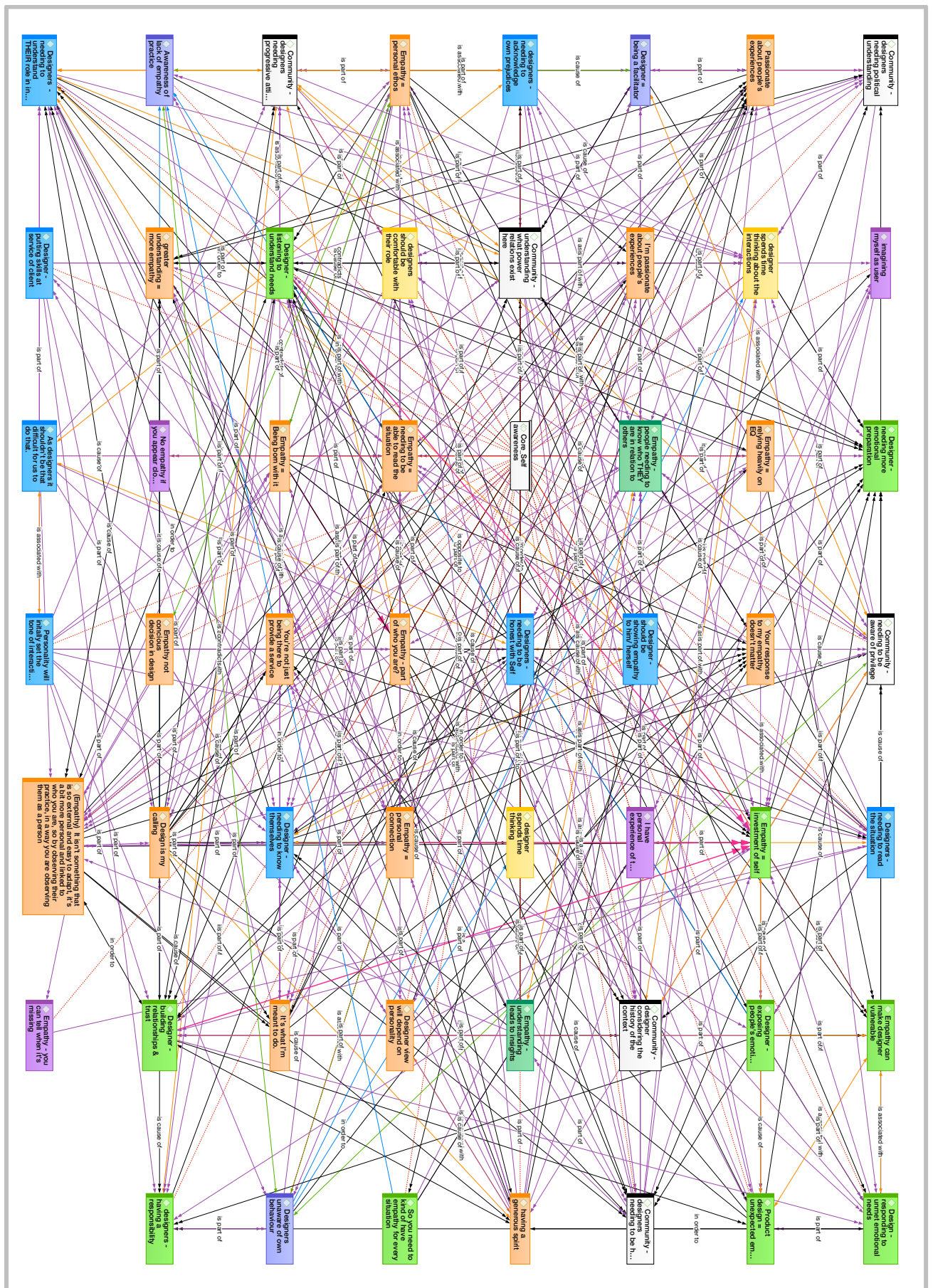


Figure 5.19: Network view of core category: Self-Awareness

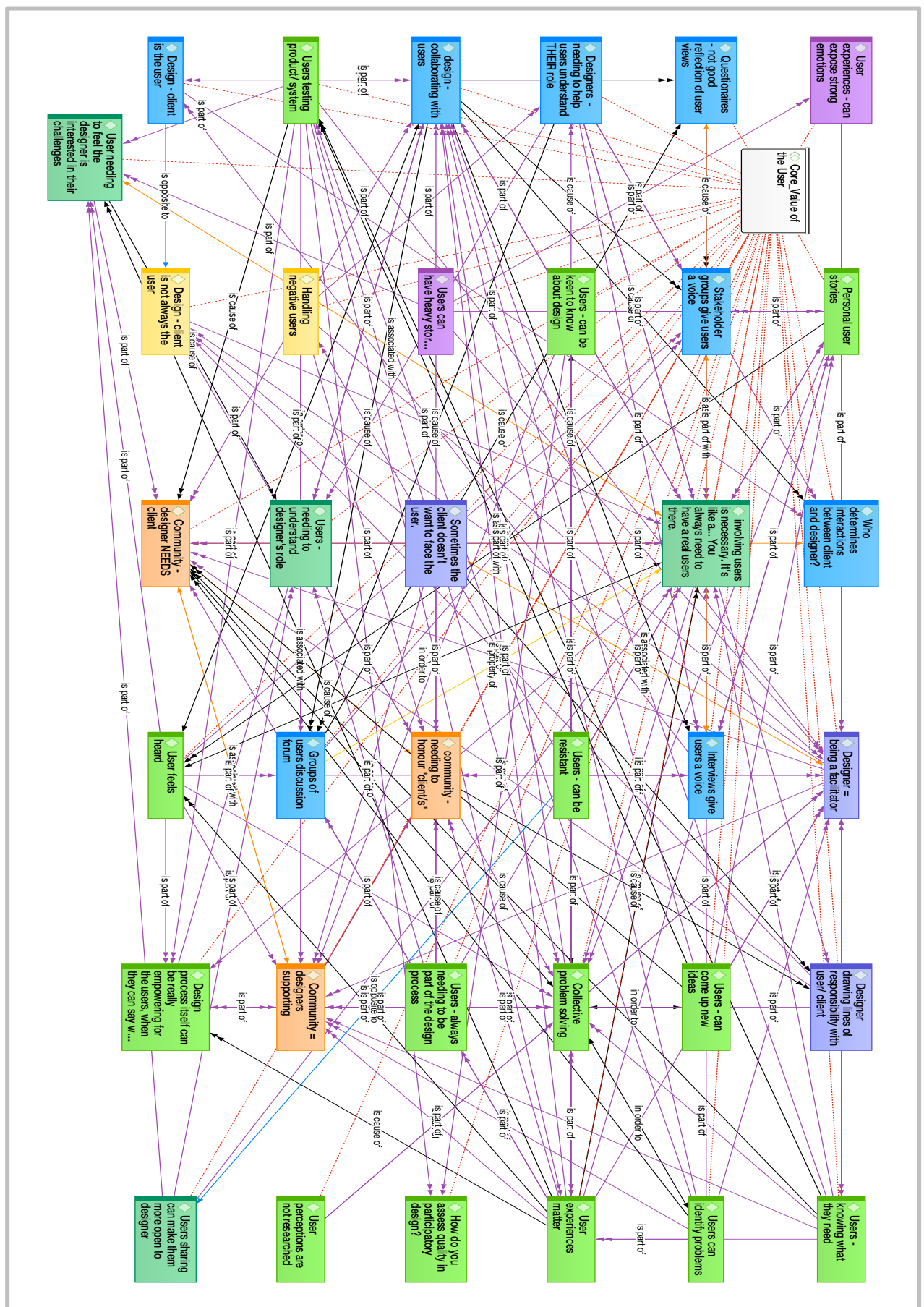


Figure 5.20: Network view of core category: Value of User in Design

5.4.2.4 Perspectives that drive actions

People are motivated by intrinsic and extrinsic factors (Prescott & Simpson, 2004: 247). In the realm of intrinsic stimuli, these would include the person's views and values related to different issues. Similarly, these perspectives could be expected to play a defining role in the personal and professional behaviour of the product designer, including how they tackle the issue of empathy in practice. This category had 84 codes, including:

- Design - researching to identify principle criteria
- Design - responding to unmet emotional needs
- Designer - building relationships & trust
- Designer - needing to communicate carefully
- Designer - observing people to understand
- Designer - putting skills at service of client

Figure 5.21 shows the networks around the core category: *Perspectives that Drive Actions*.

5.4.2.5 Motivation for self-awareness

While self-awareness is an emergent, ongoing process for many people, there are also numerous individuals who have not ventured down the path towards a more in-depth knowledge of themselves. However, at any stage, the person may be motivated by intrinsic or extrinsic factors to change this position, and to pursue a deeper knowledge of themselves, their motivations and behaviours. As alluded to – in the *Self-Awareness* category – any individual's personal and professional identity and behaviour would be impacted by their levels of self-awareness (James, 2017: 1). This is true for designers, and thus understanding what would move a designer towards a greater self-awareness would contribute to understanding their behaviour and attitudes in practice, including empathy. This category had 7 codes, including:

- Reflection - could be a learning tool to understand designer empathy
- Reflection - how to make space for more empathy in practice?

As mentioned in 5.4.2.4 above, motivation can be intrinsic or extrinsic. Participants referred to educational settings as motivators for empathy development, and thus codes related to education are placed in this category. Education is *not* the focus of the study, but forms part of the designer's personal and professional development.

Figure 5.22 shows the networks around the core category: *Value of User in Design*.

What is clear from this figure is that there are designers who do not value user-input, or choose not to practice empathy. These designers may still produce successful designs, from a technical or aesthetic view, or perhaps successful financially. What is less well-defined, is *how success is gauged*, particularly if the product is focussed on a specialist

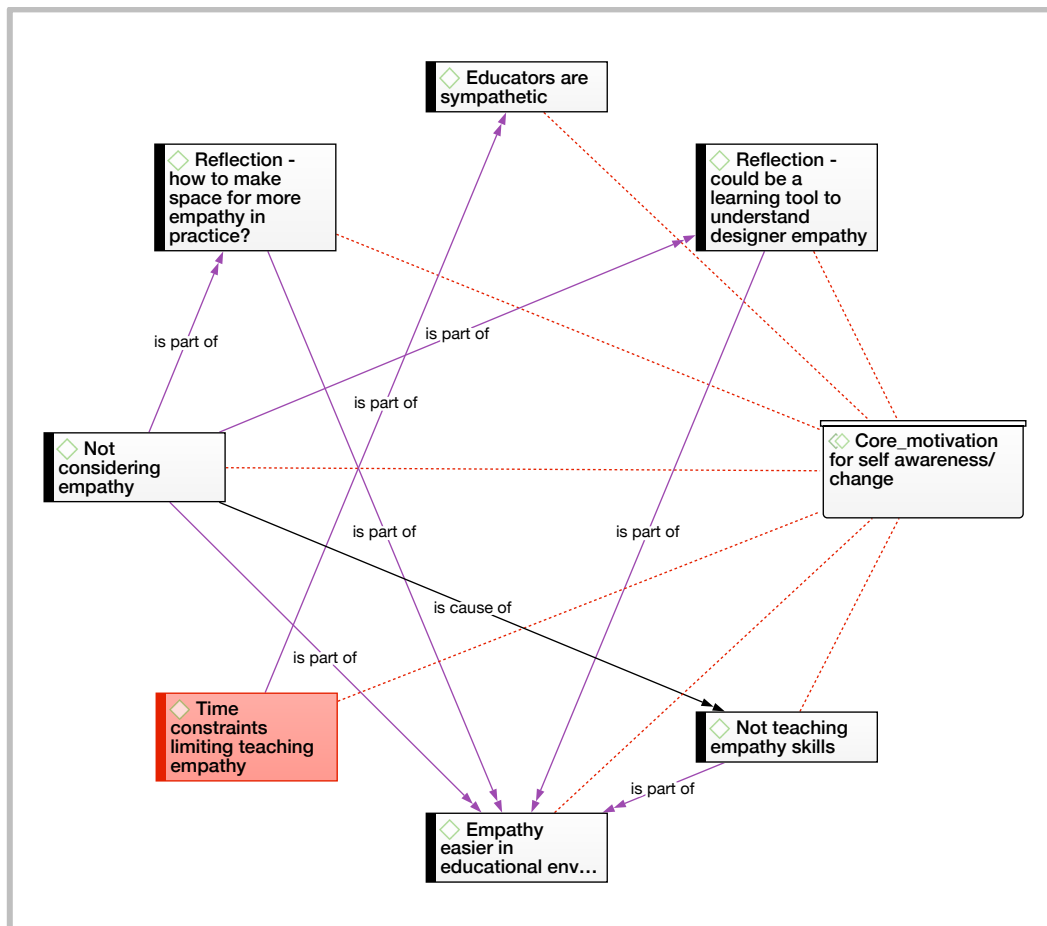


Figure 5.22: Network view of core category: Motivation for Self-Awareness

function (such as an ageing target group). By not engaging meaningfully with the user/user group, the designer risks a less successful product, from the view of meeting the customer's needs.

5.5 Conclusion

Chapter Five gave a view of the data collection and data analysis strategies for this project. The activities of the co-design workshop were described in greater detail, as well as the findings from the workshop. These had a direct bearing upon the methods of data collection in the interviews. The results of the interviews were also discussed. These pieces of data were then discussed in relation to open coding, with an emphasis on the reflexive researcher. The nature and number of the open codes were discussed in detail, prior to describing the point of data saturation in the open coding phase. In focussed coding, the researcher described moving towards the core categories by first establishing loose groups, and then beginning to define the relationships between each code in a group – and then between groups. This analysis work is critical for the development of the emergent theory.

These relationships begin to point towards the identification of the core categories. The chapter ends with a brief description of each core category, and a diagram showing the relationships between the relevant codes. Chapter Six will provide a detailed account of theoretical coding phase, and a further exploration of the emergent substantive theory. The theory will be reviewed in relation to literature, to check for theoretical saturation.

Chapter Six: Core Categories in Context

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6.1 Introduction and Purpose of Chapter

The details of data collection, the findings of the interviews, workshop and the means of data analysis (including extant data) were comprehensively described in Chapter Five, ending with a brief description of the core categories that emerged from the data. Here, in Chapter Six, the context of the categories will be explored - in line with Constructed Grounded Theory. Beginning with an overview of theoretical saturation, the CoGT approach to reviewing literature will be considered. This lays the path for the exploration of the core categories in the context of literature. Each category will be contextualised in literature, and the chapter will conclude with any changes made to the core categories – in light of the context review.

6.2 Reviewing the Categories

As discussed in Chapter Two and Three, the timing of reviewing relevant literature in Grounded Theory is contentious. In Chapter Two, a *non-committal examination of literature in the field* was conducted, in order to sensitise the researcher to the research area. Generally speaking, Grounded Theorists delay the literature review – until after the analysis of data, in order to remain “unpolluted” by existing theories or ideas. Charmaz suggests that the literature review will often go broadly “across field and disciplines” (Charmaz, 2006: 166). In Constructed Grounded Theory, consulting the literature should wait until after the analysis of the data, in order to maintain researcher openness and creativity (Kenny & Fourie, 2015: 1285). Literature will be consulted in an effort to reach saturation in the categories, as well as later – in relation to the emergent theory.

Grounded theorists can return to further interviews, new documents or relook at their existing data in an effort to reach *theoretical saturation*. The researcher is looking for any adjustments to the categories, or sub-categories, or any new concepts that may have been missed. Within all versions, theoretical saturation is desirable, but - as several critics point out – difficult to prove. Charmaz elucidates:

Categories are ‘saturated’ when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of these core theoretical categories (Charmaz, 2006: 113).

In this instance, the review of literature in context, is part of the quest for theoretical saturation. This process establishes the categories, in order to build the theory. The inclusion of participant quotes in the review is to link their perceptions to the categories and remain ‘close to the data’.

6.2.1 Concept of 'inside-outside'

As detailed in Chapter Five, the researcher's feeling that the "inside-outside" aspect of a designer was important, was part of the category development. The density and groundedness of the codes¹ reinforced the possible 'dichotomous'² nature of designers. The inside-outside theme is well illustrated in Figure 6.1 (below), which was developed in the coaching field. The terms used are 'being' and 'doing', as opposed to 'inside-outside'. The 'being' (inside) refers to the assumptions of an individual, as well as worldview, values and beliefs, which become visible – in part – in the 'doing' (outside) of the individual, which may be actions and behaviours.



Figure 6.1: Doing vs Being (Source: Carabi, 2018)

The concept of 'being-doing' is also seen in education, nursing and occupational therapy literature (among others). In *Between being and doing – the nature of leadership of first-line nurse managers and registered nurses*, Johansson, Andersson, Gustafsson and Sandahl describe the 'being-doing' aspect of leadership as:

... a dialectical relation between being (aspects linked to a person) and doing (creating a frame for performing the tasks in the clinic) (Johansson *et al.*, 2010: 2626)

The data in their research suggested that "the person's leadership was influenced by personal traits of character, self-knowledge and awareness", all '*being*' identifiers (Johansson *et al.*, 2010: 2621, 2623). Occupational therapy (OT) focusses on the value of *occupation*, which can also be viewed as professional practice. Wilcock, in her article:

¹ There were many codes that represented '*inside*' properties: such as personal ethos, soft skills, and self-awareness.

² 'Dichotomous' here refers to two distinct parts (repeated footnote from Chapter 5).

Reflections on doing, being and becoming (1999)³, considers the complex relationship between occupation and health and well-being:

A simple way to talk about occupation that appears to appeal to a wide range of people is as a synthesis of doing, being and becoming (Wilcock, 1999: 1)

While '*being*' is described as encompassing the concepts of the nature of the individual, the spirit and aptitudes of the person - as seen in all they do, '*doing*' is sometimes used as 'a synonym for occupation' in the OT environment. In addition, the idea of '*becoming*' is added – as a future-focussed concept. '*Becoming*' in the future holds the potential of self-fulfilment and transformation (Wilcock, 1999: 1). This '*becoming*', in a broader sense, could also be viewed as the development of professional identity. Watson's article, *Being before Doing: The cultural identity (essence) of occupational therapy*, discusses the importance of culture – both of context, and the practice of OT itself, including "appreciating the cultural identity of the profession" (Watson, 2006: 151). The culture within which practitioners find themselves, has an important impact on the '*being*' of the individual practitioner. In addition, this culture would also impact the collective cultural practices or '*doing*' of occupational therapy – thus suggesting that OT practices would vary globally (Watson, 2006: 153). The same could also be said for many professions, including design.

The discussion of the core categories follows, whilst keeping the idea of '*being*' and '*doing*' or 'inside-outside' in mind. The literature related to the core categories of: beliefs about empathy, self-awareness, value of user in design, perspectives that drive actions and motivation for self-awareness will be considered, as part of the context of the categories that emerged from the data⁴.

6.3 Beliefs about Empathy

6.3.1 Empathy in general

Chapter Two introduced empathy, and its broad involvement in many fields – from ethical theory, aesthetics and art, to medicine. Also, mentioned in Chapter Two is the fact that no one definition of empathy has been determined, partly because of its complex nature (also discussed in Chapter Three), and partly due to the varying understandings of the concept (Yagil, 2015: 4; Oxley, 2011: 7; and Coplan, 2011: 4). Oxley, in exploring morality and ethics in relation to empathy, examined various theories of empathy, ethical theories and psychological studies on empathy. She describes empathy as an expression of our

³ This article was first published in 1998 in the *Canadian Journal of Occupational Therapy*.

Reference: Wilcock, A. 1998. Doing, being, becoming. *Canadian Journal of Occupational Therapy*. 65: 248–257.

⁴ As described in detail in Chapter 5.

social nature as humans, in that it is a response to other/s (although not necessarily positive). Her working definition of empathy is:

...feeling a congruent emotion with another person, in virtue of perceiving her emotion with some mental process such as imitation, simulation, projection or imagination (Oxley, 2011: 32).

In *These Things Called Empathy: Eight Related but Distinct Phenomena*, psychologist Batson acknowledges the murky waters of multiple terms, attitudes and behaviours labeled “empathy” in the philosophical, neuroscientific and psychological literature. He identifies eight distinct uses of the term empathy:

1. Knowing another person’s internal state, including his or her thoughts and feelings (also described as “cognitive empathy” or “empathic accuracy”).
2. Adopting the posture or matching the neural responses of an observed other (also described as “facial empathy”, “motor mimicry” or “imitation”).
3. Coming to feel as another person feels (also described as “emotional contagion”, affective empathy” and “automatic emotional empathy”).
4. Intuiting or projecting oneself into another’s situation (also described as “the original definition of empathy” – coined by Titchener in English in 1909).
5. Imagining how another is thinking and feeling (also described as “imagine other” and “perspective taking”).
6. Imagining how one would think and feel in the other’s place (also described as “role taking”, “cognitive empathy”, “projective empathy”, and “imagine self”).
7. Feeling distress at witnessing another person’s suffering (also described as “empathic distress” and “personal distress”).
8. Feeling for another person who is suffering (also described as “empathic concern”, as well as “pity”, “compassion”, and “sympathetic distress”) (Batson, 2009: 4 - 8).

These uses of the term empathy, as identified by Batson, all fall into the *being/ inside* group. The exception is item number 2 - *Adopting the posture or matching the neural responses of an observed other* – which would fall in the *doing/ outside of self* group. In contrast, Yaron Yagil - whilst also recognising the complexity of what we know as empathy - describes the neurological components of empathy. The different components/ functions include: perceptual, motor, sensory, emotional/ affective, cognitive and plasticity. Although they function separately, there are instances where they co-respond or react/ link to each other (Yagil, 2015: 6 - 10). Figure 6.2 illustrates these components, and how they interact.

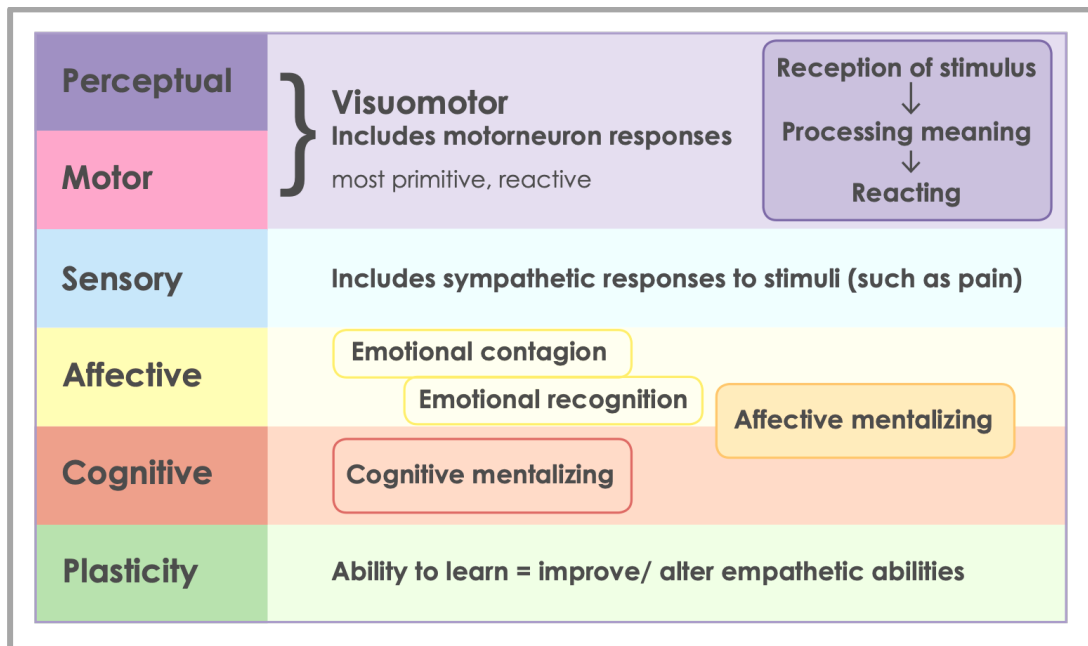


Figure 6.2: The neurological components of empathy (from Yagil, 2015: 6 -10)

In describing empathy from a neurological point of view, Yagil explains it as “not a single construct but rather a collection of several distinct interconnected activities” (Yagil, 2015: 9). The interwoven and complex nature of the empathetic⁵ activities can thus be expected to offer an unlimited number of combinations of interactions, thus each person’s empathetic skills within the same circumstances can be expected to vary considerably (Yagil, 2015: 10). These actions are sometimes voluntary, and sometimes reactive, and largely fall within the *being* aspect. However, the *doing* parts of Yagil’s components include the cognitive component, as well as plasticity – the ability to learn behaviours. A similar combination of *being* and *doing* is seen in Coplan’s identified key features of empathy: affective matching, other-orientated perspective taking and the ability to view oneself as separate from another. These, in combination, can facilitate a person gaining a deeper understanding of another’s life experience through empathy (Coplan, 2011: 6).

While popular views reinforce the notion that empathy is a gateway for pro-social behaviours and a motivating factor in altruistic actions, this is not always the case. Larocco, in *Empathy as Orientation rather than Feeling: Why Empathy is Ethically Complex* (2015), makes it clear that empathy has been sentimentalised, and the situation is a considerably more intricate. He outlines four key aspects of empathy:

- Empathy is an orientation (Larocco, 2017: 4) – of feeling and cognition toward and through the other:

⁵ The terms ‘empathetic’ and ‘empathic’ are frequently used interchangeably. In this instance, the term ‘empathetic’ is used – as referred to by the author, Yagil.

... empathy itself is not an emotion or feeling; it is not a *content*... It is structured 'between' people, having no specific content of its own; whom it imitates and what feelings it mimes are situationally and subjectively specific... (Larocco, 2015: 18).

- Empathy is a combination of emotion and cognition
- Empathy is selective
One does not necessarily empathise with all others, nor all their emotions. One may feel less inclined to empathise with those perceived as antagonistic (Larocco, 2017: 4, 5).
- Empathy is not always positive, and can provoke negative emotions (Larocco, 2015: 18, 21)

A major issue with this view (of empathy as an orientation, not a feeling) is that empathy in itself is not a motivator. How one responds to the emotions one feels in an interaction is one's responsibility, and whether it results in caring behaviour is dependent upon one's disposition, life experience, etc. (Larocco, 2015: 22; Larocco, 2017: 4). This concept of empathy is original, in that it does not reside with either person, but *between* the people. Despite this, as an orientation, it resides as part of the *being* of each of the selves – in terms of attitudes or beliefs about empathy.

Authors Cuff, Brown, Taylor, and Howat, with backgrounds in Health and Life Sciences and Psychology and Behavioural Sciences, emphasise this sentiment: that "empathy is not a well-defined notion" despite its long history, and with numerous definitions (2016: 144). This inconsistency has negatively impacted on practice and research and, as a result, the authors examined a variety of definitions of empathy, and managed to identify a total of 43 distinct definitions/ concepts (Cuff *et al.*, 2016: 145 - 147). The list of the 43 empathy definitions identified is available in Appendix G. These definitions were then further examined in relation to the following criteria:

- **Cognitive or Affective?**

Affective empathy deals with the experience of an emotional response, while cognitive empathy is a decision of the individual to understand the feelings of another (related to Theory of Mind). While quite distinct, several definitions include both concepts. The authors recommend that when considering a *cognitive only* view of empathy - the total *lack of involving feelings* contrasts with the most accepted views of empathy - and thus the term *empathic understanding* (Rogers, 1967⁶) should be used instead (Cuff *et al.*, 2016: 147).

⁶ C. Rogers is cited more than once (1967 and 1975) in the article by Cuff *et al.* The appropriate reference details follow:
Rogers, C. 1967. The therapeutic conditions antecedent to change: A theoretical view. In: *The Therapeutic Relationship with Schizophrenics*. Edited by: C. Rogers, E. T. Gendlin, D. J. Kiesler, and C. B. Truax. 97–108. Madison: University of Wisconsin Press

- **Congruent or Incongruent?**

This question deals with whether the individual feels the congruent emotions with observed individual. This is dependent upon factors such as imagination and personal experience. Analysis concludes that the individual can experience similar, but not identical emotions (Cuff *et al.*, 2016: 148).

- **Subject to Other Stimuli?**

Some definitions suggest that individuals can experience empathy without being in contact with the person (real or imaginary), but by exposure to other stimuli – such as books, films and verbal statements. Research confirms that this is possible (Cuff *et al.*, 2016: 148).

- **Self/Other Distinction or Merging?**

Merging of the idea of self with the other helps to understand their emotions. However, a sense of awareness that “these are not *my* emotions” is what separates empathy from emotional contagion. Thus, although some merging is necessary, a clear distinction between the emotions of the self and the other is maintained (Cuff *et al.*, 2016: 149).

- **Trait or State Influences?**

Some definitions imply that empathy is a stable trait by describing it as an “ability” or “capacity”. Contrasting this, however, is the idea that empathic responses may vary according to context (the term used here is ‘state influences’ – such as: in x or y situation/ context). The analysis confirms that both trait and state influences affect empathy (Cuff *et al.*, 2016: 149).

- **Has a Behavioural Outcome?**

There is much evidence to suggest that action frequently follows empathy, but also arguments that there is separation of empathy and action. In some cases, helping actions can precede empathy (such as a response in an accident/ emergency). In addition, the accompanying action is not necessarily prosocial nor helpful behaviour. The authors conclude that behaviour is *not* a part of empathy, nor definition thereof (Cuff *et al.*, 2016: 149).

- **Automatic or Controlled?**

There are some automatic empathy responses (such as mirror neuron responses), but equally, empathy can be seen as a state of mind that the individual has control over. Thus, the analysis suggests that empathy can be elicited automatically, but is also under the influence and control of decisions of the mind (Cuff *et al.*, 2016: 149, 150).

With these factors taken into account, the resulting definition of empathy is proposed:

Empathy is an emotional response (affective), dependent upon the interaction between trait capacities and state influences. Empathic processes are automatically elicited but are also shaped by top-down control processes. The resulting emotion is similar to one's perception (directly experienced or imagined) and understanding (cognitive empathy) of the stimulus emotion, with recognition that the source of the emotion is not one's own (Cuff *et al.*, 2016: 150).

6.3.2 Empathy in design practice

Compared to the long history of empathy in the fields discussed in the previous section, the relationship between empathy and design is very young. It is also little wonder that there is such a variety of ideas in respect to what empathy may be in the design field, as the single definition of empathy remains contentious. The specific literature in the field is limited, as explored in Chapter Two.

This category describes what the designer believes about empathy in the practice of product design. How the designer is able to understand - or not understand - empathy, will have an impact on their design practice. Due to the high volume of codes in this category, they were divided into 2 groups: *Intrinsic beliefs about empathy* and *extrinsic beliefs about empathy*. The group named *Intrinsic beliefs about empathy* held the codes related to the designer beliefs that empathy was *inside* oneself, a part of themselves/ their emotions. The other group, *Extrinsic beliefs about empathy*, absorbed all the codes that indicated that empathy was something that was an action/s in design, part of *doing* design - *outside* of oneself. The designers named various actions/ physical responses that could be evidence of empathy in the product design process.

The *non-committal examination of literature in the field* in Chapter Two was part of the process of sensitising the researcher to the research area. Because the area of study was the examination of empathy in professional product design, the researcher had identified a list of definitions/ suggestions as to what empathy in design was, from the literature. The researcher then re-examined these definitions of empathy in design, as exposed through the literature, now with the idea of the '*inside-outside*' aspects of the designer. Table 6.1 below indicates the view of empathy as part of *doing* (activities/ tools/ methods; *outside* of self) or *being* (*inside* of self) a designer.

Table 6.1: Empathy as part of Doing or Being (from systematic literature review)

Empathy is: part of DOING/ OUTSIDE of self		Empathy is: part of BEING/ INSIDE of self	
(Vyas, van der Veer & Nijholt, 2013: 437)	A tool/ means of humanising the user	A way of thinking	(Segal & Fulton Suri, 1997)
(Kouprie & Sleeswijk Visser, 2009)	A quality of the design process	A fundamental capacity, one that is essential for our participation in society	(Segal & Fulton Suri, 1997)
(Segal & Fulton Suri, 1997)	A tool	A quality of communication	(Sleeswijk, Visser, Van Der Lugt, & Stappers, 2007:36)
(Sleeswijk <i>et al.</i> , 2007:40)	A way to identify with the user	A skill	(Mattelmäki, 2008)
(Sleeswijk <i>et al.</i> , 2007:40; Vyas <i>et al.</i> , 2013: 437)	A means of understanding	A way of being open	(Sleeswijk <i>et al.</i> , 2007)
		An ability	(Kouprie & Sleeswijk Visser, 2009)

As co-facilitator PV observed:

“(Empathy) It isn’t something that is so external and easy to adapt, it’s a bit more personal and linked to who you are, so by observing their practice, in a way you are observing them as a person” (PV, 2017).

A deeper understanding of the other person relies upon the engagement between the designer and the user. The term *user* has many negative connotations and associations. The dehumanisation of the participants in the design process is attributed to the emotional detachment of the designer, who turns a person into a “user”, simply part of a category (Ho, Ma & Lee, 2011: 96). This objectifying stance is far from rare when dealing with the traditional power roles of designer and user. *User* seems to be generic and impersonal. There is a need to move from *user as generic* towards *user as specific* – as real people with context/ situation. One can also link this to the theory of situated practice⁷. Ho *et al.* describe a study in *Empathy@Design Research*, which aimed to improve co-design relationships between the users and the designers, through a phenomenological analysis of the relationships (Ho, Ma & Lee, 2011). The idea of design empathy is pivotal, as the designer needs to be able to “feel for the users”. Within the practice of participatory and co-design “the engaging experiences of designers with the users must be seen as an

⁷ Situated practice relies upon the idea that human cognition is contextual, and that experience, interests and behaviours in the real world contribute to meaning and understanding.

essential aspect of design". They also reiterate the need to use empathy as a way to understand users' practices, as a means for a power shift, and to give all participants the sense of having contributed to the design process and outcome (Ho *et al.*, 2011: 96, 104).

6.3.2.1 Empathy as part of 'being'

Building Empathy through Dialogue addresses the complexity of designers' empathy for the user. Highlighting the importance of designers dealing with people, Strickfaden, Devlieger and Heylighen refer to several *inside/being* traits in their definition of empathy:

... empathy is the ability to understand, be aware of or be sensitive to the feelings, thoughts and experiences of another (Strickfaden, Devlieger & Heylighen, 2009: 1).

They propose the idea of "developing and maintaining empathy throughout the design process", by using dialogue as a strategy. Here they define dialogue as the use of conversation and talking, in order to exchange "ideas and values" (Strickfaden *et al.*, 2009: 1). Referring to Bourdieu's concept of cultural capital (1984), the authors suggest that designers are continually building up their cultural capital, as a resource for practice in the future. However, when encountering design challenges where the designer has no life experience or cultural capital, the designer will have to develop empathy and sensitivity to others in order to gain an understanding of the situation (Strickfaden *et al.*, 2009: 1).

The authors acknowledge the designer-centric attitudes of designers. In addition, whilst designing, they generally focus on artefacts – which leaves people/ users on the outside or edge of the process. Also, this is reinforced by the designer's focus on usability and function, rendering people as objects for research. The authors propose using dialogue as a means of repairing the disconnect between designers and the individuals they are designing for (Strickfaden *et al.*, 2009: 3). While suggesting an action – using dialogue (*doing*) – the focus of this intervention is the engagement and exchange of ideas and values, contributing to the development of empathy between the designer and the user – which are *inside* attributes. The participants also referred to the emotional investment required by empathic engagements:

"If you want to be empathetic, you need to invest a lot of yourself and your energy into the interaction, the person, the process" (FC, 2017)

"To be an EMPATH truly, you need to be emotionally vulnerable to situations constantly" (FC, 2017).

Participant CF refers to being emotionally unprepared:

“So, you can’t be desensitised because you’re still working in a very specific field that needs empathy, but so it’s like being prepared for that disarms you... I think what I would have done a long time ago would have been more like emotional preparation” (CF, 2017).

In *Expanding Horizons: Engaging Students with Empathic Thinking*, the authors refer to empathy as:

...the intuitive ability to identify with other people’s thoughts and feelings – their motivations, emotional and mental models, values, priorities, preferences, and inner conflicts (Woodcock, McDonagh, Magee, Ball & Iqbal, 2019: 1)

This definition firmly positions empathy in the *being/ inside of self* realm. Describing the journey of empathy begins as a *felt sense* (“intellectually appreciating the experience of another”) that moves towards a *felt experience* (“the personal understanding gained when experiencing the experience of another person’s experience”), hints at a *doing/ outside of self* component of empathy (Woodcock *et al.*, 2019: 1). The article details activities (*doing*) that aimed to lead young designers to a deeper understanding of ageing. Turnali confirms that empathy is the means to see the customer *from the inside looking out*, to focus on unarticulated needs through a better understanding of the person within the practice of Design Thinking (2016).

Irene Au, in an address: *Design and the Self*, describes the positive psychological role that well-designed products can play in our lives. She suggests that they are “manifestations of mindfulness virtues like: patience, resilience, iteration, focus, empathy” (Au, 2016). She later emphasises that empathy is a ‘virtue’, certainly a part of *being*. It appears that the notion of empathy as the *being/ inside part of self* is certainly part of the designer’s thoughts. GC describes:

“... another point - which I realised in hindsight - is in the beginning I thought empathy was “touchy-feely”, like I need to give that person a hug, kind of. It’s not. It’s not. It’s not at all” (GC, 2019).

“... Um, I don’t know how you prepare for those. The one is, you can when you actually are engaging. You can approach those things. You can point out the elephant in the room trying to get beyond it. So, it’s important to try to break down all these invisible barriers that we have” (BQ, 2017).

However, the *inside/ being* traits required for empathy in design largely fall into more general discussions – such as the concepts of empathy (from social sciences and psychology) described in *Section 6.3.1: Empathy in general*. As design is an action-

orientated profession, the focus on empathy in design tends to be on *doing/ actions* related to design, as the following section shows. Konrath *et al.* reinforce this notion – that the literature is far more consistent in identifying the “correlates and consequences of empathy” than defining the interpersonal complexity (Konrath, Falk, Fuhrel-Forbis, Liu, Swain, Tolman, Cunningham & Walton, 2015: 2).

6.3.2.2 Empathy as part of ‘doing’

One of the earliest advocates of literally “walking in another’s shoes”, Patricia Moore, continues to focus on empathy as a key to good design. Moore, who spent time disguised as an 80-year old woman in 115 cities between 1979 and 1982, in order to better understand the experiences of the elderly, went on to design a variety of innovative products for the elderly. She was busy with the *doing* (actions) of literally *being* the elderly person in order to deeply understand their daily challenges. It is possible that she was orientated in such a way that she valued the idea of empathy in the first place, thus it may have been part of her *being* to begin with. A pioneer for Universal Design and Inclusive design, Moore notes that the infusion of technologies into almost every aspect of our lives means that the responsibility of the designer is greater than ever, “to create products and experiences with a sense of ethics and empathy”, identifying empathy as part of the responsibility of the ethical designer (Kaplan, 2011; BBC Radio 4 Seriously... 2019).

Early use of the term ‘Empathic Design’ is attributed to Leonard and Rayport (1997). Their article, *Spark Innovation through Empathic Design*, in the Harvard Business review, was written from a business point of view. They outline the empathic⁸ techniques as: observation, capturing data, reflection and analysis, brainstorming for solutions, and developing prototypes of possible solutions. While these techniques and activities are situated firmly in the realm of *doing*, the authors admit that using such techniques effectively requires (*inside/ being*) collaborative skills, curiosity in observation and open-mindedness. They emphasise the fact that a more meaningful understanding of the user-person can lead to innovation in new product development, as their implicit needs and desires can be discovered and articulated, potentially leading to a change in corporate strategy (Leonard & Rayport, 1997: 113). Empathy and empathic techniques are thus tools for innovation. In addition, tools can provide unconventional ways of working:

⁸ Peter Landwehr’s paper, “*Empathic Design vs. Empathetic Design: a History of Confusion*” aims to clear up the confusion and misinformation surrounding the use of the terms “empathic design” and “empathetic design”. Using a comparative study of the use of the terms in literature, he found that the term “empathetic design” lacked “a clear definition”, and in most cases referred back to the Leonard and Rayport references for “empathic design”. All other definitions of “empathetic design” were ad hoc, and no alternatives were found in the literature on design methods (Landwehr, 2007: 2).

“I would rather...visualize or tell you a narrative or a story and that’s where the empathy comes in... give you the narrative, give you the story, um and join in the problem... statement, then establish an idea of where we can go with that” (LM, 2018).

In *Empathic Design Research: Moving Towards a New Mode of Industrial Design Education*, McDonagh, Thomas, and Strickfaden report that the chief finding of their research was how heavily student industrial designers relied upon their own experiences and views when designing, and how this “seems to impair their ability to perceive other people beyond a superficial level” (McDonagh, Thomas, & Strickfaden, 2011: 306, 307). Designing for the ‘invisible user’ (‘someone’ or ‘anyone’) means that it was almost impossible to develop empathy and, for this reason, interactions with real people are crucial in the product design process - both in training and product design practice. Students were exposed to empathic design strategies, and real user-experts, reinforcing the idea that interactions with the user is crucial in any product design process. The empathic techniques employed fall in the realm of *doing*, but the interactions with the users may have relied upon the *being* of the trainee designers. Given the increasing heterogeneity of any population, it seems clear that the future of successful designers will lean heavily upon understanding the lived experiences of real, and increasingly diverse, people (McDonagh *et al.*, 2011: 305). Participants focus on the physical aspects of empathy:

“Eye contact, personal cues, those kinds of things, that one would not necessarily do overtly, I think it’s pretty important: those physical things. Physical cues are important in the way that people perceive you, or perceive what it is that they think is happening” (FC, 2017).

Mattelmäki, Vaajakallio and Koskinen reviewed the progress and evolution of Empathic Design in Helsinki (Finland) over approximately 15 years. They describe the current focus areas of Empathic design:

- Sensitivity towards *humans* (developing an understanding of people in their contexts, their lived experiences)
- Sensitivity towards *design* (looking for solutions to problems, and design directions)
- Sensitivity towards *techniques* (using design tools, such as prototyping, visual tools to explore and communicate)
- Sensitivity towards *collaboration* (the co-design process, participatory methods) (Mattelmäki, Vaajakallio & Koskinen, 2014: 76)

This shows a balance between relying upon empathic techniques and practices on the one hand – *doing* – and understanding and sensitivity, which are part of *being*, on the other. While the mindset of Empathic Design started in product design, it has also

expanded to include social issues and services, with the flexibility to be applied over a range of disciplines, not unlike Design Thinking. In theory, Empathic design supports the understanding and uncovering of the real needs of the user-people, as opposed to *assumed* needs. In *Rethinking Design Thinking: Empathy Supporting Innovation* the term supra-functionality⁹ is used, as empathy is used to uncover “these more ephemeral needs of users, which go beyond the utilitarian functionality of the product” (McDonagh & Thomas, 2010: 459). The collective, cultural, and emotional aspirations and longings of the user-person contribute to whether or not a product is considered desirable. In this way, developing empathy as a means to understand the user in their lived experience, can provide a bridge between existing products and future designs, that have the potential to improve quality of life (McDonagh & Thomas, 2010: 463). This also indicates that design empathy is used as a means/ tool (*outside* the self) in the product design process. This is in contrast with the view of participant DM:

“(Empathy) ... it’s not something in your design toolkit, that you go “oh” and pull out the empathy card” (DM, 2017).

Empathic modelling is a technique used to encourage empathy for a user that has different physical abilities to the designer, and clearly forms part of *doing*. These techniques can simulate impairments such as poor vision or hand skills, or lack of mobility (such as being on crutches or in a wheelchair), in order to enhance user-centred design solutions (McDonagh, 2015: 425-426). Other methods used to expand the empathic horizons of the designers include design probes¹⁰, context-mapping¹¹ and experience prototypes¹² (Postma, Lauche & Stappers, 2012: 32). Participant MA suggested that using empathic techniques enhanced her credibility as a designer:

“I think when they saw those methods that I use, like design probes, they understood that “Ok, she’s really interested about my challenges, my needs, my dreams that I would like to have” (MA, 2018).

The case study of a co-design project with the Finnish Parliament refers to empathy in design as a tool/ an aid in design, or as an outcome of the process itself. The designers wanted to introduce empathy into the realm of politics (Tuomala & Baxter, 2019: 99). The authors also distinguish between 2 views on empathy:

⁹ Supra-functionality can be described as functionality that surpasses mere product functionality, and incorporates the dreams or desires of the user (McDonagh & Thomas, 2010: 459).

¹⁰ Design probes are a method of gathering user information – usually with visual design techniques, completed in their own time and context. Examples could be asking user people to keep a diary or visual record of a situation. A probe seeks to identify a situation or problem through the user-person (Mattelmäki & Battarbee, 2002: 266).

¹¹ Developed at the Delft University of Technology, context mapping is now a widely-used technique. Users are presumed to be the experts, and they describe their everyday experiences with products in order to give designers a better understanding of their context of use (Studiolab.ide.tudelft.nl, 2016; Contextmapping.com, 2016).

¹² Experience prototypes aim to give the user-person “an insight into the experience of use” (Battarbee and Koskinen, 2005: 16). These can be especially useful when testing blue sky concepts.

1. **Sensory:** empathy is individual, physical and experiential; e.g. empathise with a blind person.
2. **Dynamic:** empathy is social, cultural and interactive; e.g. creating empathy in the political system. These should be seen as ends of a spectrum rather than mutually exclusive types (Tuomala & Baxter, 2019: 105).

The terms *internal* or *external* are used to describe the outcomes of empathy – i.e. when designing for empathy: both need to be considered. Silvers, in *Empathy as the starting point of innovation*, confirms that empathy is needed – for the people that one is designing for. Whilst emphasising that empathy can be a driver for positive outcomes, she describes “empathy as the lynchpin” for the human-centred approach to innovation of Design Thinking. It is described as one of the “essential tools in the design thinkers tool box”. Empathy is used to gain a meaningful understanding of the perspective of others, and - while empathy alone cannot solve problems - it is a complementary tool to the other phases of design (Silvers, 2013): a clear part of the idea of *doing* design.

6.3.2.3 Empathy as part of ‘doing’ *and* ‘being’

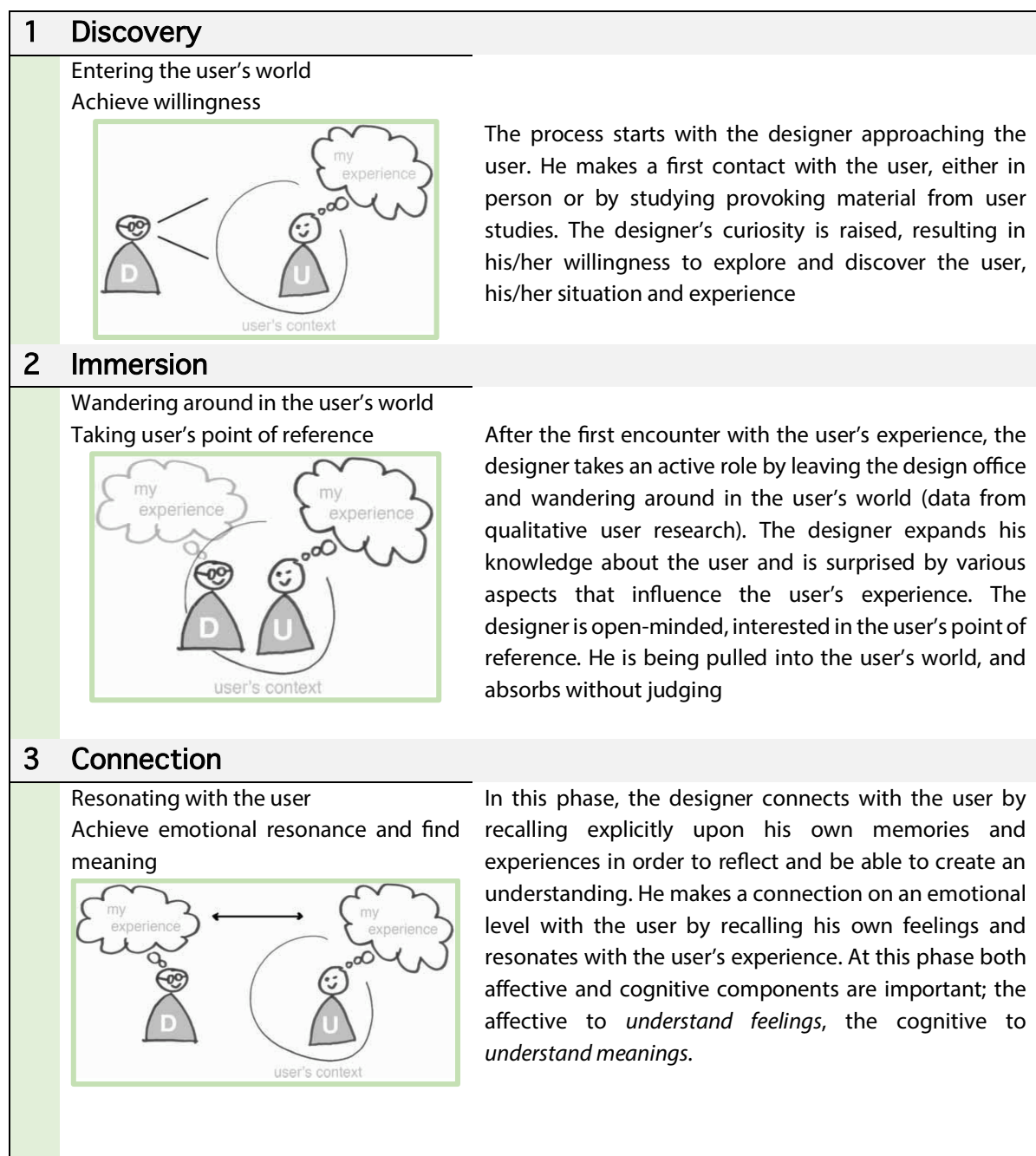
Empathy is the primary tool to inform designers and to inspire them to design products that fit the needs of the user. Although what ‘empathy in design’ is remains vague in much literature, Kouprie and Visser believe that it is “related to a *deep understanding* of the user’s circumstances and experiences, which involves *relating to*, more than just *knowing about* the user” (Kouprie & Visser, 2009: 440). They suggest that a balanced combination of the affective (emotional) response to the other, as well as perspective taking as a cognitive response, is the best combination to gain a meaningful understanding of the user-person (Kouprie & Visser, 2009: 442). This is an articulated combination of *doing* (the action of relating to the user) and *being* (knowing about/ understanding the user). The paper: *A framework for Empathy in Design: Stepping into and out of the user’s life* considers empathy in psychology and design literature sources, in order to more accurately describe how to support empathy within the design process (Kouprie & Sleeswijk Visser, 2009: 437).

Empathy is here described as an “ability”, and varies according to designers. There also needs to be willingness on the part of the designer to engage with the user. In addition, training and practical experience play a role in improving encounters between designers and users. Techniques such as storytelling, role-playing and experience prototyping form part of understanding the experiential aspects of the user’s life, as opposed to the user themselves (Kouprie & Sleeswijk Visser, 2009: 439). Therefore, the designer is *doing* (using those techniques) in order to better understand the user’s experience. After reviewing the psychology concepts in literature, the authors compared the constructs of Edith Stein

(1917), Theodore Reik (1949), and Carl Rogers (1975). These authors all proposed empathy as a process of several steps:

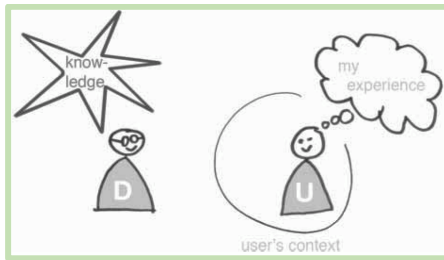
... the movement of an empathiser stepping into and stepping out of the empathisee's life; and in between, the empathiser wanders around in this other person's life. The stepping in is needed for deep understanding, the stepping back for competent action (Kouprie & Sleeswijk Visser, 2009: 444).

This approach of both action and reflection, immersion and separation, has potential for design and forms the basis of the four stage Empathy Framework in Figure 6.3.



4 Detachment

Leaving the user's world
Design with user perspective



The designer detaches from his emotional connection in order to become 'in the helpful mode' with increased understanding. The designer steps back into the role of designer and makes sense of the user's world. By stepping back out to reflect, he can deploy the new insights for ideation.

Figure 6.3: Framework indicating the four phases of Empathy
(Source: Kouprie & Sleeswijk Visser, 2009: 445).

Kouprie & Sleeswijk Visser suggest that activities related to research, ideation and communication would be well suited to apply this framework (2009: 437).

The idea of *being/ doing* or *inside/ outside* has provided a useful means to divide the multitude of concepts that comprise empathy. In particular, in design, the ideas span both empathy as *part of self*, empathy as *part of design action* and empathy as *part of doing and being*. This reflects the multifaceted complexity of the subject.

6.4 Self-awareness

Self-awareness could be described as the process of learning to understand one's own behaviours, intrinsic and extrinsic motivators, biases and prejudices, and relationships to people. This understanding could impact the professional practice of the individual, and in a similar way, the self-awareness of the designer could impact their understanding of empathy and practice within the field. Self-awareness would fall in the area of *being*, because of its reflective nature (looking inwards). As participant LB observed:

"...that before you can learn to engage with people, you need to reflect quite honestly on *who you are* in that space and the power relations that exist here"
(LB, 2017, italics added).

In this category, there was a dearth of literature specifically about product design, in part due to the nature of the word 'design' – used both as a noun and a verb¹³. In addition, literature searches using the terms: "self-awareness of designer" and "designer self-awareness" returned much literature related to self-aware autonomous systems, self-aware smart products and visual sensor modes. However, some literature reporting

¹³ Discussed previously in Chapter 2.

research in other fields of design or for professional practice have been found to be appropriate.

In their article about sustaining a human centred approach in the changing world of design, Battarbee, Fulton Suri and Gibbs Howard discuss the role of empathic design in professional design practice, including examples of IDEO projects. They advocate designer self-awareness as part of “putting design empathy into practice”. They suggest that the level of analysis of critical self-awareness is essential, as the roles of the designer can change from project to project (such as “facilitators, hosts, and stage-setters”) and designers need to tailor their research and techniques to match the challenge (Battarbee, Fulton Suri & Gibbs Howard, 2015: 10). A level of awareness of their own strengths and weaknesses will aid the designer in responding to projects and people:

... but designers also need to build self-awareness about the mode they are operating in, and to develop a mental habit of switching modes: To think and feel, rigorously and deeply (Battarbee *et al.*, 2015: 3).

“... I’ve been very concerned about is that people understand who *they* are in relation to the humans they are working with” (LB, 2017)

Aldrich discusses a case study in the field of Architecture, which addresses the issues of empowerment and self-awareness, by using strategies related to Humane architecture. He states that:

A key premise is that the ability of an architect, artist, or designer to engage with the qualitative dimension of their work relies upon their capacity to empathise, care, and be self-aware (Aldrich, 2005: 147).

While acknowledging that this premise originates from Goethe and Ruskin, the ability of the designer to be able to state their implicit beliefs and assumptions at the start of a project is seen as part of ‘attitude of the designer’, and still necessary for contemporary architectural practice. Cognitive process skills for a Humane Designer (as described by Aldrich) include the “capacity for care and empathy (both towards others, objects and situations)” and the “capacity for a heightened awareness for one’s own emotional response” (Aldrich, 2005: 155). And this awareness of one’s own emotional response is reflected in the data, as MA states:

“...you kind of need to develop your...emotional resilience - in terms of what people actually tell you. It’s quite... some of it is quite hectic” (MA, 2018).

From the professional body for the field of interior design - the International Interior Design Association - *Frames of Mind* discusses the role of emotion in the field of interior design practice. Increasingly, researchers and industrial-organizational psychologists link

success in the professional realm with an individual's ability to "acknowledge, understand and appropriately use our emotions to guide our actions" (Landry, 2019). In addition, in a creative field such as interior design, if you understand your and your client's emotions, you may contribute more appropriate designs, as well as facilitating better relationships with co-workers (Landry, 2019). The same could be true in other fields of design.

The article links high Emotional Intelligence (EI) to success in the workplace. Psychologists Peter Salovey and John Mayer introduced the concept of Emotional Intelligence in the 1990s. They describe EI as:

... a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions... emotional intelligence includes the verbal and nonverbal appraisal and expression of emotion, the regulation of emotion in the self and others, and the utilization of emotional content in problem solving actions (Salovey & Mayer, 1993: 433).

Because EI includes identifying and regulating your own emotions, it forms an important portion of self-awareness. It is this awareness that has formed part of the research that links "higher emotional intelligence skills and success in the workplace" (Landry, 2019). EI, which can be tested using a number of vehicles, can measure mental skills such as "self-awareness, self-management, social awareness and relationship management". This would mean that designers with high EI would be competent in managing conflict efficiently, communicating effectively and dealing with criticism. In addition, they would be able to deal better with environmental realities, mood swings and personal failure (Landry, 2019; Salovey & Mayer, 1993: 437). These are all part of the realities of design practice.

James adds that the designer's self-awareness is a key addition to the problem-solving process, which is important in design practice:

Designers who have a strong sense of self-awareness, understanding their own roles, biases and influences and the larger contexts they inhabit, are overall better equipped to solve problems (James, 2017: 1).

If the designer is aware of their own prejudices and preconceptions, and is able to set aside the ego and listen to the users/ community, s/he is far more open to collaborating and innovative solutions (James, 2017: 2). He goes as far as to say, that as the designer's self-awareness grows, their understanding of others grows too (James, 2017: 6). Self-awareness, as well as the ability to pause and reflect on an individual's assumptions, enhance designer development (James, 2017: 7). Participant LM viewed reflection as critical:

“People, as a human being, you need to stop and assess – that’s what you should be doing” (LM, 2018).

The pivotal nature of self-awareness is reinforced in the research on design education. Creative design action requires *self-awareness* and confidence on the part of the designer, according to the study of a foundation year programme by Lecanides-Arnott (2014: 1085). The article refers to the developing and educating of designers, with established attributes discussed. The importance of self-awareness is confirmed by numerous authors¹⁴, such as Richard Buchanan, author of *Anxiety, wonder and astonishment: The communion of art and design* (2006) and Nelson and Stolterman, authors of *The design way* (2003: 22). *Critical self-awareness* contributes to cultural awareness, and - along with analysis and synthesis - remains one of the key requisites for creative action, innovation and change to occur (Lecanides-Arnott, 2014: 1089, 1102).

Although researching in the field of instructional design, Tracey & Hutchinson’s article - *Developing Designer identity through Reflection* – focusses upon the importance of professional identity. They refer to Donald Schön¹⁵, the father of reflective practice in the working environment, while highlighting the importance of reflection in professional practice – as a key part of identity development (Tracey & Hutchinson, 2013: 29). His key concepts of *reflection-in-action* and *reflection-on-action* are explained in context:

Reflection-in-action focuses on narratives and interpretations that arise while work is occurring, while reflection-on-action is centered on narratives and interpretations that emerge as prior experiences and practices are (re)considered and (re)constructed (Schön, 1983¹⁶, cited in Tracey & Hutchinson, 2013: 29).

The importance of the (re)considering of practices/ reflective practice is echoed in the words of participant GC:

“Probably every day or after a certain situation, I’ll go back and think about the situation - and did I do it right? Or should I go back tomorrow and do something else?” (GC, 2018).

The authors refer repeatedly to the importance of ‘identity awareness’ (Tracey & Hutchinson, 2013: 29, 30,32) as part of the individual designer’s personal development and self-awareness. Some participants were able to verbalise some of what they felt about their identity in relation to design:

¹⁴ The more complete references include: Buchanan, 2006; Garraway, 2010; Leifer, 2010; Nelson and Stolterman, 2003, 22; and Sonntag, 1969.

¹⁵ D. A. Schön is best known for his book, *The reflective practitioner: How professionals think in action*, although he authored other works, including *Designing: Rules, types and worlds* (2009).

¹⁶ Original reference: Schön, D. A. 1983. *The reflective practitioner: How professionals think in action*. New York: Basic Books.

"It is my calling. Universal access is my calling... It's like my thing. It's my passion. It's what I'm meant to do" (CF, 2017).

"...talking about that book, "What Colour is Your Parachute?", (empathy) it's part of who I am. It's part of what I enjoy. I've been going through that (book) and I've realised what, okay, these are my strengths" (GC, 2018).

Job and Freiheit review the role of personality in teamwork in the engineering creative design process. Although it is not discussed specifically, *self-awareness* is considered as part of the personality test results – in the category of *intraception*. The term: 'intraception' is defined as "to engage in attempts to understand one's own behaviour or the behaviour of others" (Job, & Freiheit, 2010). Interestingly, the intern (the youngest member of team) showed the lowest score¹⁷ of 5% for 'intraception'. This shows an interesting link to participant LM's comments about design immaturity:

"...by the very nature of being immature, you could be selfish ... it would be interesting to do some research on immaturity in design... do they stop being students, stop being selfish? You know? Where it's like, sometimes it's like working with a group of kids¹⁸...by the very nature of ... trying to find your own footing, you become self-obsessed and self-absorbed and selfish... and then when do they stop that and move into thinking about other people? ... They just have to move beyond that barrier of being design immature" (LM, 2018).

LM suggests that the younger designer is 'self-obsessed and self-absorbed and selfish', however, this does not necessarily translate into being self-aware – hence the *design immature* individual. Kunrath, Cash, and Li-Ying¹⁹ surveyed Bachelors and Masters level students, to study their professional identity development. Self-awareness formed part of their 'Designers' Professional Identity Elements' for measurement. The results suggested that the progression through higher education showed "a trend of development in self-awareness" (Kunrath, Cash, & Li-Ying, 2017: 423, 427).

According to *Lawyering from the Inside Out: Learning Professional Development through Mindfulness and Emotional Intelligence*, the legal professional body - the New American Bar Association - has a rule requiring lawyers to be "trained in self-reflection, as well as interpersonal awareness and skill" (Martin, 2018). Despite this rule, lawyers are still not trained in these core skills at most law schools. While experiencing lower stress levels, deeper job satisfaction and the ability to be more focussed are described as some of the benefits of developing self-awareness, these are not the main focus. One of the primary

¹⁷ The other candidates scored: 96%, 72%, 55% and 46% for intraception.

¹⁸ LM also works with product design students, here referred to as "kids". They are, in fact, over 18 years old.

¹⁹ *Designer's Identity: Development of Personal Attributes and Design Skills Over Education* was presented at the 21st International Conference on Engineering Design (ICED17), in Vancouver (Canada) in August 2017.

roles of lawyers in society is conflict resolution, and it is the self-awareness benefits of being less reactive and having better relationships that lead self-aware lawyers to be “better at resolving conflict” (Martin, 2018).

Although addressing the business community, the article: *Identity, Self-awareness and Self-deception* offers important insights. Caldwell introduces the concept of self-deception, which creates barriers to self-awareness in both personal and professional contexts (Caldwell, 2009: 393). A strong sense of personal identity and self-awareness is critical in creating relationships²⁰ with others, and why self-awareness remains a key element of Emotional Intelligence (Caldwell, 2009: 395). In contrast, self-deception allows the individual to develop an inaccurate view or belief of themselves. Self-deception can be seen as:

... a form of cognitive dissonance, self-deception has been described as a discrepancy between the way in which one knows she/he *ought to* act and how one *actually* behaves (Caldwell, 2009: 395, 396, italics added).

Some of the consequences of self-deception can be the erosion of trust, as how one lives creates incongruity between declared values and actual behaviour, and the consequent loss of reputation for trustworthiness and/ or honesty. Unconscious rationalisation causes the self-deceived individual “to be insensitive to the nature of his or her commitments”, and is therefore more likely to “overlook duties owed to others” (Caldwell, 2009: 401). But, one of the most problematic results of self-deception is the failure to treat people as valued, but rather to treat them as “an object or a means” (Caldwell, 2009: 397). This depersonalisation can result in distorted relationships or breakdown. Caldwell cites Maslow²¹, in describing self-deception as a form of defence and denial of reality, “because we tend to be afraid of any knowledge that would cause us to despise ourselves or to make us feel inferior, weak, worthless, evil, shameful” (Caldwell, 2009: 396, 397). This idea of self-deception also plays a role in the accuracy of empathy testing. While standardised to a degree, most tests rely upon self-reporting – and are thus subject to the distortions of self-deception. This can be the result of the genuine lack of self-awareness of the person, or because of the person’s motivation to respond in “expected” ways that make them appear in a positive light (Konrath, Falk, Fuhrel-Forbis, Liu, Swain, Tolman, Cunningham & Walton, 2015: 3).

Self-deception is a new concept, and one that needs to become part of the core category of self-awareness. It is possible that designers may practice a form of self-deception in

²⁰ This is largely because self-aware individuals are able to identify and monitor their emotions, are less reactive to criticism, and can change their behaviour in order to relate to and build trust with other people

²¹ (Maslow, 1962: 57)

Full reference: Maslow, A. H. 1962. *Toward a Psychology of Being* D. Von Nostrand Company, Princeton, NJ.

relation to peer expectations that relate to empathy – in ways other than just self-reported testing.

6.5 Value of user in design

A designer's perception about the value that users contribute in the design process has an impact on both the processes and the outcomes of design projects. The two extremes are:

- the designer who believes that consulting the user offers no benefit to the project, and thus does not consult the user.
- the designer who believes the user has expert advice to offer within a specific context, with valuable insights and observations to contribute to the design project. The designer is likely to maintain an ongoing relationship with the user.

Between the two extremes are a number of variations – including the designer who believes that consulting the user is an obligation, with little significance to the design project – and does indeed consult the user as a formality. Designers who believe that there is value in the relationship with users may also be hampered by limitations such as time or budget.

“...involving users is necessary. It's like a... You always need to have real users there” (MA, 2018).

Co-creation was introduced in Chapter One as part of the background to this study. Co-design describes the relationship and interaction between untrained individuals and trained designers – with the aim of developing a design through collaboration (Sanders and Stappers, 2008: 6). Figure 1.1 in chapter 1 – indicates the “current landscape of human-centred design research as practiced in the design and development of products and services” as at 2008. This diagram illustrates the overlap between several areas of research and design that involve other people in the process, such as user centred design, participatory design, design and emotion, and Scandinavian design. The diagram shows the range along the spectrum from *user as subject* to *user as partner*, and from *research-led* to *designer-led* processes.

The key issue of difference between user-centred design and co-design is that the non-designer is no longer simply a passive object of research, but rather, through collaboration, plays an *active role in the design process*. It's essential to understand that both users and designers bring expert skills to the process, however, it is essential to ensure that users have appropriate skills to express themselves in the collaboration – in order to prevent a power imbalance. Tools, methods and co-designing techniques can

help to level the playing field in this respect. Co-design, as a collaborative method “will change how we design, what we design, and *who* designs” (Sanders & Stappers, 2008: 15, italics added). In many cases, the designer becomes a facilitator: either between parties, or simply of the user in the design process:

“That’s probably another thing of user-centred design... is to read the client where they’re at and kind of like, just, just push the next limit. Help them to see that can work, and then they’ll get used to it, get comfortable and then go to the next one” (GC, 2019).

The complex nature of the relationship between the designer and the user is discussed in *Building Empathy through Dialogue*. This has been touched upon in the earlier section: *Empathy as part of ‘being’*. Key to note is that the designing process is, by default, designer-centric. This can mean that the user is seen simply a means of collecting information, to expand the designer’s cultural capital (Strickfaden, Devlieger & Heylighen, 2009: 1). For this reason, it is crucial to get people involved as experts, make meaningful connections with all the people involved in the collaboration, preserve their unique identity, and acknowledge their contribution. Some of this can be addressed by encouraging dialogue between all parties, and dialogue can place users in a new position: “the inside of designing”, as opposed to operating in a peripheral role (Strickfaden *et al.*, 2009: 3). Acknowledging the value of the alternative perspective of the user is important, as is creating and showing mutual respect and genuine concern for others (Strickfaden *et al.*, 2009: 3). This creates a safe space for users to share, as expressed by participants CF and MA:

“I create stakeholder groups and we have the forum, and then we have discussions” (CF, 2017).

“... they can say their experiences, their worries, their needs... They can share their knowledge inside there” (MA, 2018).

Yoko Akama links being ethical to being a human-centred practitioner in design in her *A 'Way of Being' in Design: Zen and the Art of Being a Human-Centred Practitioner*. She likens designer development to the constant shifting of locating one’s position in the world – in relation to *others*: “people, animals, objects and environment” (Akama, 2012: 64). The connection between the self and others is part of self-awareness and reflective practice, that is required for the transformation of the designer to a human-centred practitioner:

The transformative process is more than cognitive learning or professional development – it is in fact a process of self-awareness that comes from continually reflecting on our activity, our behaviour and how we are with others. This is reflective practice (Akama, 2012: 64).

The author contrasts human-centred design as “a method of gathering and delivering data on users and their context”, with the Japanese concept of ‘human being’. The word is *ningen*, which is made up of two characters: *between* and *person*. This *in-betweenness* is different to the individual concept of human being in Western culture (Akama, 2012: 68). The focus is on being a designer in the world, and the implications it has for relationships in professional practice, including those with users and clients. In fact, Akama suggests that “empathy, thus resides in the *betweenness of people* and the *betweenness of people and objects*” (Akama, 2012: 74). This ties strongly to Larocco’s concept of empathic orientation (discussed in section 6.3.1: Empathy in general). Her approach to human centred design and working with users is hinged upon connection, self-awareness, the “practice of practising design and the continuous reflection upon it as a *way of being*” (Akama, 2012: 75, 76).

All sources acknowledge that the user has a role to play in the design process, it is simply the level of involvement and the power dynamics that vary. Participant BQ, reflecting upon a community design project:

“... it could have been maybe more embedded. I mean it was your classic top-down kind of *user as subject* ...it wasn’t a bottom up *user-as-partner*” (BQ, 2017).

6.6 Perspectives that drive actions

The codes from the data suggested that perspectives of the designer serve as motivation for actions. There are several perspectives that could drive actions within a design project, however. As a result, during the process of considering the literature context of all the categories, the researcher began to realise that the title of this category: *Perspectives that drive actions* was too vague. Consequently, the researcher reviewed the codes in this category, and codes included:

- Designer - building relationships & trust
- Designer - needing to communicate carefully
- Designer - observing people to understand
- Designer - putting skills at service of client
- Design - researching to identify principle criteria
- Design - responding to unmet emotional needs

Many codes were related to the understanding or expectations of the role of the designer and design. And these were then (in part) what motivated the designer’s actions. This ties to self-deception (discussed in section 6.4: *Self Awareness*) in the sense that a designer could end up in a web of self-deception – overwhelmed by the sense of expectations related to the role of the designer.

As a result, the perspectives to drive actions could include:

- The view of self/ personal identity/ *being* myself (already discussed earlier in the chapter: self-awareness)
- The view of design profession/ designer professional identity – *being* a designer/ *doing* design

This combination of internal and external factors that drive action is echoed in the article, *Designer's Identity: Development of Personal Attributes and Design Skills Over Education* (2017). Professional identity development is covered in many fields: including Management and Human Resources, as well as Psychology – they study where occupational identity and personal development overlap, as well as the personal response to the work environment and professional competency. However, Kunrath, Cash, and Li-Ying, in their 2017 article, describe the field of designer professional development as underexplored – including the specific design characteristics (Kunrath, Cash & Li-Ying, 2017: 420). They divide the field of Designer's Professional Identity (DPI) in to 2:

- **Design Skills:** these are related to specific practise (*doing/* actions). These are generic, not specific to an individual themselves. Can be technical or cognitive or behavioural skills, specifically related to design practice and activities.
- **Personal attributes:** these are the *inside/ being* of self. These deal with character, attitudes, values, feelings and the expression thereof (Kunrath *et al.*, 2017: 420, 421).

The Designers' Professional Identity elements - divided into personal attributes and design skills - used by the authors for measurement are shown in Table 6.2 below.

Table 6.2: Designers' Professional Identity Elements for measurement
(Source: adapted from Kunrath *et al.*, 2017: 423).

Category:	Personal Attributes (<i>being</i> a designer)
Elements	Description
Ethics	Awareness and positioning about any possible environmental, social, health or design life performative consequences, or lack of compliance to legislation.
Emotions	Sensitivity to external inputs, self-awareness, and management of personal feelings, also related with moral and empathetic aspects
Social abilities	Perceived facility on the exchange of tacit knowledge via joint activities: being together, living in the same environment, sharing experiences, and transferring ideas to other people.
Leadership	A sense of autonomy and managerial attitude, searching and promoting ideas among strategy and business view together with peers guidance and inspiration.

Responsibility	Motivation and willingness to learn, assuming responsibilities from mistakes, conscientiously assuming risks, taking care of project details, deadlines, and working within own beliefs
Openness	Acceptance and embracement of new and unusual ideas or methods, being able to make changes to the work plan relying on the ability to improvise and remake. Also refers to the capacity to deal with different topics and to work with people from different cultures, ideologies or beliefs.
Confidence	Certitude of its own personal abilities and professional competencies, being able to embrace innovative ideas and to start challenging projects, justifying own beliefs and (ethical) work.

Category:	Design Skills (<i>doing design</i>)
Elements	Description
Cognitive Skills	The capacity of think 'designerly'; understanding the nature of the problem to be solved; developing a distinct way of thinking that set the notions about the problem and solution spaces; demonstrating a high level of abstraction ability during exhaustive idea generation processes, subjective interpretations, and evaluation rounds. These dynamics of understanding, thinking, abstracting and evaluating the design problem leads the designer to set strategies of learning, problem framing, solution development, and problem-solving that allow the flow of these cognitive abilities.
Communication Skills	Awareness of it communicative ability in a personal and interpersonal level. It comprehends the capacity to communicate clear and directly, attending to details and empathizing with an audience. Also, to make public presentations, set collaborations, establish rapport, and communicate among a team.
Technical Skills	Educational and practical knowledge in design. It undertakes awareness of basic and specialized competencies that compound the formal education in design, and also technical language, imagination/representation quality and speed, IT competencies, negotiation, and knowledge appliance ability that compound competencies based on practice, expertise and know-how.
Management Skills	Perceived managerial competence in a personal level and with the colleagues or among the team. Also, competence in developing and managing the project such as planning, progressing among the tasks and phases, and evaluating effectiveness and outcomes.

Of special interest are the elements: 'Emotions' and 'Openness' from the personal attributes cluster:

Emotions: Sensitivity to external inputs, self-awareness, and management of personal feelings, also related with moral and empathetic aspects

Openness: Acceptance and embracement of new and unusual ideas or methods, being able to make changes to the work plan relying on the ability to

improvise and remake. Also refers to the capacity to deal with different topics and to work with people from different cultures, ideologies or beliefs (Kunrath *et al.*, 2017: 423).

The 'Emotions' element is full of *being* identifiers (including empathy), and the 'Openness' element is largely *being* items, but also includes a *doing* aspect: "being able to make changes to the work plan relying on the ability to improvise and remake". This indicates how closely interwoven the elements really are. That *doing* item could also live in the 'technical skills' element of the category: 'Design skills (*doing* design)'. In addition, the 'social abilities' element is such a blend of both types of items:

Social abilities: Perceived facility on the exchange of tacit knowledge via joint activities: being together, living in the same environment, sharing experiences, and transferring ideas to other people (Kunrath *et al.*, 2017: 423).

Being items like: 'being together' and 'sharing experiences' balance the *doing*: 'living in the same environment' and 'transferring ideas to other people'. This reflects the nature of the whole concept of designer professional identity – that the personal attributes have a direct impact on responses and actions in the designer professional environment. The authors note that the development of the DPI requires "both personal and technical growth". (Kunrath *et al.*, 2017: 427). The Personal attributes and Design skills are closely intertwined with each other and continuously changing. It is interesting to note that the design skills develop much faster than the personal attributes within an educational context (Kunrath *et al.*, 2017: 427). This is likely as a result of the *doing* nature of the design skills, which make them more easily articulated and measured.

Lawson and Dorst, (cited in Adams, Daly, Mann & Dall' Alba, 2011: 589) comment on the intertwined nature of the design professional identity and personal identity:

... the quotes of the most experienced designers ... suggest they are their practices... most designers seem to feel easier describing themselves through the projects that, taken together, make up their practice... designing is not just something you do, or that you take lightly when you practice it, but rather it helps form your identity... design becomes a part of one's being because it involves so much that is personal, like your creativity, way of approaching the world's problems, your own history, learning style and view of the world (Lawson & Dorst, 2009: 270²²)

The paper was in response, in part, to the lack of understanding and writings around what it means to develop into a design professional. Key to the article are the unfinished and ongoing nature of becoming a professional, as well as the multifaceted nature of

²² Full reference: Lawson, B., and Dorst, K. 2009. *Design Expertise*. Oxford: Architectural Press

everyday practice of a professional designer. Professional practice is conceived as more than just cognition, skills and the mind, but an embodiment of the mind and the self (Adams *et al.*, 2011: 590).

The vast array of different design fields and niche areas have many definitions, overlaps, branches and opportunities for collaboration. However, assumptions about shared meanings (about design or practice) may create problems in practice (Adams *et al.*, 2011: 593). The authors conducted a multidisciplinary study to identify areas of understanding and experience within cross disciplinary design collaborations, and identified:

- (1) working together to produce a better outcome
- (2) intentional learning so all gain (me, my team, my stakeholders)
- (3) strategic leadership to enable synergy and innovation
- (4) challenging and transforming practice to integrate systems (Adams *et al.*, 2011: 599).

These elements were then reviewed through Dall’Alba’s embodied understanding of practice framework:

- thinking (awareness of ‘difference’, situation complexity, and goal direction)
- acting (approaches for engaging with ‘difference’ and situation complexity)
- being (self-perceived role or identity in cross-disciplinary situations) (Adams *et al.*, 2011: 599).

With this in mind, the first element of ‘working together’ formed a basis for the other 3 elements – by being intertwined with thinking about the collaboration and challenges. The *thinking* included: identifying goal direction, contextual complexity and awareness of difference. This had a direct influence on *acting* – attitudes and actions needed to address the issues identified in *thinking*. Being covered the role of self or identity within the professional situation (Adams *et al.*, 2011: 603).

The *thinking, acting, and being* framework proved a useful means to examine the arena of designer professional development. It highlights the complexity of separating (or not) the self from the professional identity of the designer. Both *thinking* and *acting* could fall within the *doing/ actions as designer* concepts outlined earlier in the chapter (from Carabi, 2018 and Kunrath *et al.*, 2017, for example), but remain as interconnected to *being* as ever. In addition, this researcher also believes that *inaction* needs to be included in *doing*, as choosing *not to act* is also a way of *doing*.

6.7 Motivation for self-awareness/ change

As noted in sections 6.4: 'Awareness' and 6.6: 'Perspective that drive actions', self-awareness is an important component in the development of both professional and personal identity for the designer. It is part of continuing personal development, that impacts on design actions. A greater sense of self-awareness can contribute to the designer's understanding of their attitudes and behaviours – including empathy - in professional design practice.

Abulof introduces psychologist Abraham Maslow, the much-quoted author of "A Theory of Human Motivation" (1943). His recognisable pyramid of human needs proposes that the needs that drive people are a hierarchy of "survival, safety, love and belonging, esteem, and self-realization, in that order" (Abulof, 2017: 508). Maslow realised, as have many, that it is impossible to explain social human actions, without understanding the motivation of the person. Figure 6.4 shows the pyramid of Maslow's hierarchy. At the pinnacle of the pyramid is 'self-actualisation' – the process of development, as the individual strives to fulfil their potential and establish their identity (Tripathi, & Moakumla, 2018: 499).

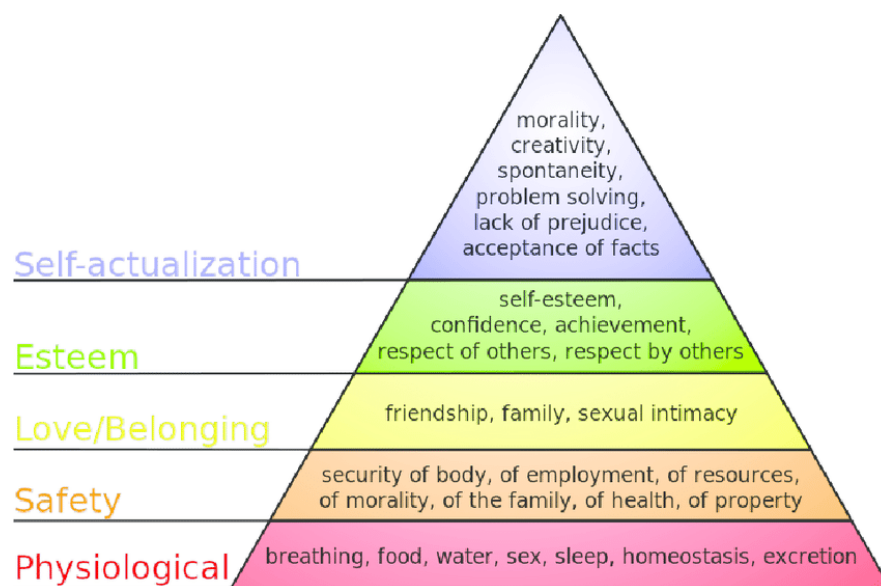


Figure 6.4: Maslow's Hierarchy of Needs (Piech, 2016: 71)

With this in mind, the designer either needs to be motivated from the *inside* or the *outside* of themselves. Intrinsic motivation would be (as above) self-actualisation – desire to improve oneself, or know oneself and establish one's identity. Other extrinsic motivators would include educational interventions and learning (such as training as a designer, courses, etc) or more personal motivators such as peer or professional pressure within a work environment. This category, although small (in terms of number of codes), is still an

important one. It included codes such as 'Reflection - could be a learning tool to understand designer empathy' and 'Reflection - how to make space for more empathy in practice?'. In many ways, this category encompasses the move from an outward focus/ *doing* to an inward focus/ *being* in relation to the designer, which could be described as *becoming*.

6.8 Conclusion

This chapter has explored the context of the core categories in terms of literature, with the aim of theoretical saturation in the categories. By reviewing literature, any missing concepts can be identified or adjusted before building the categories into a substantive theory. Consequently, the following adjustments need to be made in the categories:

- Category : *Self-Awareness*
The idea of *self-deception* came to light in this category. This certainly may play a role, especially in relation to designers and empathy. *Self-deception* therefore should form part of the Self-awareness category.
- Category : *Perspectives to drive actions*
This category requires a more descriptive name within this area of research. Options include: Perspective of designer identity/ Designer professional identity/ Professional identity as motivator. In addition, from the literature, the concept of the designer's professional identity includes: personal attributes and design attributes as motivators for action. This overlaps with the category of *Self-awareness*. Both extremes of "action" and "no action/ inaction" need to be covered in order to accurately reflect what the designer may do in response to their perspectives on the designer's role.
- Category: *Motivation for self-awareness/ change*
This category also needs a more descriptive name, that would reflect the development of the designer. Options could include: Becoming aware/ Change from outside to inside / becoming an aware designer.

The further theoretical development of a substantive theory for empathy in design practice will be described and detailed in Chapter Seven.

Chapter Seven: Building Theory:

Theoretical coding to Substantive Theory

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7.1 Introduction and Purpose of Chapter

The final review of the core categories happened in Chapter Six, with the examination of the core categories in the context of literature. This review of the literature associated with the categories allowed any missing concepts to be identified, as well as any unclear terms to be renamed. The category names play an important role, as signposts within an area (Charmaz, 2006: 161). A category where no new insights appeared, was deemed to be theoretically saturated or exhausted. Once the core categories are firmly established, they can be used to build the substantive theory - which is the aim of Grounded Theory studies (Corbin & Strauss, 2008: 1; Urquhart, 2013: 5) – and this is what is described in this chapter.

Prior to exploring the literature related to the core categories, the researcher further explained her hunch of the 'inside/outside' designer. The 'dichotomous' nature of the designer was suggested as part of reviewing the levels of density and groundedness within the original set of codes. This was expanded into the idea of *being* and *doing* – with *being* meaning: *part of me/ myself* or *inside*, and the idea of *doing* meaning: *outside of myself/ action-oriented*. Through exploring the literature, the concept of *becoming* – an idea focussed on the future and development - was highlighted (Allart Wilcock, 1999: 1).

Summary of the review of the core categories:

- Category: ***Beliefs about empathy***

The complex nature of empathy is reflected in many ways, from the lack of a single definition, to a vagueness in areas demanding a more specific understanding and articulation of empathy. This is also true within the design field. This has been discussed in Chapters Two, Three and Six. The understanding that designers have of the concept of empathy is reflected in their practice. This category encompasses some general concepts of empathy, as well as more specific literature pertinent to empathy in the design field. The review looked at: Empathy in General and Empathy in Design Practice. Within design practice, the researcher looked at the idea of empathy as part of *being* a designer (*inside* of self), as well as empathy as part of *doing* design (tools/ activities/ methods; *outside* of self). The unexpected addition of empathy as part of *doing and being* reflects the multidimensional nature of the subject. This category was then considered saturated, with no further additional concepts.

- Category: ***Self-Awareness of designer***

Learning to understand oneself – in terms of behaviours, motivations, biases and interpersonal relationships – is all part of self-awareness. Self-awareness is among the factors that contribute to the professional practice of the designer, and

similarly, the designer's understanding of empathy in design practice would be affected by their level of self-awareness. This category was renamed from simply 'Self-awareness', to be more specific to the context - designers. Literature dealing specifically with self-awareness for designers was scarce, and thus literature covering other areas of professional practice was included. An important idea was introduced via the literature in this category - *self-deception* (Caldwell, 2009: 395). *Self-deception* will now form part of this category, as it may well play a role in the relationship between the designer and empathy, and this marked the point of saturation in this category.

- Category: ***Perceived value of the user in design***

The methods and activities that form part of the design process - as well as the outcomes of design projects - are influenced directly by the perceptions that the designer holds of the role of the user in the design process. The two extreme views, as described by the researcher in Chapter Six, are at the opposite ends of the spectrum:

- the designer who believes that consulting the user offers no benefit to the project, and thus does not consult the user.
- the designer who believes the user has expert advice to offer within a specific context, with valuable insights and observations to contribute to the design project. The designer is likely to maintain an ongoing relationship with the user.

Designers who view consulting with users as an obligation / 'tick box', as well as the designers who would like to do more work in collaboration with users but are constrained by logistics/ finances, are just a few of the many variations found on the spectrum between the two extremes described above. This category was renamed from simply '*Value of user in design*', to be more specific to the *perception* of the designer. This category was considered saturated, with no further changes needed.

- Category: ***Perspectives of designer identity***

This category required a more descriptive name within this area of research. From the data, the codes suggested that designer perspectives are motivators for action. While this remains true, it is clear that the perspectives could be of many things that influence the course of the design project. Give that the self-awareness/ perception of the self by the designer has already been covered, as well as the perceptions of the contribution that users make to the process, a review of the codes was needed – to choose a name that was more specific. This category was renamed from '*Perspectives to drive actions*', to be more specific to the perspectives of the *designer's identity and role*. Literature related to designer

professional identity describes both personal and design attributes as motivators for action. The personal attributes aspect overlaps considerably with the *Self-awareness of designer* category. The term “action” also needs to include the option of “no action/ inaction”, to cover the options of what a person may do in response to a perspective or view that they hold about the designer’s role or identity. The concept of *self-deception* (within *self-awareness*) could also be linked to the expectations or understanding of the designer’s role – in terms of how the designer responds to expectation – with action/ behaviours or self-deception.

- Category: ***Motivation to become self-aware***

This category addresses the in between – the *becoming*. A change from a *doing*/ outward/ action-focus to a *being*/ inside focus, in relation to being designer. The codes suggested both internal and external motivational factors to fuel self-awareness. This category was renamed from ‘*Motivation for self-awareness / change*’, to be more directed to the sense of development, change and future focus, thus the use of the word *become* in the new title: ‘*Motivation to become self-aware*’. It also implies that self-awareness is not a complete end point, but more fluid.

The focus of the chapter is theory-building, as the end result of a Grounded Theory study should be a *theory*. The role of the coding families in GT theory development will be explained in this chapter, as well as the process followed to choose an appropriate coding family. The development of the theory follows this, and the details of the emerging theory will be described.

7.2 Coding Families

Identifying and describing the relationships between the categories identified in the focussed coding phase is the essence of theoretical coding (Hernandez, 2009: 52). Building the researcher’s theoretical sensitivity can include reviewing existing Grounded Theory examples, other theories related to the research area, and consulting Glaser’s coding families (Charmaz, 2006: 136). The coding families were first mentioned in Chapter Four (Section: 4.4.3 *Theoretical coding*). Glaser’s coding families (1978) provide a means to identify relationships and connections between categories, which is essentially theoretical coding. By presenting a kind of framework, the coding families - “sets of general sociological concepts organized into loosely connected frameworks” – provide a skeleton upon which to build emerging theories (Vollstedt & Rezat, 2019: 91; Urquhart *et al.*, 2010: 370). As mentioned in Chapter Four, the 1978, 1998 and 2005 coding families were collated by Hernandez in 2009. GT writers are at pains to point out that these relationship families are not exhaustive - new families can still be developed – but the existing list is extensive (Urquhart *et al.*, 2010: 370, Charmaz, 2006: 66). In addition, Glaser

acknowledges that the families vary considerably in terms of level of abstraction and that there are overlapping categories (Charmaz, 2006: 65, 66). It is also important to remember however, that although the coding families are *general in nature* and considered to be aids in building theory, the resultant theory is “structured by the theoretical assumptions and relations provided by the coding families and the coding paradigm”. As a result, the process is not entirely independent, as “both encompass a particular perspective on social reality” (Vollstedt & Rezat, 2019: 91). The coding families and theoretical codes are shown in a table¹ in Appendix E.

While coding families have limitations - as discussed above, and also noting the various missing groups related to: “agency and action, power, networks, and narrative and biography” (Charmaz, 2006: 66) - the building of theory relies upon the theoretical sensitivity of the researcher. And this theoretical sensitivity “is the core ability a researcher has to bring to, cultivate within, and gain from the endeavour of developing a grounded theory” (Vollstedt & Rezat, 2019: 98). While Vollstedt and Rezat identify the *possible* lack of independence of the theory² when using coding families, the CoGT view of the emerging theory is that it is a co-construction between the participants, the data and the researcher’s interpretation. In fact, Charmaz asserts that “the researcher is simply proposing a theory that reflects the experiences and interactions of the participants and the researcher” (Vollstedt & Rezat, 2019: 91, Higginbottom & Lauridsen, 2014).

7.2.1 Choosing a coding family

The researcher reviewed the Hernandez (2009) list of coding families. By looking at each family, and considering the relationships, the researcher was quickly able to eliminate unsuitable families. Following this process of elimination, the researcher was left with three possible families to further test for suitability. They were the: *Means Goals Family*, *The 6 Cs*, and *Identity-Self Family*, all part of the original set of Glaser’s coding families of 1978. The researcher now turned to using diagrams to test the theoretical codes. This was also a means to “think about the data in “lean ways”; that is, in a manner that reduces the data to their essence” (Corbin & Strauss, 2008: 124, 125). By exposing the core categories in such a way, with paper, post-it notes and pens, the researcher allowed for maximum flexibility and adjustment whilst thinking through the process, and establishing the relationships between the categories. The core categories were written onto notes, stuck on to the large pages, and then the coding families were tested for suitable relationships. The results are visible in Figures 7.1, 7.2 and 7.3.

¹ A table of: *Theoretical Coding: Mapping of Coding Families & Theoretical Codes* (Glaser, 1978, 1998, 2005) (Collated by Hernandez, 2009: 62-66) is available in Appendix E.

² From Chapter Four: Urquhart, Lehmann and Myers suggest that theoretical sampling can ensure the unbiased, emergent nature of the theory, because, “if the researcher is guided by the emergent theory when collecting data, then there is very little chance of the researcher imposing preconceived notions on the data” (Urquhart *et al.*, 2010: 371).

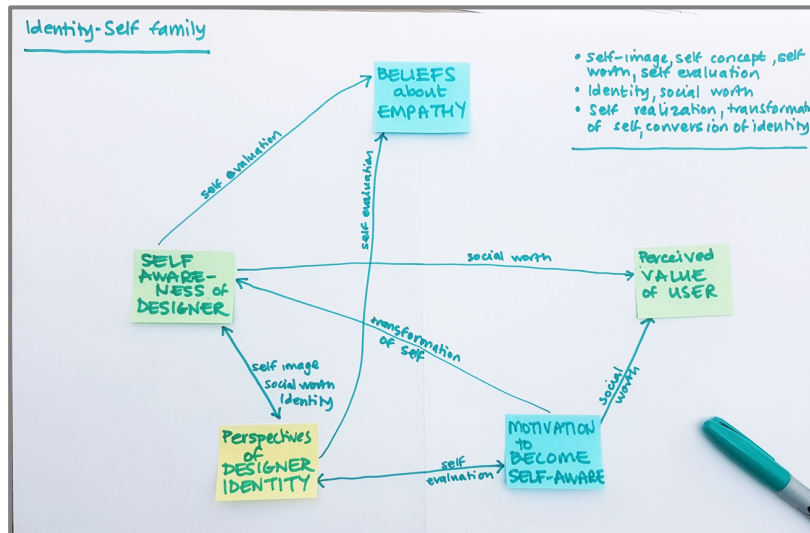


Figure 7.1: Testing Codes: Identity-Self family

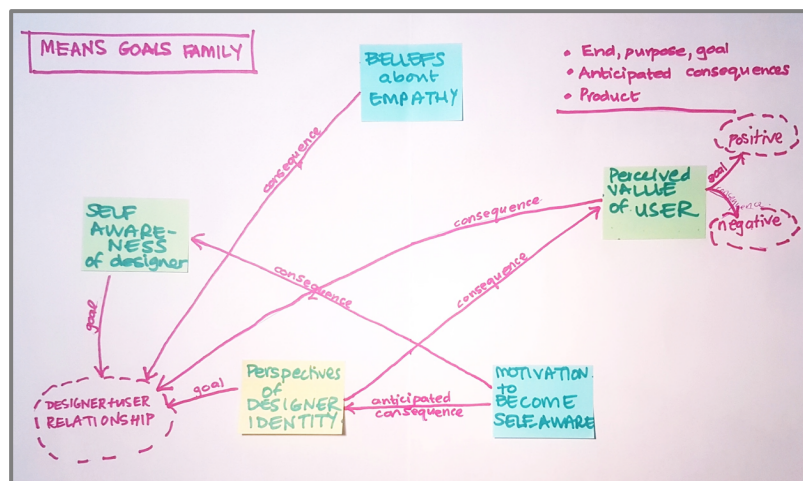


Figure 7.2: Testing Codes: Means Goals family

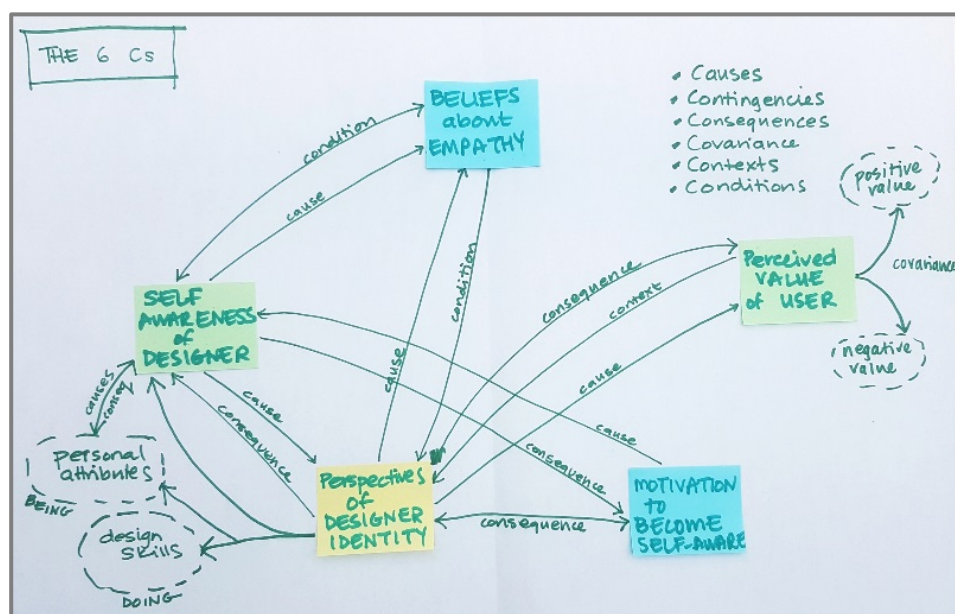


Figure 7.3: Testing Codes: The 6 Cs

Merely by visually evaluating the diagrams generated through the process, it is clear that *The 6 Cs* is the densest diagram, with the most well-defined relationships between the categories. However, this process was further tested, and visualised differently, as seen in Table 7.1 below: *Theoretical Coding: Evaluating suitable coding families (from Glaser's 1978 list)*.

Table 7.1: Theoretical Coding: Evaluating suitable coding families (from Glaser's 1978 list)

	Means Goals Family	The 6 Cs	Identity-Self Family
Coding families	End, Purpose, Goal Anticipated consequences, Product	Causes Contingencies Consequences Covariance Contexts Conditions	Self-image, Self-concept, Self-worth, Self- evaluation Identity, Social worth Self-realization, Transformations of self, Conversions of identity
Suitable codes	3 out of 5 codes	5 out of 6 codes	6 out of 9 codes
Codes applicable to core categories	Is the goal of... Is the anticipated consequence of... Product	Is the cause/s of... Is a consequence/s of ... Is a covariance of... Is the context of... Is a condition of ...	Is/ part of self-image Part of self-worth Is/ part of process of self- evaluation Is/ part of Identity Is / part of Social worth Is/ part of Transformation/s of self

Having considered the options, and seen that *The 6Cs* fitted the core categories in 5 out of 6 codes (as seen in Table 7.1 and Figure 7.3), it was considered most suitable for further exploration. *The 6Cs* coding family was then used to clarify the relationships between all core categories. These relationships are visualised in Table 7.2.

Table 7.2: Evaluating *The 6Cs* coding family within the core categories

The 5 core categories	Relationships between categories - as defined by 6Cs				
	Relationship 1	Relationship 2	Relationship 3	Relationship 4	Relationship 5
Beliefs about empathy	Is a condition of Perspectives of designer identity	Is a condition of Self- Awareness of designer	Is a consequence of Perspectives of designer identity	Is a consequence of Self- Awareness of designer	Is a context of perspectives of Perceived value of the user
Self-Awareness of designer	Is the cause of Beliefs about empathy	Is a cause of Perspectives of designer identity	Is a condition of Beliefs about empathy	Is a consequence of Motivation to become self- aware	

Perceived value of the user in design	Is the context of Perspectives of designer identity	Is a consequence of Perspectives of designer identity	Is a covariance of positive and negative perspectives of Perceived value of the user	Is a cause of Beliefs about empathy	
Perspectives of designer identity	Is the cause of Beliefs about empathy	Is a consequence of Self-Awareness of designer	Is a consequence of Motivation to become self-aware	Is a covariance of design skills and personal attributes	Is a context of Motivation to become self-aware
Motivation to become self-aware	Is a consequence of Perspectives of designer identity	Is a consequence of Self-Awareness of designer	Is the cause of Self-Awareness of designer	Is a cause of Perspectives of designer identity	

By cementing the relationships between the core categories, the researcher was then able to further develop the substantive theory.

7.3 Building a Theory

Charmaz describes the purpose of theoretical coding within CoGT as to create a “conceptual interpretation (rather than exact apprehension) of a phenomenon” (Kenny & Fourie, 2015: 1280). The researcher created a draft version of the theory (of empathy in product design practice) in the form of a diagram, see Figure 7.4.

In this version of the theory, the key factors influencing the user-designer relationship are identified – the core categories. Of these core categories – the *Beliefs of empathy* is listed first. Here the questions asked are: Is empathy something you’re born with? Is it learnt? Is it something that you do?

The 3 options at this stage:

- Empathy is part of who I am
- Empathy is what I do/ actions
- Empathy is both what I do, as well as who I am

Each these have a huge impact on the User-designer relationship.

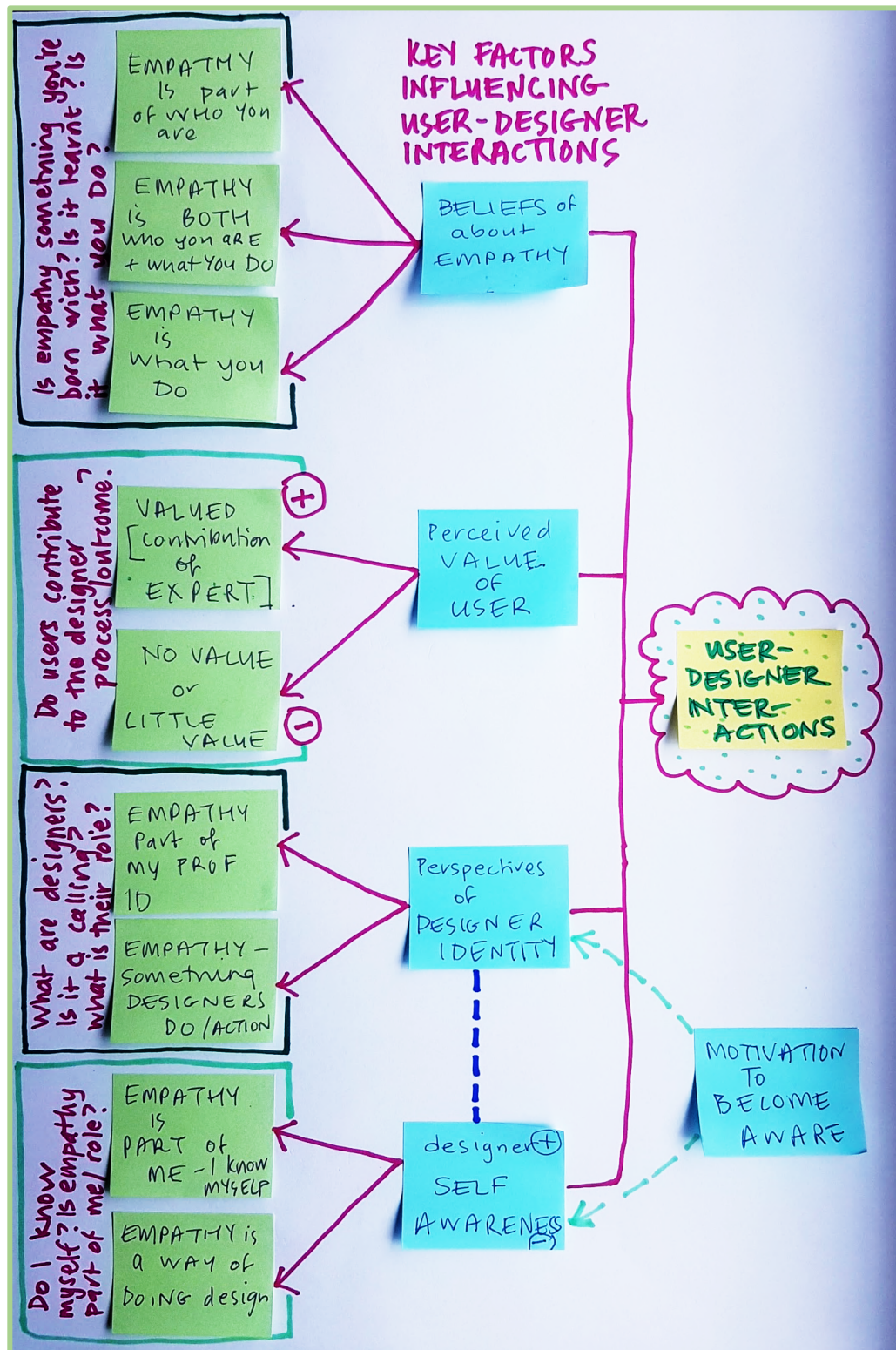


Figure 7.4: Draft theory of user-designer interaction

Perceived value of the user is shown below this. The question to consider is: Do users contribute to the design process/ outcome?

The 2 options at this stage:

- (Positive perception) The user has a valuable contribution to make
- (Negative perception) The user has little or no contribution to make to the design process

The category *Perspectives of the designer identity* asks the questions: What are designers expected to be or do? Is design a calling? How do I understand the role and identity of a designer?

The 2 options here are:

- Empathy is part of me - as a designer
- Empathy is part of the role of the designer, something to do

In *Self-awareness of the designer*, the following questions are asked: How well do I know myself? Is empathy part of who I am or part of my role?

The 2 options are:

- High self-awareness: I know myself - empathy is/ is not part of me
- Low self-awareness: Empathy is a way of doing design/ I have not considered these issues

The category *Motivation to become aware*, is closely linked to both *Self-awareness of the designer* and *Perspectives of the designer identity* – as they would be consequences of *Motivation to become aware*. In an effort to understand the user-designer interaction in relation to empathy, one must understand the interlinked categories. The researcher returned to consider any further concepts from the literature which needed to form part of the substantive theory.

7.4 Draft Theory

In the consideration of the concepts and details from the literature (as discussed in Chapter Six: *Core Categories in Context*), the following needed to be included in the final version of the theory:

- The dichotomous nature of the designer: *Being* or *doing*
- Choices between *action* and *non-action*
- *Self-awareness* and *self-deception*
- The future-focussed concept of *becoming*

After including the elements listed above, the theory diagram expanded and increased in complexity significantly. In essence, the theory shows how the following key factors influence user-designer interactions (whatever form they take): self-awareness of

designer, perspectives of professional design identity, perceived value of user, and perceptions of empathy. This can be summarised as a kind of equation:

$$\begin{aligned} &\text{self-awareness of designer} + \text{perception of professional designer identity} \\ &+ \text{perception of value of user} + \text{perceptions of empathy} \\ &= \text{the user - designer relationship (whatever form that takes)} \end{aligned}$$

This equation is included as part of the visual representation of the theory, as seen in Figure 7.5. As per the researcher's original idea of '*inside-outside*' factors influencing empathy in product design, the theory is divided into two main parts: *being/ inside yourself* or *doing/ outside of yourself*. There are two small areas that are different: one is *between* and the other is *between: becoming* (*between* with a future focus).

Self-awareness is the reflective examination of oneself – prejudices, motivators, strengths, character traits, attitudes, and more. Beginning with the element of **self-awareness of the designer**, if the person has a high self-awareness: they would know to what extent empathy *is* or *is not* part of who they are. Some of the perceptions of the designers describe "empathy as part of who they are/ how they treat people/ attitudes", and this is what the self-reflective designer may have grappled with. They are not searching for 'empathy as a thing' – but rather attitudes, biases and perhaps behaviours that they understand to be linked to empathy. In contrast, someone with a lower self-awareness would not have examined this issue necessarily. So either they haven't yet considered it, or they remained with the idea that empathy is something that the designer *does*. Also in this area, 'no self-awareness' or the idea of 'self-deception' is a factor. The whole of the self-awareness of the designer falls within the *being* part of the theory, the *inside* of the designer. Even though low self-awareness and self-deception of the designer may have an impact in the *doing* part of the theory, they are essentially part of *being*. A high self-awareness in the designer is seen as having positive attributes for professional design practice - whether in relationships with colleagues, clients or users. Benefits of having a high level of self-awareness include³:

- Able to identify and monitor emotions
- Less reactive, and thus able to manage criticism better
- Better able to deal with disappointment and failure
- Better equipped to solve problems
- Strong collaboration skills
- Ability to adapt and build trust with people
- Better at resolving conflict

³ These attributes of a high level of self-awareness are discussed in Chapter Six.

Looking at **perspectives of designer identity**, on the *being* side, the professional could believe that empathy is part of their professional identity. In contrast, on the *doing* side, empathy is something that designers *do*. There are three options here:

1. Positive: The designer does/ uses empathy actions or techniques
2. Negative: The designer views empathy as an *obligation* (related to the designer's view of their role) but still does empathy actions or techniques
3. Negative: The designer may choose to take *no action* related to empathy (as they understand it). This is likely to be related to design immaturity.

The **perceived value of the user** in the design process only has two options:

1. Positive perception: The user makes a valued contribution to the design process and/ or outcomes
2. Negative perception: The user contribution is seen as having no or little value in the design process.

The view of 'little value of user contribution' (negative perception) has been situated in the *doing* part of the diagram, because it is linked to the depersonalisation of people or users which links to *self-deception*. According to Caldwell (2009: 396), self-deception is an inaccurate view of the self - which creates barriers to self-awareness, erosion of trust, an insensitivity to responsibilities in relation to people, and importantly: people are depersonalised and treated as objects. The same idea of self-deception is also linked to the *perspective of designer identity: empathy: no action*. It is likely that the designer who chooses to take no action has the view that assigns little value to the user contribution.

Beliefs about empathy in design is also a key element in the theory. On the *being* side: beliefs about empathy as part of who the person is include: "it's something you're born with", "it's an attitude", "you either have it or you don't"⁴. This view of empathy as *part of who you are* (inside) is closely linked (as both cause and consequence) to: *high self-awareness* and *empathy as part of my professional identity*. These are positive links. A negative association would be: an individual with too much empathy – or very empathetic with less firm personal boundaries - who may suffer the negative consequences of empathy, such as compassion fatigue⁵.

On the *doing* side is the idea that *empathy is what I do/ action*. There are 3 aspects to consider here:

1. Negative beliefs about empathy: such as "it's too complex", "it's too scary", "it's overwhelming"⁶, can lead to no action.

⁴ These are commonly expressed views in relation to empathy.

⁵ Compassion fatigue is frequently linked to burnout. The person affected develops an inability to cope with situations or people that require a compassionate response. This is as a result of overexposure to suffering, and the emotional burden of listening to and dealing with the trauma of others.

⁶ These are commonly expressed views in relation to empathy.

2. Negative beliefs about empathy: such as “empathy is *emotional labour*”⁷ could impact the actions of the designer. While the designer may still take action, this action could be limited or reduced.
3. Positive beliefs result in positive actions by the designer. These could be listening, eye contact, using tools and techniques as part of the design process and interactions.

The *Between* space that belongs to *Beliefs about empathy* is an interesting one. In this space, two views exist:

- 1: empathy is **both** *who I am* and *what I do*.
- 2: empathy is **neither** *who I am* nor *what I do*. Empathy here exists in the space *between people*. This is tied to the Japanese concept of *human being or ningen* (Akama, 2012: 74) and the concept of *empathic orientation* (Larocco, 2017). Empathy exists *between* people.

There is another *Between* space: it is the future-focused area of *becoming*. The core category of *motivation to become self-aware* lives here. This category is closely linked to *self-awareness of the designer* and *perspectives of the designer identity*. The motivation would be a cause of the other two, the other two would be a consequence of the *motivation*.

It is important to note that the theory is not one that works only in the 2 parts of *being* OR *doing*. Given the complex nature of empathy, the numerous understandings and concepts thereof, the theory needs to be appropriate in numerous different ways. One way to test a variety of options within the draft theory is to imagine a particular designer, and their views. So, imagine Designer A – a highly self-aware individual. He has spent time wrestling with his own prejudices and beliefs, not only about himself, but also his role as a designer. While a path through the *being* section *is more likely*, Designer A takes a different path. While he is self-aware, and thinks that empathy is part of his professional identity and role, he does not believe that users contribute much to the design process. His perception of empathy is in the *between* space – empathy is both *being* and *doing*. So, while he believes that users do not contribute much, he can use tools and techniques whilst interacting with them in the design process. Designer A's path is visualised in Figure 7.6.

In contrast, Designer B is fairly young and inexperienced. She has not yet grappled with herself – her own prejudices and beliefs, including empathy. Consequently, she takes the default position that empathy is something that falls into *doing* design, part of the professional designer's role. However, she finds the whole idea of empathy as part of the

⁷ The sociologist, Arlie Hochschild, coined the term ‘emotional labour’ in 1983. This was in reference to jobs involving dealing with people, where one needs to regulate one's emotional responses. These would include occupations such as the work of a waitron or flight attendant.

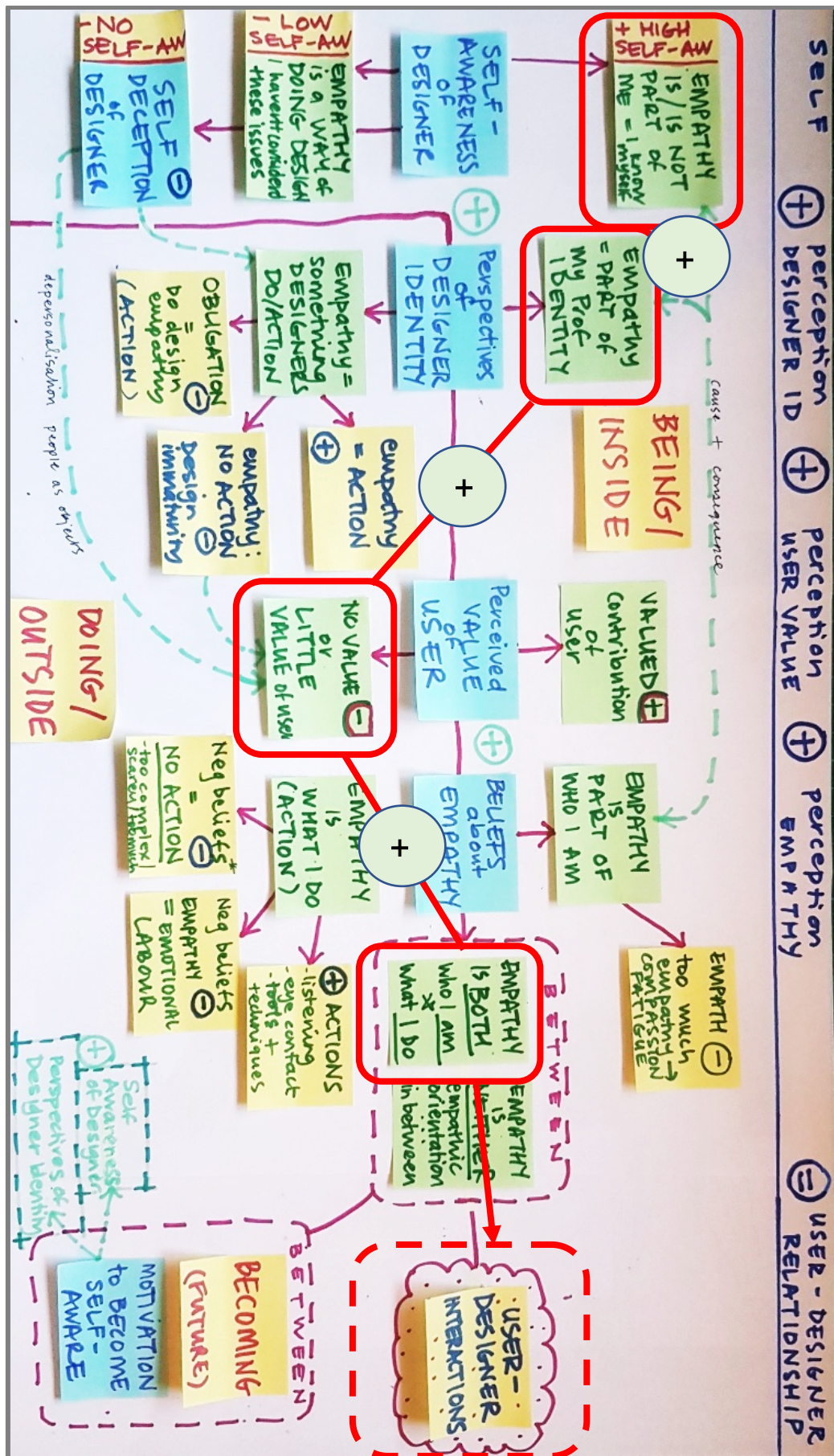


Figure 7.6: Visualising Designer A through the draft theory

design process quite intimidating and overwhelming, and as a result, she chooses to avoid the idea of empathy altogether, and takes *no action* to foster/ do empathy at all. In addition, the idea of consulting or collaborating with users is very unappealing, and perceived as *of little value*. Her perception of empathy is in the *doing* space, so, even though she believes that users do not contribute much, she can use tools and techniques whilst interacting with them in the design process (if needed) as part of her role as a junior designer. Designer B's path is visualised in Figure 7.7 below. It is now possible to visualise how an intervention – such as a professional development course - might move Designer B into a *becoming* space – motivating her to explore self-awareness, and how this could change (or not) the navigation through her perceptions of *being* and *doing* empathy in the user-designer interaction.

Designer C is an individual in denial. He has an inaccurate view of himself, mostly because he does not want to face himself, although he feels the pressure of his peers - particularly in the area of empathy and others. He starts in the area of low self-awareness – *self-deception*. This path leads to the belief that empathy is something you *do* as part of being a designer, an *obligation* (negative view). In addition, his self-deception means that others are currently depersonalised, and treated as objects, and this is especially true of the users – who Designer C is *obligated* to consult in the design process. His perceptions of empathy fall into the *doing* of design, but are negative – empathy is perceived as part of *emotional labour*. Designer C's path to user-designer interaction is visualised in Figure 7.8.

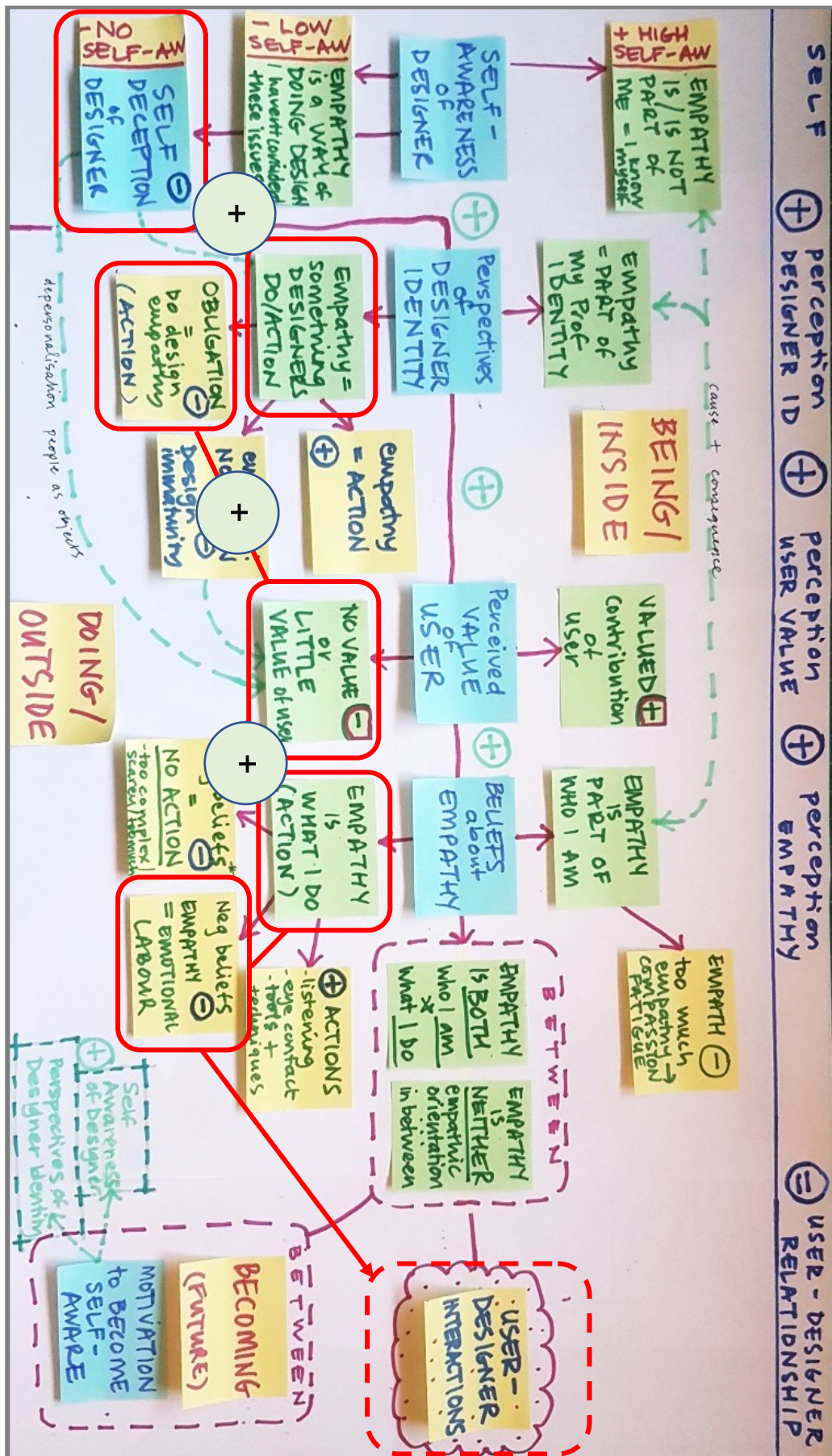


Figure 7.8: Visualising Designer C through the draft theory

7.5 Theory of Being, Doing and Betweenness of Empathy in Design

The process of developing a Grounded Theory from the data can be intimidating. While the researcher acts upon informed ‘hunches’ that develop during the continuous collection process, and throughout the data analysis process, ultimately the development of the core categories is a crucial step (as detailed in Chapter Five: *Data Collection and Analysis*). The further validation and contextualisation of the categories within the literature is a means of theoretical saturation, as no further concepts emerge (as explained in Chapter Six: *Core Categories in Context*). Even as draft theories are established and tested for suitability (as per the draft theory in Section 7.4: *Draft Theory*), the researcher needs to continually be considering aspects of the theory.

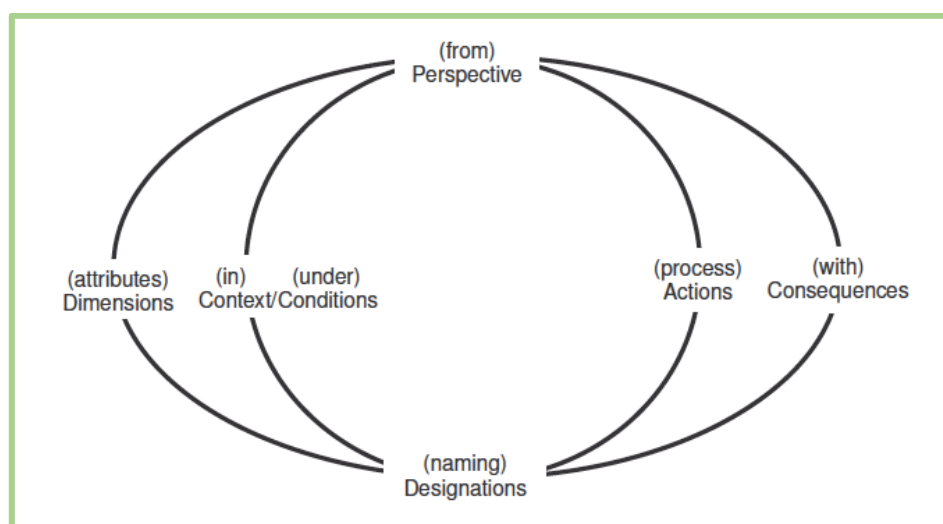


Figure 7.9: Dimensional Analysis: Explanatory Matrix (from Robrecht, 1995:174)

Using a framework for dimensional analysis, such as Robrecht's *Dimensional Analysis: Explanatory Matrix* (1995: 174), can aid in clarifying the dimensions of a Grounded Theory in development (see figure 7.9 above). Using this Matrix, the draft theory can be clarified. In the framework, each 'strand' in the helix is seen to represent the data collection, coding, analysis, and theoretical sampling - all intertwined. This is not a traditional linear model of research, but rather a better representation of the constant comparison required in a GT study. The different dimensions on the 'strands' can be seen as part of a more flexible structure, all contributing to the final outcome - a framework or theory.

The process of visualising the dimensions is done by asking the questions:

- From whose perspective?
- What are the attributes/ dimensions?
- In which context/ under which conditions?

- Which actions/ processes are involved?
- What are the consequences of the actions/ processes?

In addition, this process of using the Explanatory Matrix can certainly clarify aspects of the draft theory. The adapted Matrix is seen in figure 7.10 below.

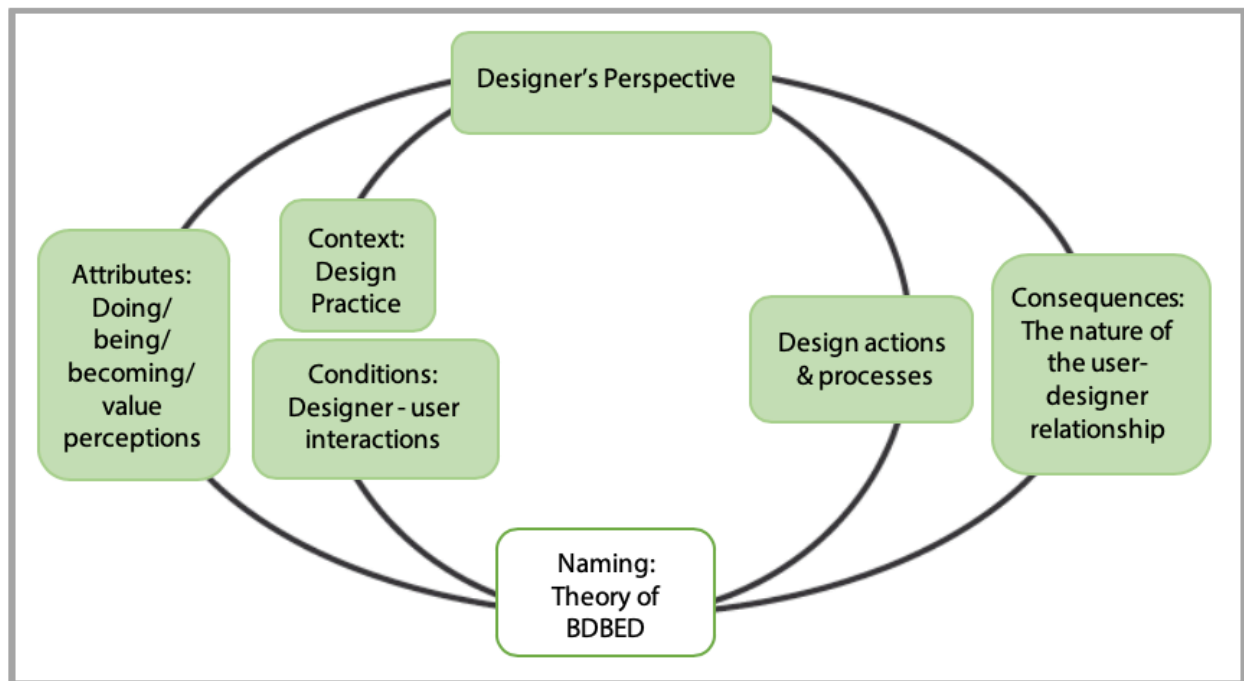


Figure 7.10: Dimensional Analysis: Explanatory Matrix of Theory of BDBED
(adapted from Robrecht, 1995:174)

As mentioned previously, the development of visualising the dimensions (from Robrecht, 1995) is done by asking the following questions:

- *From whose perspective?*

The researcher's role was to ask questions/ have open conversations that revealed the *perceptions* of the designers on empathy in design practice. Thus, the matrix is from the perspective of the designer.

- *What are the attributes/ dimensions?*

By reviewing the codes (Chapter 5) and the context of the categories through literature (Chapter 6), the researcher isolated the terms *being*, *doing* and *between* in relation to empathy in design practice. These represent the variety of perceptions of the designers in relation to empathy in practice. The nature of empathy is not as a 'thing', but rather considerably more vague. The designers' perceptions of empathy fall broadly into *being*, *doing* and *between*.

- *being* – empathy as part of the self (born with it, personality-driven, emotional)
- *doing* – empathy is outside of self - something you do/ actions that you can take (empathy tools, actions like active listening, eye contact)
- *between*: empathy can be:
 - *both being and doing* (empathy as part of the self AND empathy is outside of self - something you do)
 - *neither being nor doing* (empathy exists in the space *between people*)

This division between empathy as *being* and/ or *doing* first became apparent in the systematic literature review, as the author sought consensus on a definition of empathy in design (Chapter 2). The differing opinions of the authors were clarified in Table 6.1: *Empathy as part of Doing or Being (from systematic literature review)*, in Chapter 6. In a similar way, Table 7.3 indicates examples of quotations and codes of designers' perceptions of empathy – divided into *being* and *doing*. The vast number of codes⁸ and appropriate quotations meant that examples (as opposed to *all* codes and quotations) were selected for inclusion in the table. See Appendix H for tables of the complete codes for each core category.

Table 7.3: Designers' perceptions of Empathy as part of *Doing* or *Being* (from data collection)

BEING – empathy as part of/ inside myself	DOING – empathy as outside myself/ empathy actions
Examples of direct quotations of participants	
To be an EMPATH truly, you need to be emotionally vulnerable to situations constantly (FC, 2017).	Active listening, I put there. Eye contact, personal cues, those kinds of things, that one would not necessarily do overtly, I think it's pretty important: those physical things. Physical cues are important in the way that people perceive you ... (FC, 2017).
Wouldn't that go with honesty? A level of knowing the person. Because if the person is not answering, you're not going to know them (CH, 2017).	Sharing an experience not related to work. That's vulnerability, yeah. Sharing. Seeing your client: not as a job or a paycheque. The designer is not only delivering a service, I think that relates to "having no agenda" ... "being in the moment" (DM, 2017).
...that before you can learn to engage with people, you need to reflect quite honestly on <i>who you are</i> in that space and the power relations that exist here (LB, 2017, italics added).	I think the immediacy of the personal connection can't be translated via/ through by anything digital. It would need to happen in a space, where you are able to read personal cues or clues, where you can see someone physically. That is what the "face-to-face" is (FC, 2017).
A lot of this animal you're trying to describe relies heavily on EQ. Yeah, and not everybody has that, hey? It is something that is probably a lost skill (FC, 2017).	I think with that (physical cues), you need to be culturally sensitive. I know in some cultures, eye contact is considered rude or confrontational (CH, 2017).

⁸ From the workshop and interviews, the idea of empathy as *part of self/ inside/ being* generated 80 codes, while empathy as part of *doing/ outside of self/ empathy actions* generated 97 codes. Refer Chapter 5 for more detail, and Appendix H for the complete lists.

So, you can't be desensitized because you're still working in a very specific field that needs empathy, but so it's like being prepared for that disarms you... I think what I would have done a long time ago would have been more like emotional preparation (CF, 2017).	I would rather...visualize or tell you a narrative or a story and that's where the empathy comes in... give you the narrative, give you the story, um and join in the problem... statement, then establish an idea of where we can go with that (LM, 2018).
Examples of codes developed from workshop/ interviews of participants	
• Empathy - designers needing to be open • Emotional investment varies according to type of project • Empathy - people needing to know who THEY are in relation to others • Empathy = Being born with it. • Design is my calling (<i>in vivo</i>) • Designers - needing to acknowledge own prejudices • Designers - needing to be honest with Self • Design - responding to unmet emotional needs • Designer - building relationships & trust	• Empathy = appropriate response • Empathy = being proactive and helpful • empathy = don't be pushy • empathy = eye contact • Empathy in practice is negotiated • design - collaborating with users • Involving users is necessary... You always need to have a real user there (<i>in vivo</i>) • Designer - needing to communicate carefully • Designer - observing people to understand

- *In which context/ under which conditions?*

The context referred to in this research study is the context of the designer in practice, involved in co-design projects or design projects with community/ user involvement. The conditions under which the matrix is being used is that of the designer interacting with the user in the (context of the) design process.

- *Which actions/ processes are involved?*

The actions of design/ processes related to interactions between the designer and the user are referred to here. These are tied to the attributes discussed above (*What are the attributes/ dimensions?*), so the actions may include empathy 'actions'/ techniques (such as eye contact, design probes, collaboration and discussion with users).

- *What are the consequence/s of the actions/ processes?*

The consequence of the actions/ processes mentioned above is the resultant nature of the relationship between the user and designer in the design process. Whether empathy is a part of this relationship or not is variable.

The combination of these elements, and the types of connections between them, contribute to the nature of the theory that combines them all.

7.5.1 Naming and visualising the Theory of Being, Doing and Betweenness of Empathy in Design

Using this matrix, the researcher was able to crystallise the draft theory into the Theory of Being, Doing and Betweenness of Empathy in Design (Theory of BDBED). The intention of the name is to indicate the lack of consensus of designers in relation to empathy in design practice. The term *betweenness* refers to high level of connectivity of empathy to the other elements indicated in the diagram of the Theory of BDBED (Figure 7.11 below). *Betweenness* also indicates the numerous options of where the designer's perceptions may place the concept of empathy in relation to themselves – as *being*: part of myself/ *doing*: outside of myself/ *between*: *both being and doing*/ *between*: *neither being nor doing* (as discussed above). *Betweenness Centrality* was described by Freeman⁹ in graph theory in 1977. In the context of graph theory, *betweenness centrality* refers to the highly connected nature of the network under discussion. The connections between the nodes determine the ultimate nature (or control) of the network. This researcher thus selected the term *betweenness* as part of the name of the Theory of BDBED because it is the nature of the connections *between* the nodes that determine the prominence and role of empathy in the user-designer relationship in design practice.

As mentioned in Chapter 3, the research goal was to cultivate (through Grounded Theory) and “develop an understanding of the phenomenon of *empathy in design practice*, in order to develop a conceptual paradigm”. The *Theory of Being, Doing and Betweenness of Empathy in Design* can now be reduced to a deceptively simple equation (initially referred to in section 7.4: *Draft Theory*).

This equation indicates how the key factors - identified through the data – influence the empathic nature of the resulting user-designer interactions:

$$\begin{aligned} &\text{self-awareness of designer} + \text{perception of professional designer identity} \\ &+ \text{perception of value of user contribution} + \text{perception of empathy} \\ &= \text{the empathic nature of the user - designer relationship (as situated on} \\ &\text{the min/ max empathy scale)} \end{aligned}$$

Whilst deceptively simple, the equation belies the complexity of the reality of user-designer interactions. The “betweenness” in the name of the theory is an means of describing the ‘spaghetti’ of possibilities of combinations that exist between the key factors (Self-awareness of designer, Perceptions of designer identity, Perceptions of value of user contribution, and Perceptions of empathy), resulting in an accurate reflection of

⁹ Freeman, L. 1977. A set of measures of centrality based on betweenness. *Sociometry*. 40 (1): 35–41.

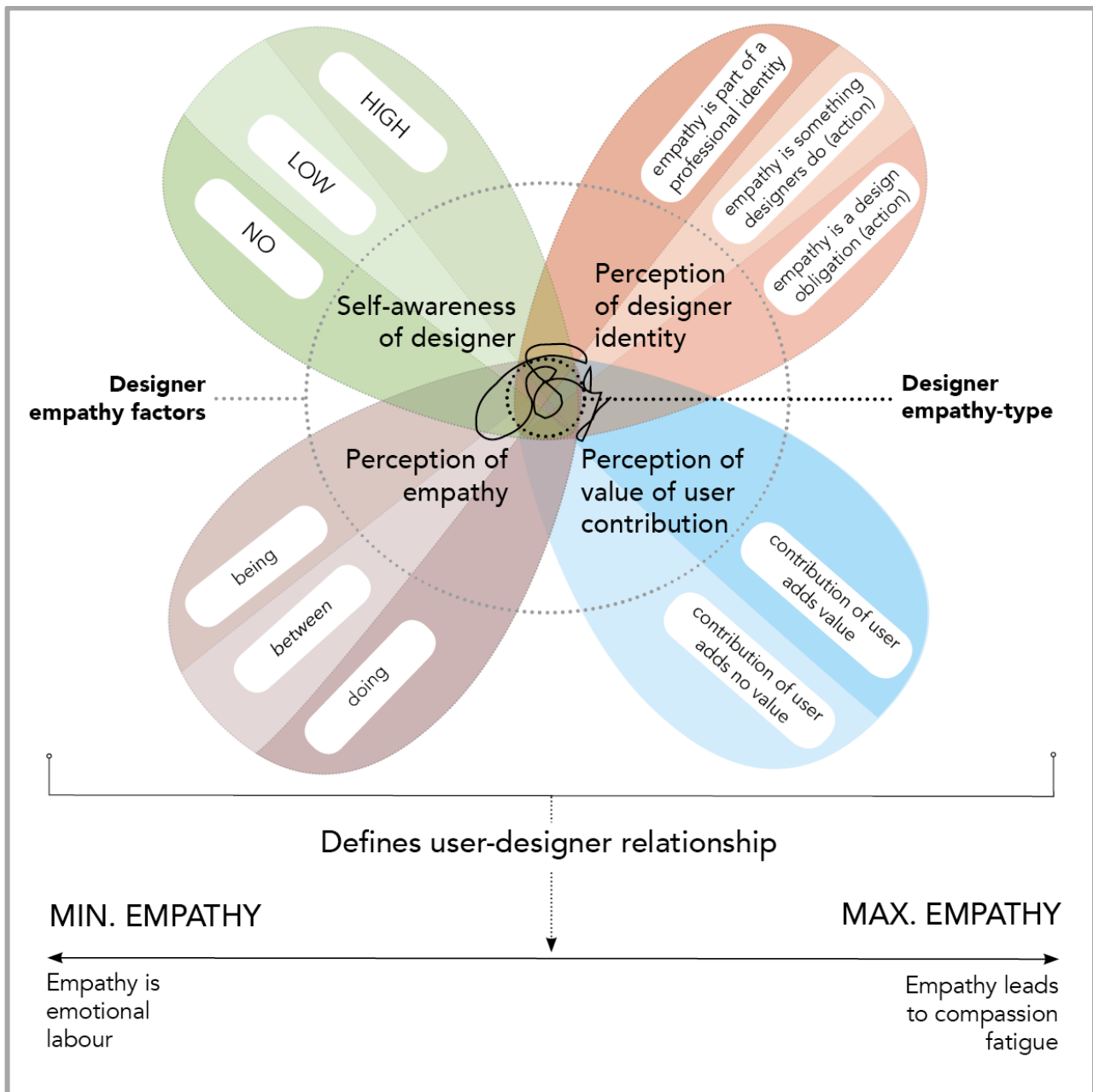


Figure 7.11: The Theory of Being, Doing and Betweenness of Empathy in Design

the possible relationship – as situated somewhere on the empathy scale. The Theory of BDBED explains the breadth of designer views on empathy – which are not necessarily positive – in relation to design practice. The resultant relationship and interactions will fall somewhere on the scale of minimum empathy to maximum empathy (figure 7.13). The scale does not imply a value judgement on empathy, but merely demonstrates the breadth of options – including the overlap between the *being*, *doing* and *between* types of empathy.

Most equations ultimately result in a total, by adding numerical values to each element. This equation is not designed to carry a numerical weighting for each node of the theory, as it is currently unclear whether each node would carry the same weighting. Assigning values would mean that one could generate an “empathy score”, to position a designer on the spectrum (such as figure 7.13). This falls beyond the scope of this research.

As mentioned previously, the “betweenness” refers to the high level of connectivity of empathy to the other elements indicated in the diagram of the Theory of BDBED. Betweenness does *not* represent vagueness, but rather specific - but myriad - options *between* factors, as visualised in Figure 7.12, with lines indicating options. The colour used here is merely a visual indicator – it does not indicate any hierarchy or meaning. The unique combination of the factors as seen in Figure 7.12 results in a particular *designer empathy-type*. A designer empathy-type can be considered as the person with the combination of features/ attitudes as defined above – which would determine the empathic nature of the designer-user relationship. The number of possible designer empathy-types can be calculated as 54 from the diagram.

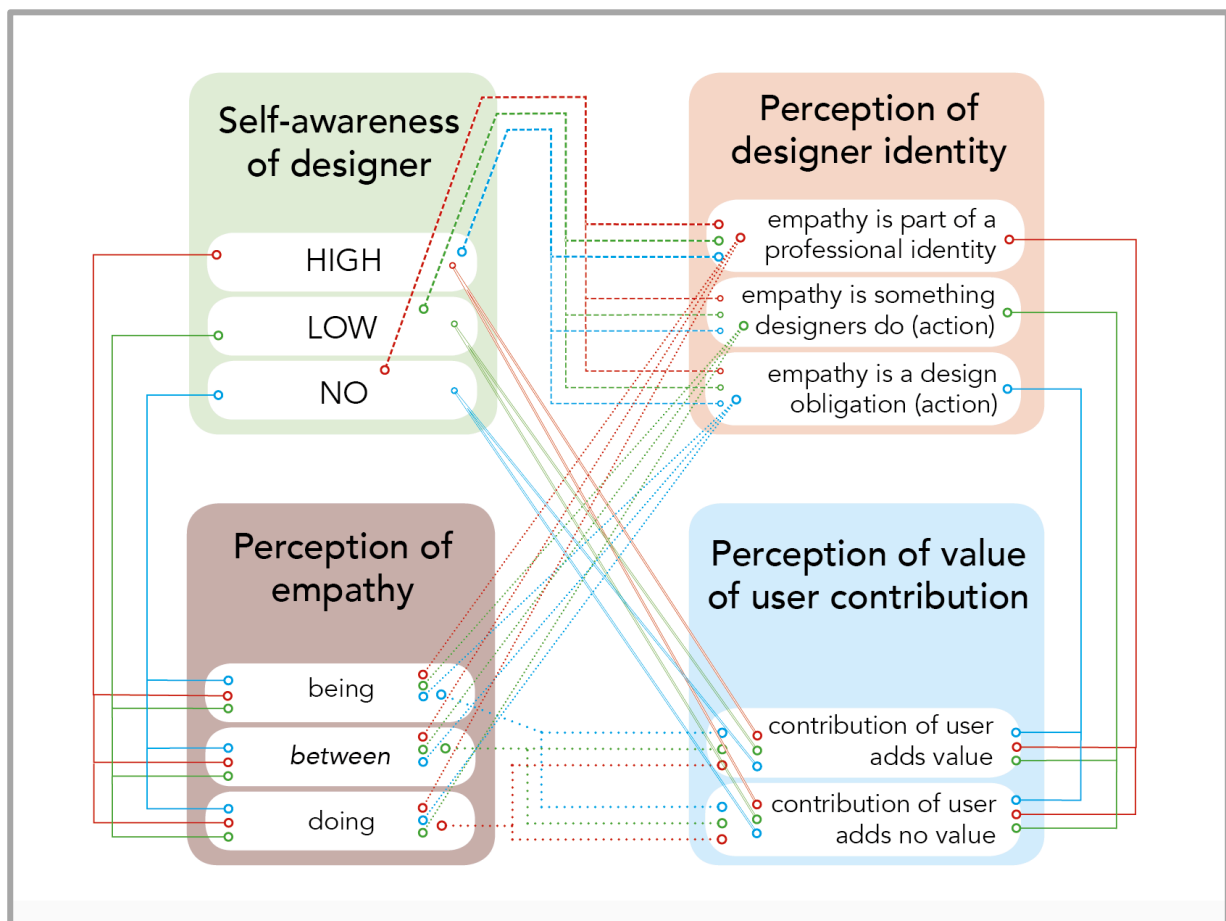


Figure 7.12: The Theory of Being, Doing and Betweenness of Empathy in Design – possible relationships between key factors

In addition, the fictional characters described as Designer A, Designer B and Designer C (section 7.4: *Draft Theory*), can be located on the minimum/ maximum empathy scale. This is visualised in Figure 7.13 below.

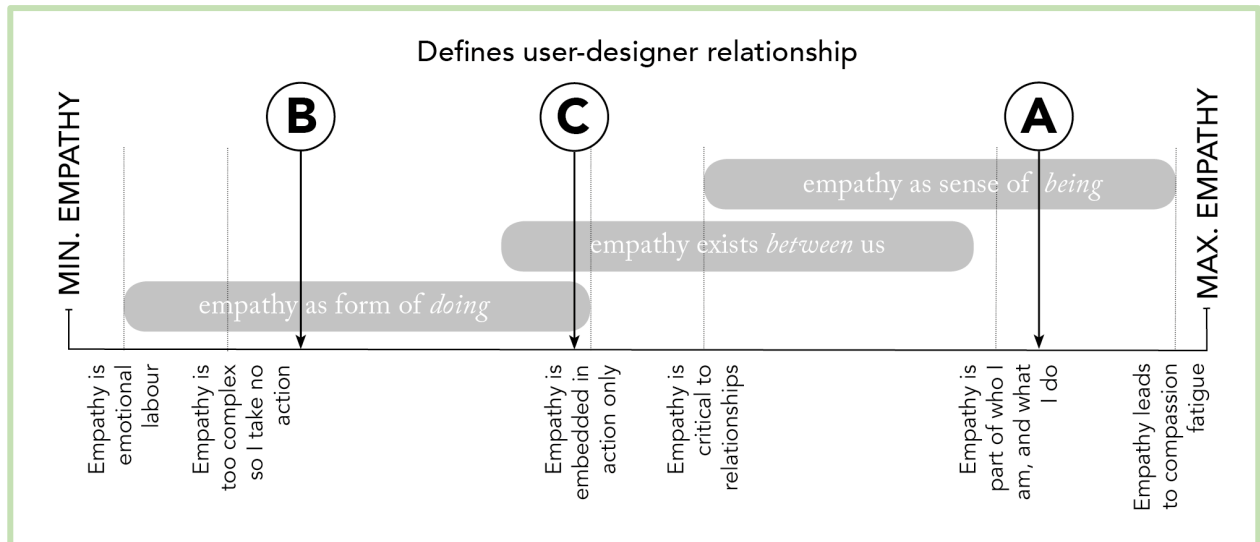


Figure 7.13: The Theory of BDBED – possible placement of Designers A, B and C on the Empathy Scale

Chun Tie, Birks and Francis (2019) emphasise that the substantive theory developed from GT should identify the issue or any underlying issues/ process in the study area, and the Theory of BDBED has explored and visualised the interactions involved in the deceptively simple phrase: *empathy in design practice*.

7.6 Conclusion

This chapter began with a detailed summary of the review of the core categories, in the context of literature. Changes to the saturated categories were highlighted, as necessary prior to theory-building. The coding families were then discussed again (first introduced in Chapter Four - Section: 4.4.3 *Theoretical coding*), prior to the evaluation of the different coding families. Three families were deemed suitable for exploration in connection with the core categories, and these tests were visualised through diagrams and tables. The most appropriate family – the 6Cs – was chosen for use in building this theory. The draft theory was introduced and the elements explained. The comprehensive, substantive Theory of Being, Doing and Betweenness of Empathy in Design was then developed and illuminated, following a review of any missing details from the literature in Chapter Six. The validation and testing of the theory will follow in the next chapter.

Chapter Eight: Substantive Theory in Context & Conclusion

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8.1 Introduction and Purpose of Chapter

This chapter will introduce Glaser's criteria for evaluating theory within the Grounded Theory methodology, and explore the *Theory of Being, Doing and Betweenness of Empathy in Design* (BDBED Theory) in relation to these. The fit, relevance, workability and modifiability of BDBED Theory will be examined. The remainder of the chapter is largely reflective – looking back over the whole research project and towards the future. As a result, the research questions will be revisited as part of exploring the contribution of this research study. The researcher will also reflect upon the use of Constructed Grounded Theory methodology for research in design, as a means of expanding the knowledge in the field. In *Looking backwards and forwards*, the limitations of the research will be highlighted, as well as areas for further exploration in the future.

8.2 Glaser's Criteria for Evaluating Theory

Significant contributions of the Grounded Theory methods can be seen in areas where little study/ research has been conducted. The generation of a *theory* is the valuable contribution to the underexplored field, which can form the basis for further study of the phenomenon and related areas (Lawrence & Tar, 2013: 35). Grounded theories can fall into the category of substantive or formal theories. Substantive theories are most often generated by Grounded Theory methods, and they are the result of study on a very specific context/ setting/ phenomenon. The formal theory would be far more conceptual and generalisable, and usually emerges from a substantive theory (Engward, 2013: 41). Charmaz describes a finished grounded theory as “a conceptual analysis of patterned relationships”, which also takes into account variations in interpretations, processes and categories (Charmaz, 2006: 181). Acknowledging broader contextual issues that have influence on the phenomenon being studied is important in GT studies, rather than the researcher disregarding these issues (Lawrence & Tar, 2013: 35). However, the substantive theory should not try to generalise beyond the point of available data – it should not explain beyond the field of immediate study (Goulding, 2002: 46). Glaser and Strauss describe the value of a substantive theory:

A theory at such a conceptual level, however, may have important general implications and relevance, and become almost automatically a springboard or stepping stone to the development of a grounded formal theory. (Glaser & Strauss, 1968: 79, cited in Goulding, 2002: 46)

Formal theory is frequently the end result of a larger research project, with a researcher team collecting data at a variety of locations, creating a far greater data set for analysis. As a result, formal theories can explain a far wider range of circumstances (Goulding, 2002: 46). The broader application is confirmed by Glaser (1978), who emphasises that

the “context is necessarily stripped away as one moves toward a formal theory” (Urquhart, Lehmann & Myers, 1999: 373).

How then, does one evaluate a substantive theory generated using GT methods? Evaluation is part of GT method, however “testing” a theory is not. While Charmaz cautions the researcher to carefully consider who forms the evaluating criteria and for what purpose, she agrees that the criteria indicated by Glaser (1978: 4 - 5) - *work, relevance, fit* and *modifiability* – are useful for reviewing one’s theory (Charmaz, 2006: 182). Within the criteria of *modifiability*, Glaser endorses comparing the new substantive theory to existing theories – if possible in the same field. Urquhart, Lehmann and Myers have called this *theoretical integration*, and describe it as “an obligation of the grounded theorist”. Theoretical integration helps to locate a new theory within a discipline, but they also view comparing theories outside the field as valuable - particularly if the discipline in question lacks relevant theories. In addition, the process could suggest directions/ areas of study to generate formal theory (Urquhart, Lehmann & Myers, 1999: 369).

8.2.1 Fit

Khambete and Athavankar describe the validity and quality of an emergent grounded theory as “essentially tied up with the rigour with which the process is applied” (Khambete & Athavankar, 2010: 14). The details of the collection and interpretation of the data are key here - as they provide a pathway that points to *how* and *why* concepts were developed – they need to clearly indicate *where* these concepts and categories came from. The categories should be indicated by the collected data (Khambete & Athavankar, 2010: 14; Goulding, 2002: 46). Detailed and accessible reporting on research methods and processes aid the transparency of the grounded process, as the theory develops from the data (Khambete & Athavankar, 2010: 14).

The criteria ‘fit’ asks: *does the theory reflect the data?*

The researcher focussed on the detail of capturing the data as accurately as possible, checking the accuracy, and then referring back to the data frequently. This meant using voice recordings for the workshop and interviews, and then listening several times to the audio clip. By listening again and again, the researcher was able to check the authenticity of the transcription, as well as become immersed in the data. Capturing exact phrases was important, as small errors can change meanings disproportionately – rendering the data inaccurate. The researcher prioritised retaining a sense of action and authenticity of the participants’ voices in the choosing of codes. Glaser (1978) suggested coding with gerunds, in order to help the researcher “to stick to the data” (Charmaz, 2006: 49). Charmaz’s ‘*code for coding*’ includes “stay close to the data”, “preserve actions” and “compare data with data” (Charmaz, 2006: 49). This researcher coded line-by-line and used gerunds in coding as often as possible, as well as using *in vivo* codes to capture the essence of the participants’ responses, staying as close to the data as possible.

Constant comparison is one of the cornerstones of the GT method (Urquhart, 2013: 5). By visualising the data through diagrams and photographs the researcher created a “bank” of data that was a record of the theory development process – especially important as the core categories were developing. The process of reviewing the core categories in the context of literature, and referring back to the data, enabled the researcher to make changes to the categories and names. This fastidious attention to the capturing and documenting of the iterative process, and continuous comparison ensures a good fit of accurate data into the Theory of BDBED. The whole theory can be reviewed in relation to the detailed code tables in Appendix H, as well as in relation to the core categories in *Chapter Seven: Theory Building*.

8.2.2 Relevance

The criteria ‘relevance’ asks: *does the theory address issues raised by participants?*

Although delaying the literature review is part of the CoGT method, the delay has an added benefit. It means that by waiting until the core categories have emerged *before* consulting literature, the researcher is *only* working with and immersed in data from participants - thereby leaning into their concerns. Some of the early concerns and issues raised by participants included:

- Never thinking about empathy in design, or not having considered the issue before:

“I speak as a designer; we operate as designers within the system that is known. The design process is known. I don’t think we really incorporate those kinds of things (like empathy) into the process. Not consciously, and I think it would create a richer, more diverse outcome. . . we never think of that kind of experience” (FC, 2017).

- How and/or if empathy fitted into design practice:

“So if someone says, don’t worry too much about the heavy stories, if they don’t affect you to a small degree at least, you lose a certain edge in the design process... So you can’t be desensitized because you’re still working in a very specific field that needs empathy - but so it’s like being prepared for that disarms you” (CF, 2017).

“You need to have empathy in the sense that if I’m able to put myself... Not lose myself necessarily in the situation...but I need to be able to put myself *in* that situation without stepping on toes ... And stepping *out* of that situation to think about the engineer that I’m working with. Because he’s not physically disabled, he has a different approach. So you need to kind of have empathy for every situation” (GC, 2019).

- Unclear of how to define empathy:

“Wouldn’t that (empathy) go with honesty? A level of knowing the person” (CH, 2017).

“So for me it’s weird to talk about something like empathy in terms of a tool . . . It feels weird because we’re almost unpacking something that is not necessarily unpackable . . . I wouldn’t want to see it (empathy) in a way where it’s completely explained” (FC, 2017).

- Unsure whether empathy was part of the *inside* of self (born with it/ attitudes etc) or *outside* the self (in actions/ techniques/ tools etc) – in contrast with the strong opinions of others:

“But empathy is a skill, because empathy without understanding is sympathy at the end of the day” (DM, 2017).

“I think for me it’s (empathy) part of who I am . . . I believe with anything you can get training that will prepare you for that, if you’re not that person, but I also believe that there’s a big part of it that you need to have *within* yourself. A little bit of psychology and understanding it” (GC, 2019).

“ . . . if I feel emotionally attached to somebody's situation, it's not my situation, but if I'm actually invested in that person's pain... That is just - you know what - *being human*” (LM, 2018).

- Whether empathy in design was always a positive aspect of the design process:

“Is it (empathy) always something that’s going to create better end result? Is it always going to be that tool - it can be positive, or is that going to be a negative tool? Are you going to come across as, “what does this person want “(too much, too intense)?” (FC, 2017)

“ . . . in terms of like coming from industrial design, I thought I was gonna learn to make stuff and sell them. But it’s not at all that . . . So it ends up being just emotional labour. You’re just driving emotions from people” (CF, 2017).

A selection of participant quotes are included here to indicate the relevance in relation to the data. These issues are clearly addressed and visualised in the final theory, including the complexity of the perceptions of the designers, and how these perceptions of empathy interact with self-awareness, perceptions of the design identity, and how the user input is valued. The Theory of BDBED is thus a relevant theory in relation to the issues raised by the participants.

8.2.3 Workability

The theory that emerges through the use of Grounded Theory should have “explanatory power within the specific context” (Khambete & Athavankar, 2010: 14; Goulding, 2002: 46). Thus, the criteria ‘workability’ asks: *does the theory does theory explain what is happening and how?*

The Theory of Being, Doing and Betweenness in Design is shown here again, in Figure 8.1¹, below, for easy reference. The Theory of BDBED defines the perceptions, concerns and confusions of the designers in relation to empathy, the designer’s role and responsibilities, and the value of the user’s contribution to the design process.

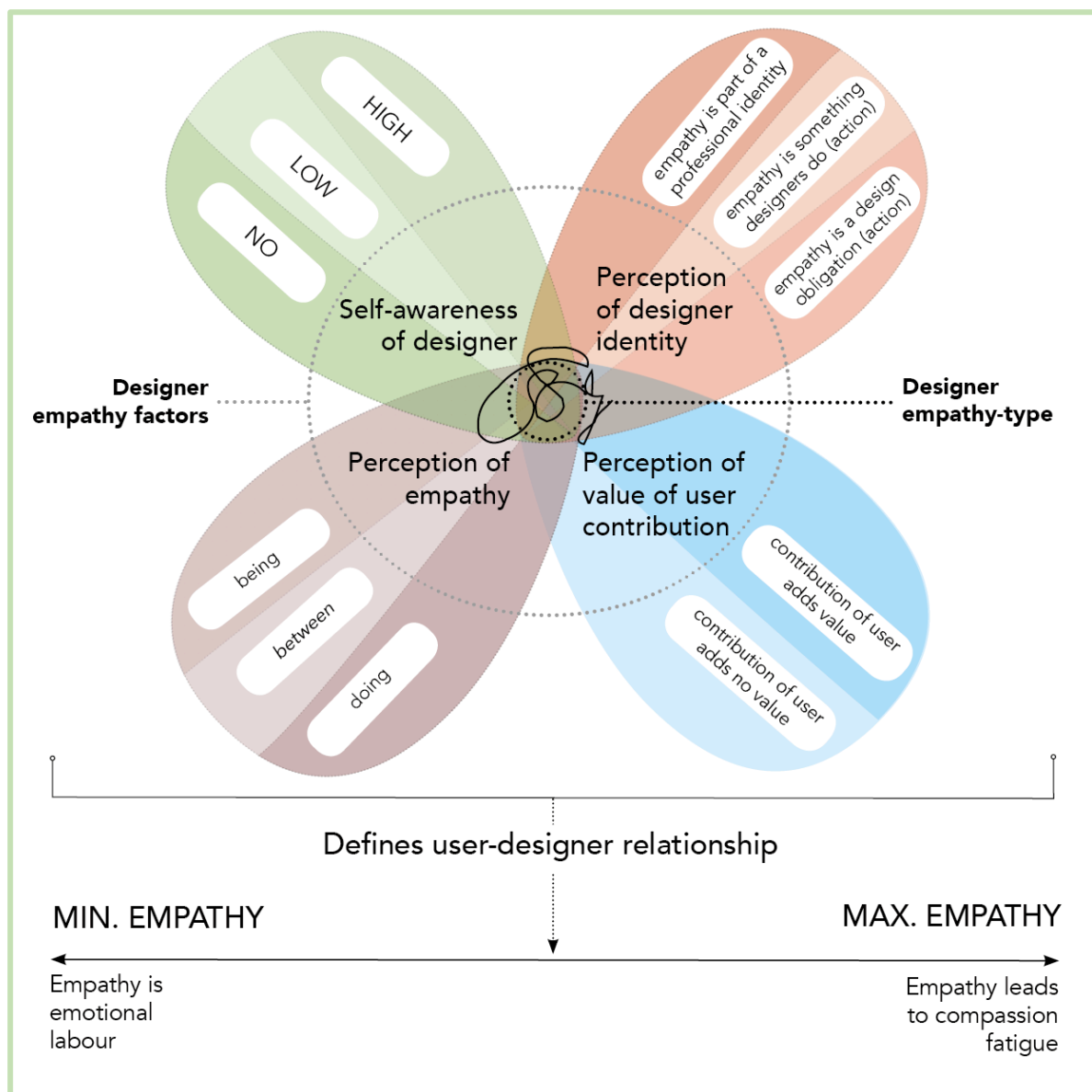


Figure 8.1: The Theory of Being, Doing and Betweenness of Empathy in Design

¹ This figure appeared as Figure 7.11 in Chapter 7: *Theory Building*.

The category of self-awareness is also a key factor in defining the interactions. The interplay between the 4 main categories determine the nature of the designer-user interaction and relationship and the designer empathy-type (as explained in great detail in *Chapter Seven: Theory Building*). The kind of role that is played by empathy in the user-designer relationship is also visualised here, on a scale from minimum to maximum empathy. While no positive or negative value is placed on this scale, the extremes suggest an unhealthy relationship². A person may choose *minimum empathy*, as they perceive “empathy as emotional labour”, and conversely, a person may choose *maximum empathy* and experience “empathy leading to compassion fatigue”. The Theory of BDBED also visualises the designer’s perceptions of the concept of empathy – as *being/* inside/ part of the self, *doing/* outside of the self/ actions, *between*: either both *being* and *doing* or neither (empathy exists between us).

8.2.4 Modifiability

As there are no appropriate theories of empathy within the design field, the researcher was forced to review the Theory of BDBED with theories from other fields. In accordance with Urquhart, Lehmann and Myers’ idea of *theoretical integration*, this is acceptable practice if there are few or no theories within the area under study (Urquhart, Lehmann & Myers, 1999: 369). Charmaz reinforces this, stating that the study of literatures and theories beyond disciplinary boundaries enables the researcher to cement their claim to a scholarly contribution (Charmaz, 2006: 183). The theory needs to demonstrate well-established categories and concepts, in order to compare it – reviewing the relationships to and/ or compatibility with other theories (Khambete & Athavankar, 2010: 14).

The criteria ‘modifiability’ asks: *does the theory relate to existing theories?*

Because of the dearth of theories³ within the area of study (empathy and design), four theories from other fields will be considered for comparison with the Theory of BDBED:

- *Reasoned Action Approach* originates in the field of Social Psychology. This is the updated version of the Theory of Reasoned Action.
- *Identity Control Theory* is a theory in Sociology.
- *Personal Construct Theory* or Personal Construct Psychology (PCP) from the fields of Psychology and Psychotherapy.
- The *Theory of Narrative Empathy* is from the field of Narratology⁴.

² A person may choose *minimum empathy*, as they perceive “empathy as emotional labour”, and conversely, a person may choose *maximum empathy* and experience “empathy leading to compassion fatigue”. Neither of the extremes is perceived as healthy.

³ The four stage *Empathy Framework* (Kouprie and Sleeswijk Visser, 2009) referred to in Chapter 6 is not a theory born out of research. It is a framework proposed by the authors, and therefore cannot be considered here.

⁴ Narratology falls within the field of literary theory, and is derived from semiotics and structuralism.

8.2.4.1 Reasoned Action Approach (RAA)

Martin Fishbein and Icek Ajzen developed the Theory of Reasoned Action (ToRA/ TRA) in 1967, and have been refining the theory ever since. It aims to connect and explain the attitudes and behaviours in people. The point is mainly to predict behaviour and behavioural change – by examining perceived norms, attitudes, behavioural control and intentions (Fishbein & Ajzen, 2010). Because the theory (ToRA) proved successful in the prediction of *how people would behave* across a range of variables: a variety of behaviours, in many different settings and across different populations, it has become one of the most significant theories for understanding intentional behaviour. In addition, it is quite accessible and can be applied accommodating a wide spectrum of behaviours, and consequently has been used for preventing HIV transmission, promoting health, and stopping smoking, to name a few (Hagger⁵, 2019). The updated version of ToRA – the Reasoned Action Approach (RAA) – includes *intentions* as a variable. Figure 8.2 below indicates the updated Reasoned Action Approach.

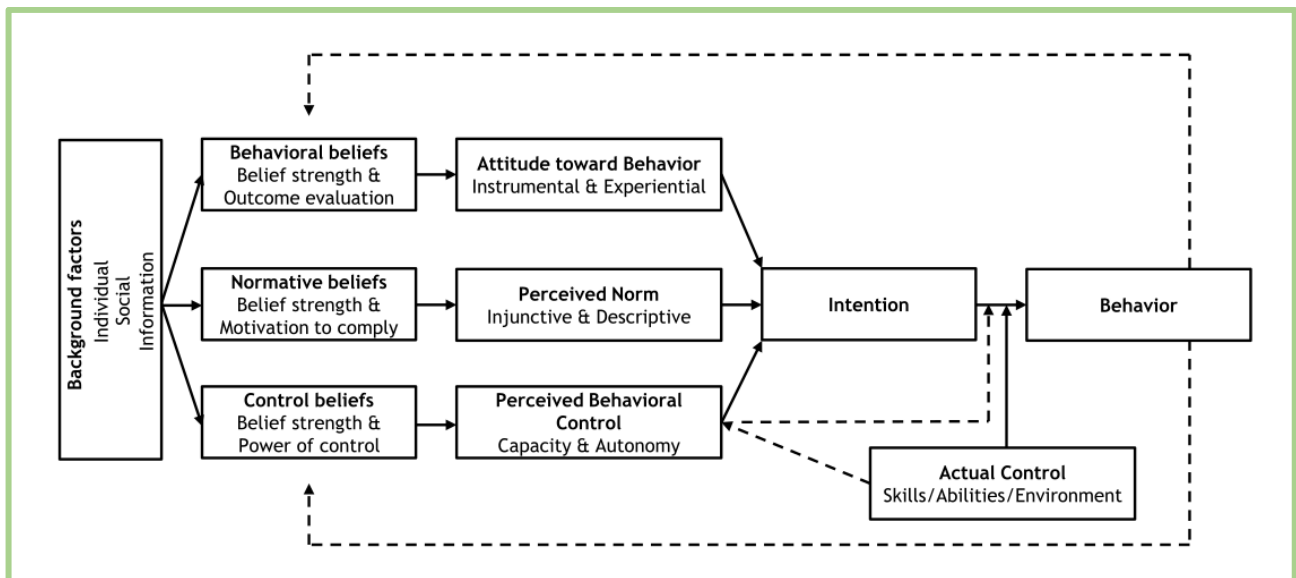


Figure 8.2: Reasoned Action Approach (Source: Fishbein & Ajzen, 2010)

If one considers the diagram of the RAA from the right to the left – starting with the behavioural outcome:

- Intention determines the behaviour
- Attitude, perceived norm and perceived behavioural control determine the intention
- Actual control is linked to both behaviour and perceived behavioural control
- The behavioural, normative and control beliefs are the determinants of intention

⁵ Hagger conducted an extensive review of the progress and development of the theories – by reviewing chapters, articles and books on ToRA and RAA – in his chapter: *The reasoned action approach and the theories of reasoned action and planned behavior* in the book *Oxford Bibliographies in Psychology*. Thus, the (Hagger, 2019) citation covers a range of views on the subject.

- Anything else not explicitly shown in the model feeds into background factors
- Interestingly, the *actual behaviour* also has an impact on the beliefs underlying intention.

Many authors have suggested extending the theory in various ways – but these changes would result in increased complexity and specialisation. So, while the RAA can be widely applied across contexts and behaviours, it remains an acknowledged *partial* explanation of behaviour (Hagger, 2019). Ajzen (2011) himself discussed the extension of the theory by possibly adding constructs. Suggests for adding constructs include: “belief salience, self-efficacy, anticipated regret and moral norms, self-identity, and affective beliefs” (Conner & Armitage, 1998 and Manstead & Parker, 1995, cited in Hagger, 2019).

Reasoned Action Approach and Theory of BDBED

The Theory of BDBED and the RAA are used to understand and explain social behaviours - the Theory of BDBED focussing on the role of empathy in design practice and the RAA having a broader scope of behaviours. The RAA, however, only allows for a one-dimensional understanding of the beliefs and determining factors. There are a limited number of options to determine intentions (and consequent behaviours), whereas the Theory of BDBED presents a larger number of options/ combinations of specific behaviours, intentions and beliefs/ perceptions – that determine the nature of the user-designer interactions and relationship. The RAA is used for understanding and predicting *intentional* behaviour. Thus, if a designer’s perception of empathy is one of *doing/ action*, then the RAA could apply. However, if the designer’s concept of empathy is of *being/ part of self* – then the RAA would be unlikely to be able to predict the outcome – as this is not necessarily *intentional* behaviour. As stated above, the suggestions by Conner and Armitage (1998) and Manstead and Parker (1995) to extend the RAA are interesting. The constructs suggested as additions include “belief salience, self-identity and affective beliefs”, which play a role within the theory of BDBED. In addition, Adefolalu notes that in RAA, the “individual’s beliefs about whether people who are significant to them approve or disapprove of the behaviour (subjective norms)” influences the individual’s behavioural intentions (Adefolalu, 2018). This could also tie to the expectations of the design community that ‘designers must have empathy for users’, that consequently empowers them to action, or inaction due to (perceived) pressure.

8.2.4.2 Identity Control Theory

In the field of Sociology, Identity Control Theory was developed by Peter Burke in the 1990s. The main concern is how a person’s identity relates to their behaviour in their social structure. Burke describes identity as a “set of ‘meanings’ applied to the self in a social role or situation defining what it means to be who one is. . . This set of meanings serves as a standard or reference for who one is” (Burke, 1991: 837). A feedback loop of four elements are in play here:

- A setting (a set of self-meanings)
- Input from the environment/ social situation (includes reflective self-appraisals)
- Process - compares the input with the standard (point of comparison)
- Output to the environment (meaningful behaviour) as a result of the comparison (Burke, 1991: 837).

Essentially, in Identity Control Theory, the self is categorised as the “occupant of a role”, and all the expectations and meanings that belong to that role - and how it gets ‘performed’ - become absorbed as a standard, that guides the behaviour of the self (Stets & Burke, 2000: 221). This theory is similar to Cognitive Dissonance Theory, and is used to modify *outputs*/ behaviour, in order to change the *input* (reflective appraisal) to match the internal *standard* (Burke, 1991: 837). The Identity Control Theory is visualised in Figure 8.3.

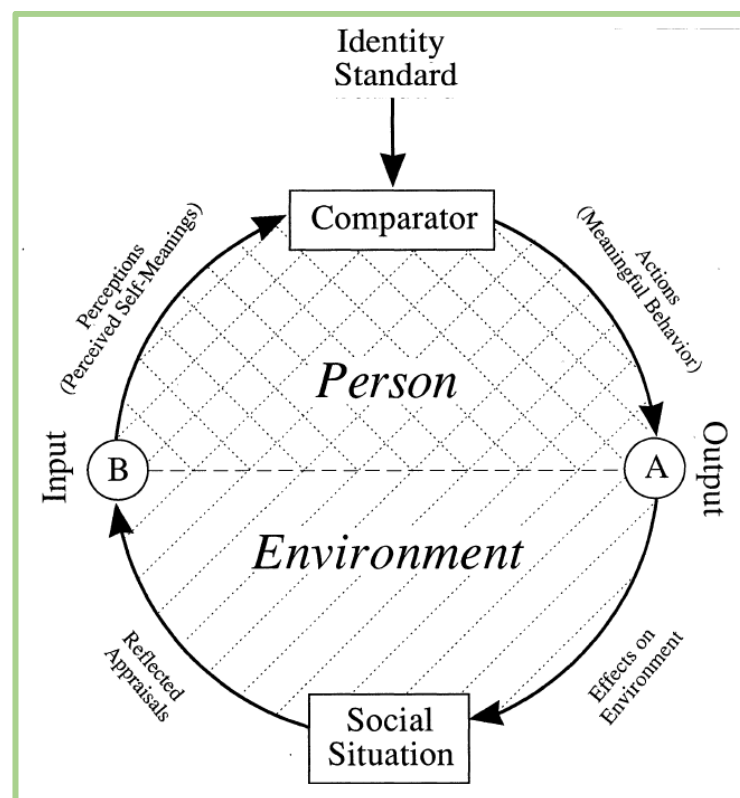


Figure 8.3: The Control-System View of the Identity Process: The Cycle of Meaning Showing Possible Points of Interruption at A and B (Source: Burke, 1991: 838)

It is important to note that the identity control loop is always operating, as people consciously or unconsciously adjust their behavior to maintain their sense of identity in relation to the identity standard (Burke, 1991: 840). It makes sense then, that people are concerned with how others view them – approving or disapproving of their identity (Stets & Burke, 2000: 226).

Identity Control Theory and Theory of BDBED

The Identity Control Theory is primarily a way to understand the construction of the identity of a person – as an individual in a role – in order to modify behaviour/s. The theory therefore relies upon a level of self-reflection and awareness that may not be present or possible for all people. They may need help to identify the factors influencing the identity standard, as well as inputs and outputs. The Identity Control Theory could have use in identifying empathy as part of the standard for the role of a professional designer. This would change the expectations of the role in the mind of the designer. Of course, this only works in the light of seeing empathy as part of the concept of *doing/ empathy actions*. It is unclear whether the same theory could be used to scrutinize each key component of the Theory of BDBED (self-awareness, value of the user, perceptions of empathy). In the Theory of BDBED, self-awareness and reflection on the role of the professional designer are just 2 factors that play a role in determining the nature of the relationship between the user and designer. The theory of BDBED is thus able to dissect a more complex system of interactions and factors, which all contribute to the nature of the user-designer relationship. In addition, the primary role of the theory is not to change behaviour, but rather raise awareness of the subject. Whether or not this awareness leads to behaviour change is currently untested.

8.2.4.3 Personal Construct Theory (also known as Personal Construct Psychology: PCP)

Personal Construct Theory was introduced by George Kelly in the 1950s, as a theory focussed on personal growth. In 2007, Winter reviewed the 50 years of development in the Personal Construct Psychology field, as the theory has been used in areas as diverse as politics, the arts, forensic psychology, sports, and more frequently in clinical and educational settings. In organisational environments, Personal Construct Theory has been used for coaching and vocational guidance (Winter, 2007: 4, 5). His approach, of the people as ‘scientists’ was radical at the time. The reflexive view that a person can interpret the world through the lens of their *own* constructs, thereby passes the power to analyse and act upon their analyses back to the person (Kelly, 2002). He developed the theory based on:

- All people have a way of interpreting our world (our construct systems),
 - All people can choose to act purposefully in terms of these interpretations (behaviour is an experiment)
 - All people can choose to modify (sometimes verbally and sometimes non-verbally) our responses
- And all of these actions are in the context of the all the behavioural outcomes experienced by the person (Kelly, 2002).

The Personal Construct Theory has been criticised over the years for the following shortcomings:

1. PC Theory does not sufficiently address the possibility of growth and development.
2. PC Theory doesn't specify motivations for behaviour
3. PC Theory does not separate cognition and emotion – thereby underestimating their influence on the constructs (Kelly, 2002).

Personal Construct theory and Theory of BDBED

The aim of the Personal Construct Theory is personal growth – by identifying the constructs, and then testing them in one's life. This either confirms or denies the accuracy of the person's self-assessment of their constructs, and adjustments can be made. In many ways, this is a means to self-reflection that does not require professional intervention. The Theory of BDBED is also a means of establishing a designer's perceptions in different areas (such as value of the user/ perceptions of empathy/ perceptions of designer identity and self-awareness). The *betweenness* of the relationships between the areas becomes the determining factor in understanding the user-designer relationship, and whether that falls in the *being/ doing* or *between* part of the theory.

8.2.4.4 Theory of Narrative Empathy

The Theory of Narrative Empathy relates to empathy as expressed/ evoked through storytelling, largely in textual form. Novelists hold the idea of empathy as a valuable part of writing, and "express belief in narrative empathy's power to change the minds and lives of readers" (Keen, 2006: 215). While character identification often invites empathy, it's not clear which comes first – empathy or identification. Studies have shown that negative emotions (such as fear, confusion, pain) appear to evoke more empathy in readers than positive emotions (Keen, 2006: 214). Different reader responses depend upon the following factors:

- Readers' *empathic dispositions* are not the same
- Outside factors, such as *context in time*, may contribute – e.g. may be relevant to historical/ cultural/ social circumstances at the time. This also explains why some novels are more relevant either only at the time of publication or years later.
- Novelists are not in control of *reader responses* – they may respond *because of* or *in spite of* the author's intentions.
- *Situational empathy* – dependent on plot – relies more on the life experience of the reader, than imaginative perspective-taking. Choices made by authors in terms of how they create their fictional world influence the readers' empathic responses – or lack thereof (Keen, 2006: 214, 215).

Keen describes novelists as “ready empathizers”:

Both authors’ empathy and readers’ empathy have rhetorical uses, which come more readily to notice when they conflict in instances of *empathic inaccuracy* (discordance arising from gaps between an author’s intention and a reader’s experience of narrative empathy). Experiences of empathic inaccuracy may contribute to a reader’s outraged sense that the author’s perspective is simply wrong. . . (Keen, 2006: 222).

While empathic inaccuracy⁶ may be very similar to self-deception, strong agreement between the author and the reader’s empathic response can inform a response beyond just reading – to action/ prosocial behaviour in the real world.

Keen introduces three new terms in relation to the Theory of Narrative Empathy:

- *Bounded strategic empathy* - this type of empathy operates within a specific group, stemming from common experiences and consequent familiarity.
- *Ambassadorial strategic empathy* - is outward looking: strategically aiming to cultivate empathy for a specific group (frequently for a purpose). Can be addressing members of a culturally or geographically remote group.
- *Broadcast strategic empathy* – uses the techniques of “emphasising common vulnerabilities and hopes through universalizing representations” in order to make all readers feel with the group (Keen, 2006: 224; Keen, 2013).

Empathy described above is all “strategic”, in a sense: a tool. While Keen agrees that all people have a level of mirror neuron automatic response, and thus a level of empathic response: dependent upon the activity level of the mirror neurons, she labels this kind of empathy as “primitive” (Keen, 2006: 212). Keen describes the intersection between *identity* and narrative empathy as problematic – do we empathise because we belong to a certain group – or can empathy help us transcend barrier of difference? (Keen, 2006: 223)

Theory of Narrative Empathy and Theory of BDBED

The Theory of Narrative Empathy is largely to do with evoking empathy through text (books etc), and the tools to achieve that. However, Keen herself registers doubt over what can be labelled as ‘empathetic’ without testing:

To persist in the nomination of favored techniques as empathetic without attention to the full range of techniques that may be contributing to empathetic

⁶ Empathic inaccuracy can be described as “a potential effect of narrative empathy: a strong conviction of empathy that *incorrectly* identifies the feeling of a literary persona. Empathic inaccuracy occurs when a reader responds empathetically to a fictional character at cross-purposes with an author’s intentions. Authors also sometimes evoke empathy unintentionally. This accident contributes to empathic inaccuracy” (Keen, 2006: 222).

effects renders the study of narrative empathy an impressionistic endeavor at best (Keen, 2006: 225).

The theory of BDBED, in contrast, is not seeking to identify nor test techniques labelled as 'empathic/ empathetic', but rather to identify key factors influencing the outcome – actualised in the nature of the relationship between the user and the designer. The concept of *empathic inaccuracy* is of interest, as it may be similar to self-deception – discordance between the self-belief of designer and the reality of their empathy behaviours. The designer may feel that empathy is pointless, but is unable to express it due to strong positive views in the professional environment.

As a review of the criteria of *modifiability*, the researcher looked closely at four theories from different fields – in order to consider how the theory of BDBED relates to existing theories. The overlaps and points of intersection and difference were highlighted in the text above, indicating the modifiability of the theory. In general, the Theory of BDBED had a different structure - due to the divergent subject and purpose, and largely covered a greater number of variables in the theory.

8.3 Contribution of the Research

The starting points for the research study were the dearth of an appropriate definition of empathy in design practice, the complexity of the concept of empathy itself, and the lack of literature and theory in the field. As described in Chapter Three, "the goal of the research became to develop an understanding of the phenomenon of empathy in design practice, in order to develop a conceptual paradigm". Before considering the contribution of this research, it is important to return to the research questions.

8.3.1. Revisiting the research questions

There was one main research question, and two sub questions closely linked to it. Throughout the chapters, these questions were explored and answered as indicated below:

8.3.1.1 The professional designers' perceptions

How is empathy understood by professional product designers? This question was explored through the intensive co-design workshop, as well as in semi-structured interviews. Because there are so many perceived expectations around the subject of empathy, the researcher had to be circumspect in the planning of activities and interview questions and attitudes, in order to prevent the Hawthorne effect. These considerations were discussed in Chapter Three and Chapter Four. The perceptions of designers of empathy were hugely varied, understandably, given the nature of the topic. As an

overview, the results were split into 2 broad categories – *intrinsic* or *extrinsic* empathy. The idea of empathy being *outside*: visible as *actions* or ‘things you do’ was at the one extreme, with the idea of empathy as *inside*: part of who you are or ‘you’re born with it’ at the other. These ideas became known as *being* and *doing* empathy perceptions. In addition, some designers thought that empathy was *both being* and *doing* – who you are *and* what you do in design, and this has been explained as a *between* concept in Chapters Six and Seven. There is no simple answer to the question: **How is empathy understood by professional product designers?** Rather, a range of concepts that fit somewhere on the spectrum of *being*, *doing* or *between/ both* can represent the understanding of the designers in product design practice.

8.3.1.2 The reality of design practice

What ‘definitions’ of empathy is practiced in the industry? The delicacy of the subject matter, related to professional and personal expectations, meant that the same amount of care was needed (as discussed in Chapters Three and Four) in order to establish what people were doing in design practice. While seeking a definition of what was happening in reality in design practice, the researcher soon realised that the designer’s perception of empathy had a critical effect on the practice of empathy in design. However, it became apparent that there were other key factors at play, namely: the *designer’s perception of the value of the user*, the *designer’s professional identity*, as well as the *designer’s level of self-awareness*. While these were intertwined with the *being*, *doing* and *between* concepts of empathy – they had a direct effect upon action taken during practice, or no action taken. It rapidly became clear that there is no one answer to: **What ‘definition’ of empathy is practiced in the design industry?** Rather, depending upon four key factors, the likely nature of designer empathy practice can be identified in product design practice. The theory developed through Grounded Theory can visualise this interconnection of variables, as well as where on a spectrum of empathy a professional designer’s practice may live.

The Main research question was: **How is empathy realised in professional product design practice?** By answering the two sub questions above, the researcher was able to answer the overarching question through the development of the grounded theory. By providing a theory model, the *Theory of Being, Doing and Betweenness in Design*, the boundaries of the concepts of empathy and design practice have been identified.

8.3.2 Theoretical contribution: the Theory of Being, Doing and Betweenness of Empathy in Design

The GT method is recommended when “little is known about a phenomenon”, and the resultant substantive theory explains complex issues – or any underlying processes (Chun Tie, Birks & Francis, 2019). Constructed Grounded Theory emphasises in-depth

interviews as a means to “purposely yield an intimate exploration of the meanings that participants attribute to their experiences” – and frequently results in an “interpretive understanding of the social process” (Kenny & Fourie, 2015: 1279). Charmaz underscores the co-construction of the data through the relationship and interactions between the researcher and the participants (Charmaz, 2006: 178). Thus, the theoretical contribution of this research takes the form of a substantive theory – generated through the CoGT methods, and evaluated according to Glaser’s criteria (Section 8.2: *Glaser’s criteria for evaluating theory*).

In “The Future of Grounded Theory”, Glaser captures the essence of GT as a research method:

Grounded theory tells us what is going on, tells us how to account for the participants’ main concerns, and reveals access variables that allow for incremental change. Grounded theory is *what is*, not what should, could, or ought to be (Glaser, 1999: 840) .

Thus, in an environment crowded with expectations with regard to designer’s practice – what *should/ could/ ought to be’s* - the Theory of Being, Doing and Betweenness in Design indicates *what is*, with regard to empathy in design practice.

Why contribute a theory?

- Theory is a means to understand what is going on in a particular context/ environment
- A data-based theory that is grounded in the data can best encapsulate the perceptions of the phenomena in question: empathy in product design practice
- An accessible way to communicate with others
- A means for designers, practitioners , educators to understand how to prepare designers for future practice

A theory can be considered as a map that serves individuals, providing a pathway to begin understanding the phenomenon under study. In this case, the lack of information and clarity on the concept of empathy, as well as the lack of focussed research on the subject, means that the Theory of BDBED is a valuable contribution. The *non-committal examination of literature in the field* in Chapter Two was a systematic literature review in the field, establishing that the literature was “vague” (Mattelmaki, 2008) or “vague and obscure” (Dong *et al.*, 2018: 295) with regard to both a definition of empathy, and a clear understanding of what empathy in design practice meant. “Design empathy” and “empathic” terms were used freely – as both adjectives and verbs - with no clear boundaries. In a context of the changing role of the designer, as well as the rise of design thinking, and “designerly” ways of problem solving, the demands placed on designers to better collaborate with users have increased (as discussed in Chapter One). In the future,

less complex tasks will be relegated to the work of machines and AI⁷, and what remains is the complex interactions of working with people. Designers need to understand the nature of their interactions and the role of empathy in their design practice.

The *Theory of Being, Doing and Betweenness in Design* addresses, not only the complexity of empathy, but the added intricacy of this understanding in the context of design practice. By identifying the different ways that designers perceive empathy – as *being*, *doing* and *between* – and the relationship with other factors, a new understanding is possible. The other factors include: self-awareness of the designer, the professional designer's identity, and the perception of value of the user in the process of design – and these factors contribute to the illumination of the interplay between them, and how that results in the nature of the relationship between designer and user. The Theory of BDBED provides a visual map to navigate the subject, that includes a scale of minimum to maximum empathy. This scale does not present a value model – rather a means of locating the designer's understanding and practice in a visual sense – and highlighting the overlaps between the different concepts of empathy as *being*, *doing* and *between*.

The Theory of BDBED provides a means to start to understand the practice of industrial design, in relation to the 2015 ICSID⁸ definition of industrial design, as referred to in Chapter One:

Industrial Design ... is a trans-disciplinary profession that harnesses creativity to resolve problems and co-create solutions with the intent of making a product, system, service, experience or a business, better.... Industrial Designers place the human in the centre of the process. They acquire a deep understanding of user needs *through empathy* and apply a pragmatic, user-centric problem-solving process to design products, systems, services, and experiences. They are strategic stakeholders in the innovation process and are uniquely positioned to bridge varied professional disciplines and business interests. They value the economic, social, and environmental impact of their work and their contribution towards co-creating a better quality of life (WDO, 2015, *italics inserted*).

The WDO definition suggests here that 'empathy' is a term of defined meaning, but the research has confirmed that it is considerably more complex. The phrasing of this definition implies that empathy is a *tool/ means* to gain a deep understanding. This falls within the *doing* concept of empathy, and is thus a feasible option for all designers. Neuroscientists confirm that physically all people have mirror neurons and will thus have some level of empathy response – dependent upon the level of activity of the mirror neurons (Keen, 2006). So, all designers will have a baseline level of empathy response,

⁷ AI is an abbreviation for artificial intelligence.

⁸ ICSID was the original name of the International Council for Societies of Industrial Design, it has recently been renamed the World Design Organisation (WDO), hence the use of both terms here. This was discussed in more detail in Chapter One.

whether they've chosen to engage with the user or not. In addition, this WDO definition works on a level of assuming a positive view of empathy, while this research indicates that this is not necessarily the case. Perceptions of designers in practice are not necessarily positive (refer section 8.2.2. *Relevance* above).

8.3.3 Building Theory in Design using CoGT method

"Allowing the data to speak" in an ill-defined environment is the benefit of Grounded Theory method. The field of design, and product design in particular, is in need of theory, and thus GT was a means of generating that. As stated in Chapter One:

Design will never achieve its true potential until it "rests on all three legs of science, observation, theorizing and experimenting to sort useful theories from the rest. To do this, design practice and design research require theory" (Friedman, 2003: 522).

In addition, the CoGT method can accommodate the different contexts and constructions of realities by acknowledging them, and understanding that data is co-created. Grounded Theory methods have been successfully used for studies involving empathy in numerous other fields/ research areas, in order to explain and understand the concepts and realities of the contexts. However, this is not yet true in design – particularly with regard to researching empathy and design practices. The development of the Theory of Being, Doing and Betweenness in Design indicates a first in the South African context. In fact, the researcher meticulously followed the CoGT guidelines for method, with no deviations, and the method was successful – in the sense that the researcher was able to identify core categories from authentic data and analyse it, and then conceptualise them into the form of a theory. Grounded theory offers great potential for use in the field of design, which requires expansion in the realm of scholarship:

It means learning about the specific and the general - and seeing what is new in them - then exploring their links to larger issues or creating larger unrecognized issues in entirety. An imaginative interpretation sparks new views and leads other scholars to new vistas. Grounded theory methods can provide a route to see beyond the obvious and a path to reach imaginative interpretations (Charmaz, 2006: 181).

Charmaz describes CoGT as unique in the sense that it is not the *discovery* of categories attached to data lurking in the external world. Instead, grounded theories within CoGT can be viewed "as products of emergent processes that occur through interaction"

(Charmaz, 2006: 178). Not simply the result of the application of methods, the new theories are built around the interactions between the researcher and the participants and/ or environments. The constructivist stance of Charmaz is summarised in the Table 8.1, as well as this researcher's response to these guiding principles.

Table 8.1: Reviewing the research in relation to Charmaz's Constructed Grounded Theory method
(adapted from Charmaz, 2006: 178)

Constructed Grounded Theory	
Charmaz's CoGT stance	Researcher actions in this study
• The grounded theory research process is fluid, interactive, and open-ended.	• The researcher approached the research in an open way, largely due to the vagueness of the research area, and lack of available data. The researcher was open to returning to data, changing direction and being flexible in general.
• The research problem informs initial methodological choices for data collection.	• The uncharted nature of the research area, meant that the researcher consulted participants in the process of planning the research, and how to elicit appropriate information
• Researchers are part of what they study, not separate from it.	• The researcher was part of the study from the outset. As both a product designer and a researcher in design, the researcher had a unique perspective on the subject. In addition, the researcher co-constructed the data <i>with</i> the participants in the interviews and workshops, and then immersed herself in the data prior to analysis.
• Grounded theory analysis shapes the conceptual content and direction of the study; the emerging analysis may lead to adopting multiple methods of data collection and to pursuing inquiry in several sites.	• The analysis, using Grounded Theory methods shaped the direction of the study. The researcher used different research techniques: a co-design workshop as well as interviews in an attempt to get a broad range of views. The individuals interviewed offered a broad range of views on the subject, and had differing levels of experience in design practice.
• Successive levels of abstraction through comparative analysis constitute the core of grounded theory analysis.	• The researcher remained immersed in the data during the analysis process, constantly referring back to the audio files and transcriptions. As the analysis developed and the categories emerged, with each review, the increasingly abstract concepts developed. The categories were reviewed in the context of the literature, and then by considering aspects of the draft theory.

• Analytic directions arise from how researchers interact with and interpret their comparisons and emerging analyses rather than from external prescriptions.	• The researcher was immersed in the data, constantly comparing original and authentic data with emerging core categories. This was not in relation to any existing frameworks or theories. The researcher suffered the uncertainty of emerging theory development, and consulting literature only once the core categories were identified.
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Using the GT method is a directed, but tough process. Goulding refers to Glaser's reference/ reflection on to the transition phases of the GT research – of intervals of depression, of wanting to give up and needing to wait patiently for insights to emerge from the data. The wrestling with ambiguity in the data, the meticulous but time-consuming coding processes, and the continuous comparison (returning to the original data, sound files) can require mental endurance and resilience (Goulding, 2002: 158). All of this is for the researcher's desire for authenticity in the data and analysis processes (Refer section 8.2.1 *Fit*).

One of benefits of using GT as a designer, is the importance is using diagramming as part of the research process, in order to develop concepts within theory. This appeals and embraces the visually orientated nature of designers as researchers. In addition, working in the unknown and vagueness is fairly familiar for designers in general. A GT methodology is difficult to manage, in the sense that it doesn't offer the traditional structure frequently required or recognised by research departments/ supervisors. However, GT can provide the space for designers to conceptualise creatively, "see beyond the obvious and a path to reach imaginative interpretations" (Charmaz, 2006: 181). Grounded Theory method should thus be recommended as a viable research method, in order to build design theory in the future.

8.4 Looking backwards and forwards

This section allows the researcher to look both ways – forwards and backwards - in order to reflect upon the research study.

8.4.1 Limitations of the study

The limitations of the research are predominantly related to the scale of the project. While the concept of data saturation is important in Grounded Theory methodology, it can mean that the data is saturated at an early stage, with a relatively small number of participants. In this case, the data appeared saturated after a co-design workshop and further interviews with 5 participants, as well as coding of design toolkits. The researcher then tested for data saturation with another interview, and after coding that, decided that saturation had been reached. So, a small sample was used in the study, but this was

appropriate in line with GT methods. In addition, the sample was “purposive” by design – in order to gather the most appropriate data (Carmichael & Cunningham, 2017: 60). This means that the sample was limited to participants involved in co-design and/ or community projects, and were mostly freelancers. It is possible, by the nature of co-design and community projects, that the designers had a greater awareness of empathy issues in design, which could be in contrast with designers who have less exposure to collaborative design practices. In addition, designers in a corporate environment (as opposed to freelancers) could be bound by codes of conduct or company ethos, which could have an impact on their user-designer interactions. It is key to note that in its current form, this substantive Theory of BDBED would be most representative of freelance designers, although that was not the intention of the study (and participants were selected in relation to the nature of their projects, not their employment).

Geographically, seven of the nine participants were based in Cape Town, with the other two being international (Northern Europe), and as such the small global footprint could be perceived as a limitation. The role of substantive theory is to form a starting point for larger, more expansive research projects to build formal theory.

8.4.2 Recommendation for further research

The Theory of BDBED is a substantive theory, and so is limited in its scope by its nature. Further work could be done on the theory by testing it on designers of varying levels of self-awareness. It would be interesting to know whether a baseline level of self-awareness is required in order to locate their practice on the empathy scale, or whether it is as accessible as it was meant to be (from this researcher’s point of view). It would also be of interest to know how designers, but in particular, how *younger* designers perceived themselves on the empathy scale – this distinction in age is only relevant in relation to the term “design immaturity”. Further research is certainly required in the *between* space, as indicated in the theory. This is a very fluid and flexible space, that offers opportunities for further specific development. It would also be interesting to assign values to the Theory of BDBED – although this would require further research to evaluate the weighting of each node of the theory. By assigning a value to each node, it would be possible to generate an “empathy score”, to position a designer on the empathy spectrum.

In relation to the limitations of scale discussed above (8.4.1 *Limitations of the study*), further research could be conducted to expand the geographical footprint of the study to other parts of the world. It would be interesting to know if geographical “empathic designer” profiles could be identified, in relation to both cultural and design development environments. In addition, the issue of human interactions across greatly varying cultures was not specifically addressed, and is a topic for further investigation.

As this is a substantive theory, a recommendation for further development would be to develop the Theory of BDBED towards a formal theory – in order to expand its scope and generalisability. Urquhart reminds researchers that Glaser and Strauss were concerned with the development of formal theory – which they perceived as the most important type of theory, as a result of its scope and possible influence. For this reason, she believes that the GT method is underutilised for the expansion of substantive to formal theories – thereby limiting the potential of the research (Urquhart, 2013: 144). (The nature of substantive and formal theories was discussed in detail in Chapter Three).

Urquhart suggests two ways (from Glaser and Strauss) to scale up a theory from substantive towards a more formal theory:

1. Move from specific to general terms

For example: speaking of ‘analysts and clients’, could be changed to ‘professionals and clients’ – thereby changing the scope of influence by altering the terms to be more general and less context - specific.

2. Add more diverse participants by extending the sampling

Expanding the comparison groups is a relatively simple means of expanding the scope of the theory, and thereby its generalisability (Urquhart, 2013: 143)

8.5 Conclusion

This final chapter began with an overview of how theory is evaluated within the Grounded Theory method. This included Glaser’s criteria for evaluating theory, and the *Theory of Being, Doing and Betweenness in Design* was evaluated according to Glaser’s criteria of fit, workability, relevance, and modifiability. The rest of the chapter continued by examining the contribution of the Theory of BDBED – in relation to the research questions. Limitations that were identified in the study were discussed, as well as the contribution of the Theory of BDBED in terms of a CoGT study. Suggestions as to how to scale the theory up into a more formal theory were made, as well as other areas for future research.

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¹ Note that references with a DOI or another type of permanent link will not show a recent access date.

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Appendix A: Formatting Template

Format etiquette

	Formatting details			
Headings:	Geneva	Bold	14pt	Title Case
	Single line space after heading			Left aligned
Sub-headings:	Geneva	Bold	14pt	Sentence case
	No line space after heading			Left aligned
Body text:	Myriad Pro	Justified	12 pt	1.15 line spacing
Indented quotations:	Myriad Pro	Justified	11 pt	1.15 line spacing
Footnotes:	Calibri light	Left aligned	8 pt	1.15 line spacing
In-text Referencing:	(Surname, year: page)	'&' used for (in text authors)	'and' used for part of a sentence	' <i>Et al.</i> ' used for more than 2 authors (all cited previously)
Capitalisation:	Design = discipline	design = verb/ process	Grounded Theory = discipline	grounded theory = method/ process

Format of Tables and Figures

	Formatting details			
Tables:	Myriad Pro	Centred	10 pt	1.15 line spacing
	Table and number in bold		Appears ABOVE the table	
Figures:	Myriad Pro	Centred	10 pt	1.15 line spacing
	Figure and number in bold		Appears BELOW the figure	

Appendix B: Letter of Informed Consent

Form 1b: To be completed by researcher.

Consent Form

Participant Code:

Date:

You are invited to participate in a research study conducted by Veronica Barnes, from the Faculty of Informatics and Design, at the Cape Peninsula University of Technology (CPUT).

I hope to learn about **your experiences of co design activities**. Research activities will include interviews and observations. These form part of my DTech: Design study. The time and aim for each session will be communicated in a short introduction and you will be able to decide whether you would like to participate. Taking part is completely voluntary and you welcome to stop participating whenever you like. Any information that is obtained in connection with this study will remain confidential and comments in text will be linked to a pseudonym of your choosing.

If you have any questions about the study or the research activities, please feel free to contact me at barnesv@cput.ac.za or on +27 84 689 1106.

This section includes information about our research session today and asks permission to use any photographs or videos that feature you, as well as comments you made during the session.

Date and Time: _____

Research
activities: _____

Permission to use media, quotes and materials

Tick all appropriate boxes:

*If a box is not ticked it means
you do not give consent for
these materials to be used.*

☐
☐
☐
☐

I give consent for **photographs** of me, taken in today's session to be used in academic publications and activities.

I give consent for **video** of me, taken in today's session to be used in academic publications and activities.

I give consent for any **quotes** I made today, to be used in academic publications and activities.

I give consent for any correspondence with the researcher to be used in academic publications and activities.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, that you understand that you may withdraw your consent at any time.

Signature: _____ Date: _____

Thank you for taking the time to learn more about my project. Please do not hesitate to contact me should you need any additional information. This project is supervised by Prof R. de la Harpe, Cape Peninsula University of Technology (delaharper@cput.ac.za).

Appendix C: Original Interview Questions

Summary (as sent to participants)

Many design fields call for designers to gain a deeper knowledge of the user by using empathy: in order to understand the real issues of others, so as to design the most suitable solutions for the problem. Despite these calls, new products continue failing to meet the users' functional and emotional needs. The *practice of designers* is under-researched in this regard: it is unclear how empathy plays a role in the engagement between professional designers and their users in the product design process. The engagement between the designer and the user is very important. The aim of the research is to explore the emotional engagement and role of empathy in the process of design. My research aims to explore the engagement between the designer, the user and the product.

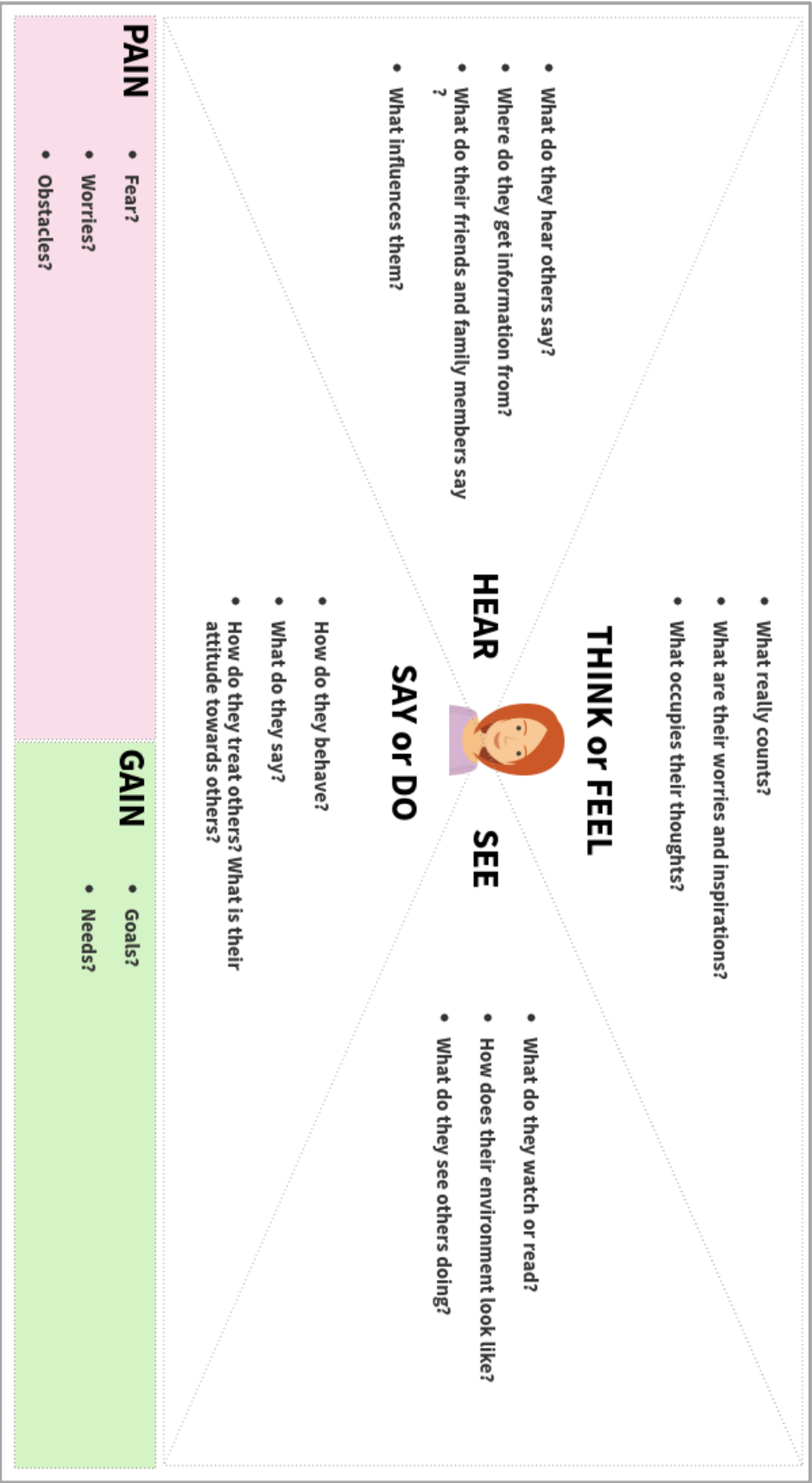
Questions:

1. Please tell me a little about yourself.
2. What product design projects have you been involved with – where you interact with the users/ community? Please explain.
3. How would you describe the interactions? What was your role?
4. Did you try to understand the users? If so, how did you do this?
5. If you did that again, would you change anything about the way that the interaction happened with the group of people? Is there anything about that that you would do differently?
6. What kind of designer do you need to be to do that kind of work with users (behaviour/ values/ etc)?
7. How do you prepare for that?
8. (optional, dependent on responses) Do you think in that environment would you see your job as emotional labour?

Other probing questions (dependent on responses):

- How does empathy manifest in practice?
- Features of empathy behaviour?
- What is the value? What do you think?

Appendix D: Empathy Map Example



(Source: Fagerström, 2018)

Appendix E: Mapping of Coding Families & Theoretical Codes

Table E: Theoretical Coding: Mapping of Coding Families & Theoretical Codes (Glaser, 1978, 1998, 2005)
(Collated by Hernandez, 2009: 62-66)

1978	1998	2005
The 6 Cs Causes Contingencies Consequences Covariance Contexts Conditions		Causal Family Conjunctural causation TC Amplifying causal looping Perpetual compounding Bias random walk Equifinality Reciprocal Causation Social Arena TC, (Social Worlds TC, Social Constraints TC) Social constraints TC (boundary maintaining conditions)
Process Family Stages, Staging, Phases, Phasing Progressions, Passages, Transitions, Trajectories Gradations, Steps, Shaping Ranks, Ordering, Chains Sequencing, Temporaling, Cycling	The Basic Family Basic social process Basic social structural process Basic social structural conditions Basic social psychological process Basic psychological process	Temporal Family Timelines Pacing of action (self, others) Pacing growing conditions Cycling TCs: Temporal ordering of work, etc.; Organizational cycling of productions; Actions/interactions spiralling up or down
Degree Family Ranks, Grades, Continuum, Levels Limit, Range, Intensity, Extent, Amount Cutting points, Critical juncture Statistical averages, Standard deviation Probability, Possibility, Polarity	Average Family Mathematical actions (mean, median, mode) Cutting points, Confidence limits Structural norms Probabilities of Occurrence	Levels TC (e.g., social stratification, authority structures, spirituality)
Dimension Family Dimensions, Elements, Divisions, Piece of, Properties of, Facet Sector, Portion, Segment, Part, Aspect, Section		
Type Family Type, Form, Kinds Styles, Classes, Gen		Ideal Type TC (Constructed Types, Paradigms, Pattern Variables)
Strategy Family Strategies, Tactics, Mechanisms, Ways, Techniques Manipulation, Manoeuvrings, Ploys, Dominating		Cross Pressures TC (External Conflict) Moment capture TC (essential opportunistic action)

Dealing with, Handling, Arrangements, Managed Goals, Means, Positioning		
Interactive Family Mutual efforts, Reciprocity, Mutual trajectory Mutual dependency, Interdependence Interaction of effects, Covariance	Interactive Family Traffic interaction Asymmetrical interaction (off - balance power equilibriums or power relations)	Systems Parts TC (e.g., functional reciprocity)
Identity-Self Family Self-image, Self-concept, Self-worth, Self-evaluation Identity, Social worth Self-realization, Transformations of self, Conversions of identity	Unit Identity Family Work, family, recreational life	Unit Identify Family Binary code TC (binary retreat, binary deconstruction)
Cutting Point Family Boundary, Benchmark, Division Critical juncture, Cutting point, Turning point, Breaking point Cleavage, Tolerance levels, Deviance Dichotomy, Trichotomy, Psychotomy In-out, Intra-extra, Point of no return	Boundary Family Limits, Outer limits, Confidence Limits, Front line, Deviance Boundary maintaining mechanisms Tolerance zones, Transition zones	Outer limits TC (e.g. legal, moral, security, safety, breaking or moving boundaries)
Means Goals Family End, Purpose, Goal Anticipated consequences, Product		Asymptote TC (getting as close as possible) Fractals TC Autopoiesis TC (e.g. structural coupling)
Cultural Family Social norms, Social values, Social beliefs Social sentiment	Representation Family (Cultural Representation) Descriptive (e.g. conceptualizing, baselining, vaguing) Proscriptive (e.g., properlining) Prescriptive (e.g., interpreting) Sentimental, Evaluative	Frames TC (Political, Religious, Ideological, Cultural)
Consensus Family Clusters, Agreement, Contracts, Cooperation Definitions of the situation Uniformities, Opinion, Homogeneity-Heterogeneity, Conformity, Conflict, Dicensus, Differential Perception, Non- Conformity Mutual Expectation		
Mainline Family Social control, Socialization, Social organization Social order, Social Mobility, Status Passage Recruitment, Stratification		

Social institutions, Social Interaction, Social World		
Theoretical Family Parsimony, Scope, Integration, Density, Clarity Fit, Relevance, Modifiability, Utility, Condensability Conceptual level, Inductive-Deductive Balance Multivariate Structure, Degree of Interpretive, Explanatory & Predictive Power		
Ordering or Elaboration Family Structural ordering Temporal ordering Generality (Conceptual ordering)		
Unit Family (Structural units) Collective, Group, Organization, Aggregate Nation, Social world, Territorial units, Society Situation, Context, Arena Behavioral pattern, Family Positional units (status, role, role relationship, status set, role-set, person-set, role partners)	Structural-Functional Family Reference groups Structural change Authority structure Functional requirements of structure	Action TC (variation in types of action for each unit) Social constraints TC
Reading Family Concepts Problems Hypotheses		
Models Linear model Property space		Isomorphism TC (theory model)
	Paired - Opposite Family Dichotomies, Polar opposites Paired Alternatives	Paired - Opposite Family Symmetry-asymmetry TC Binary TC Micro macro TC Balancing TC
	Scales Family Likert Guttman Cumulative Funneling down, Delimiting Random walk	

* TC= Theoretical Code

Appendix F: Loose Groups: the Contents, Codes & Quotations

Table F: Loose Groups and Contents, Codes and Quotations in focussed coding phase

Loose Group	Code examples:	Quotation examples:
1 Designer acknowledging context 6	Community - designer considering the history of the context Community - designers needing political understanding Community - designers needing progressive attitude Community - designers needing to be humble Community - needing to be aware of privilege Community - understanding what power relations exist here	Q: I think, it's to do the real work of empathy. To have an understanding of the history... ...To where understanding the context in which you operate would also give you insight into what is needed... ...Ask the right kinds of questions and explore how people in your community live their lives. Empathizing with the people you're designing for is the best route to truly grasping the context...
2 Designer acknowledging user 5	Community - designer NEEDS client Community - designers need to acknowledge responsibility for impact Community - designers needing experience of providing support community - needing to honour "client/s" Community = designers supporting	... You have to be adult to ... take responsibility of the impact ...but it's really to honour people that you are working with and to respect them as you would any client... ... Human- centred design is premised on empathy, on the idea that the people you're designing for are your roadmap to innovative solutions. All you have to do is empathize, understand them, and bring them along with you in the design process. ... Use a listening approach and be empathetic, flexible and supportive.
3 Designer actions 22	Design - client is not always the user Design - researching to identify principle criteria Design - top-down approach Design needing empathy Designer - identifying issues Designer - needing to communicate carefully Designer - observing people to understand Designer - putting user needs first Designer = enables innovation Designer is listening to innovate appropriately designer spends time thinking designer spends time thinking about the interactions Designer's job is listening	Q: I really think that the role of a designer is one of enabling innovation That's where the research comes in. To identify principle criteria. ...It's still my job to listen to what they're saying. Find out where the problems are actually coming from... ...I have just the tools and methods to bring people together and they-they can create and develop. ...collaboratively we will think of the solutions together. ...It is important to have an open mind, to build trust, to respect participants and their time... ...Observations during the interviews are a useful means to check and interpret answers, and valuable... ...respect people's uniqueness. Encourage different points of view. watch what people do.

	Designer actions (cont.)	designers - anticipating impact of outcome Designers - need to think differently Designers - not necessarily having the answer Designers moving between stakeholders Designers should be comfortable with their role Empathy -investing time "outside the project" Handling negative users Lots of people are suggesting what the problems are, without the evidence (<i>in vivo</i>) Navigating design is challenging (<i>in vivo</i>)	... look for patterns. Once you talk to several people, you may see and hear some of the same things... ...Building empathy for the people you serve means understanding their behaviour and what motivates them... ... Human-centred design is premised on empathy, on the idea that the people you're designing for are your roadmap to innovative solutions. All you have to do is empathize, understand them, and bring them along with you in the design process. ... Use a listening approach and be empathetic, flexible and supportive. ...the facilitator is not the expert or the voice of authority, instead, their role is a neutral position...
4	Designer contributing 3	Community - designers bringing fantastic skills Community - designers probably bringing little to context Design transforming communities	Q: designers have fantastic skills that they bring to the table. But they don't have the answers You would be bringing your expertise but ultimately putting at the service of your clientthis is what design could lead you to do. It could really transform to give an understanding of its transformative capability.
5	Designer dealing with emotions 12	But, like I said that, it's complicated. It's really complicated (<i>in vivo</i>) Design - responding to unmet emotional needs Designer - building relationships & trust Designer - exposing people's emotions Designer - listening to understand needs Designer - needing more emotional preparation designers - having a responsibility Designers - should they be limiting empathy? Empathy - designers needing to be open Empathy = investment of self Empathy can make designer vulnerable (<i>in vivo</i>) Product design = unexpected emotional labour	...If you want to be in empathetic you need to invest a lot of yourself and your energy into the interaction... ...You invest herself completely with the client and take on the emotional baggage... ... You kind of need to develop your...emotional resilience.... ... When I used to go up to the ward it used to make me cry, I used to get really emotional. ...Emotional labour gets too much because I have to deal with these people's issues... Building empathy for the people you serve means understanding their behavior and what motivates them... ... Use a listening approach and be empathetic, flexible and supportive ...Empathy is needed to understand emotions.

6	Designer's identity and role 12	Awareness of lack of empathy practice Designer = being an integrator Designer - need to consider client's time Designer - sharing experience not related to work/project Designer = being a facilitator Designer drawing lines of responsibility with user/ client Designers may not even be thinking about empathy Designers unaware of own behaviour Designers use tools to understand Familiar design process Someone that's prepared to shift and move around problem space without judgement (<i>in vivo</i>) Sometimes the client doesn't want to face the user (<i>in vivo</i>)	...you're not aware of it until you have to think about it or describe it (empathy in practice). ...it could have been maybe more embedded. I mean it was your classic top down kind of 'user as subject'... ...You're drawing lines of responsibility ...I have just the tools and methods to bring people together and they-they can create and develop. ...They are design- design students and they should have these skills to stop, relax and <i>listen</i>. ...seek new understanding ...the facilitator is not the expert or the voice of authority, instead, their role is a neutral position...
7	Designer perceptions of empathy 18	Emotional investment varies according to type of project Empathy - need to be in the moment Empathy - client is in control of situation Empathy - people needing to know who THEY are in relation to others Empathy - understanding leads to insights Empathy - works better on a smaller scale Empathy - you can't be an outsider Empathy = a kind of connection Empathy = a skill Empathy = an experience Empathy = co created? Empathy = complex Empathy = difficult for unknown person?	...You can read a person really quickly, and that person might change over the course of time. ...But empathy is a skill... Q: I've been very concerned about is that people understand who they are in relation to the humans they work with... ...seek new understanding ...Building empathy for the people you serve means understanding their behaviour and what motivates them... ...understanding behaviour enables us to identify physical, cognitive, social and/or cultural needs... Empathizing with the people you're designing for is the best route to truly grasping the context and... ...Working with people with disability to turn ideas into improvements that will lead to better experiences... Engage people with disability and encourage involvement in the process from the very beginning...

	Designer perceptions of empathy (cont.)	Empathy = full understanding a journey that you walk together Empathy for known person Empathy in practice is negotiated Empathy needed to deal with diverse users (<i>in vivo</i>) Physical clues vary according to culture	Be prepared to compromise. ...Their purpose is to help develop an informed intuition that will guide the designer through the rest... ...breaking into smaller groups to allow for more in-depth conversation regarding design.
8	Designer know themselves 13	As designers, it shouldn't be that difficult for us to do that (<i>in vivo</i>) Design immaturity = being selfish/ self-absorbed Design maturity = being empathic? Design practice = personal identity? Designer - needing to know themselves Designer - should be showing empathy to him/ herself Designer empathy = more than just delivering a service Designers - needing to understand THEIR role in interaction designers - needing to acknowledge own prejudices Designers - needing to be honest with Self Designers - needing to read the situation Expectation that designer needs empathy Personality will initially set the tone of interaction (<i>in vivo</i>)	Q: Seeing your client: Not as a job or a paycheck. The designer is not only delivering a service... Q: that before you can learn to engage with people you need to reflect quite honestly on who you are... ...it's to be aware of the way privilege impacts on one's life ...I like to try different ways. Like, I try to learn after every case study or every project I think it's a part of how I behave (empathy). ...I like to do (design in) healthcare because of the empathy ...spend some time thinking about their emotional interaction and- and what they're expelling in terms... body language. ...I've been going for that and I've realised what, okay, these are my strengths. Probably every day or after a certain situation, I'll go back and think about the situation...
9	Effects of empathy 11	Empathy - always positive? Empathy - can be healing empathy - people will open up Empathy = full understanding empathy = more diverse outcome Empathy = ongoing relationship empathy = positive outcome Empathy is valuable Empathy showing in the outcome of interaction	...I think it would create a richer, more diverse outcome You invest herself completely with the client and take on the emotional baggage, in order to understand... ...because empathy without understanding is sympathy at the end of the day. ...there should be more empathy course or lectures in the schools, that... ...But this emotional labour with designing for Nicky and WITH her was fun, I enjoyed it...

	Effects of empathy (cont.)	Empathy transforming relationship It's always fun and it's always nice (<i>in vivo</i>)	Empathy is the capacity to step into other people's shoes, to understand their lives...
10 28	Empathy actions	Empathy - person needs to be responding (<i>in vivo</i>) Empathy - engaging in activities to build bridges Empathy - giving the other person choices Empathy - informal manner Empathy - one action can determine relationship (<i>in vivo</i>) Empathy - prioritising other's comfort Empathy - small talk empathy = active listening Empathy = appropriate response Empathy = being honest/ brutal Empathy = being inclusive Empathy = being proactive and helpful Empathy = communicating beyond the job Empathy = culturally sensitive Empathy = do not make assumptions empathy = don't be pushy Empathy = engage holistically empathy = eye contact empathy = getting to know person/s Empathy = having no agenda Empathy = listening to understand Empathy = mutual respect Empathy = need to be emotionally vulnerable Empathy = sharing Empathy = storytelling Empathy = values the person Empathy = you being flexible Listening to gather rich detailed data (<i>in vivo</i>)	... To be an EMPATH truly, you need to be emotionally vulnerable to situations constantly. I guess you kind of "check yourself in" at the door, so you are open to anything. You don't pre-empt anything... You don't come in with an agenda. ... Eye contact, personal cues, those kinds of things, that one would not necessarily do overtly. "being in the moment". I think that's active listening, and eye contact. Responding on the spot ... Mutual respect Active listening It's still my job to listen to what they're saying. Find out where the problems are actually coming from... ... I have just the tools and methods to bring people together and they- they can create and develop ... really expensive, in terms of time. I might say that "Take your time, I'm not busy" More flexible, more equal Being a good listener It is important to have an open mind, to build trust, to respect participants and their time ... It is important to build rapport and behave and interact appropriately (tips & tricks). It is important to be aware of the influence of age, gender and clothing... ... respect people's uniqueness. Encourage different points of view. ... Reach out to people in your community and gain their perspective on issues that matter to them. Be professional and respectful. Use a listening approach and be empathetic, flexible and supportive

11	Empathy and time 7	Connecting takes time Discussion takes time Empathy can't be rushed (<i>in vivo</i>) Empathy needing to be constant Empathy taking time Observation takes time (<i>in vivo</i>) Time constraints limiting teaching empathy (<i>in vivo</i>)	Empathy for me would take time, and there for me it is not a process that can be rushed... ...it was detailed... Like, the-the interview took maybe two hours... ...really expensive, in terms of time. It's almost like to get a connection with someone, you-you need to offer them... your time
12	Empathy as a tool 13	Designer is bringing tools and methods (<i>in vivo</i>) Designers create personas (<i>in vivo</i>) Empathy - is it a tool? Empathy - part of Design Thinking Empathy = personal decision? Empathy experience is separate to the project Empathy in design only happens now and then (<i>in vivo</i>) Empathy interactions will change Empathy is a drawcard for a project (<i>in vivo</i>) Empathy process can have a life of its own (<i>in vivo</i>) it's weird to talk about something like empathy in terms of a tool (<i>in vivo</i>) Using empathy to facilitate communication You can't make empathy; you can train it (<i>in vivo</i>)	You can't make empathy, you can train it Q: ...it's weird to talk about something like empathy in terms of a tool, So, with some of them it's the process, for some its including tools... ...I have just the tools and methods to bring people together and they- they can create and develop ...And I'm going to use different methods. And I'm very open to get any kind of feedback about those me... ...really good probe because I got a lot of answers, and they were really keen to- to answer. Maybe some kind of, um, small like concrete examples about the methodsduring those methods what I used there, they realised that "Oh, you are facing the same challenges as me"I would rather... visualize or tell you a narrative or a story and that's where the empathy comes in...
13	Empathy decisions 4	Empathy - can be a decision Empathy - needing to be a reason to understand (<i>in vivo</i>) Empathy needing investment Empathy needing to be planned	If you want to be in empathetic you need to invest a lot of yourself and your energy into the interaction... ...It can't be something that is done in an ad hoc way. ...I think that was really kind of ...Ja, expensive in dealing with people at times
14	Empathy as part of who I am/ personal ethos 21	(Empathy) It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are, so by observing their practice, in a way you are observing them as a person (<i>in vivo</i>)	And that's empathy. Go stay with those people for a night. However unsafe it may be, and see how they live... there are people that are passionate about assisted technology, but I'm passionate about people's experiences...

Empathy as part of who I am/ personal ethos (cont.)	But those kinds of emotions are always part of that kind of design process, when you are designing healthcare services (<i>in vivo</i>) Design is my calling (<i>in vivo</i>) Designer view will depend on personality Empathy - being human? Empathy - not processing consciously Empathy - part of who you are? Empathy = Being born with it Empathy = needing to be able to read the situation Empathy = personal connection Empathy = personal ethos Empathy = relying heavily on EQ Empathy not conscious decision in design greater understanding = more empathy having a generous spirit (<i>in vivo</i>) It's what I'm meant to do. (<i>in vivo</i>) I'm passionate about people's experiences (<i>in vivo</i>) Not everyone has EQ (<i>in vivo</i>) Passionate about people's experiences Your response to my empathy doesn't matter (<i>in vivo</i>) You're not just being there to provide a service (<i>in vivo</i>)	...That's my area of interest. What are the barriers to people completing simple tasks ... Q: You're not just being there to provide a service (Empathy) It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are... You have to be born with it. I think for me it's part of who I am. Because I have a background where I've had to deal with other people... ...I think the immediacy of the personal connection can't be translated via/ through by anything Digital... ...You're really keen to know all those dreams what they have. ...It is my calling. Universal access is my calling... It's what I'm meant to do... It's a way that you're saying: this is my personal ethos. It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are... ...A lot of this animal you're trying to describe relies heavily on EQ. Yeah, and not everybody has that, hey? I'm passionate about people's experiences ...We're talking about who you are, or how you behave. And whether that's perceived as positive or not.
15 8 Empathy related to environment	Designer - being IN the users' environment Empathy - important in interviews Empathy - needing a no pressure environment Empathy - physical environment is important empathy - relaxed environment empathy = is location important? Empathy needing a neutral meeting space? (<i>in vivo</i>) Negative environment = negative outcome	It would need to happen in a space, where you are able to read personal cues or clues, where you can see someone physically... ...If the environment sucks, and there's lots of negativity in that space, it'll affect the outcome of what's happening. In-context interviews give the participant greater ease... Meeting people where they live, work, and socialize and immersing yourself in their context reveals new insights and unexpected opportunities.

16	Empathy related to age/ experience 5	Designer - experience makes it easier (<i>in vivo</i>) Designer view will depend on job level/ position Hope other next gen have empathy in process (<i>in vivo</i>) Next gen don't have empathy (<i>in vivo</i>) Older people show more empathy	I think on a bigger level we would hope there are students who will operate that way (with empathy). ...where they don't have to do any designing work. They just have to move beyond that barrier of being design immature. So, for me, it would be interesting to do some research on immaturity in design... To see to what extent they stop being students, stop being selfish.
17	Interacting: Designer and user 15	design - collaborating with users Design - client is the user Designer - communicating with client/user Designer - putting skills at service of client (<i>in vivo</i>) Designers - needing to help users understand THEIR role Designers - is client feeling on "back foot"? (<i>in vivo</i>) Designers - is every client wanting empathy? (<i>in vivo</i>) Designers - needing to be honest with Client Face to face better than google forms (<i>in vivo</i>) Groups of users discussion forum Interviews give users a voice (<i>in vivo</i>)	So, I sit and have a one-on-one chat with staff. It's completely anonymous. I capture all their comments... ...how it played out is: I'd go to Nicky, talk to her, get her understanding. That was the biggest part... Ask the person to tell you about their experience of the improvement. ...I definitely know I'm an integrator, whereby I - I move between stakeholders, I move between users and - and I assess, I identify initially what the problems are. So, people that can identify problems, not solutions, in the first instance... You would be bringing your expertise but ultimately putting at the service of your clientcollaboratively we will think of the solutions together. If it's not about the physical form, it's about the emotion, emotional design associated with that. Um, then we can both tell our experiences, tell our story. And then together, whether it's with the stakeholders or whether it's the end users, come up with some good ideas... Come up with inspirations, inspiration for solution building...
18	Interacting: User and designer 4	involving users is necessary. It's like a... You always need to have real users there (<i>in vivo</i>) User needing to feel the designer is interested in their challenges Users - needing to understand designer's role Users sharing can make them more open to designer	They can share their knowledge inside there and then they are maybe more open to take me there and help them... "You - non-healthcare professional, you are coming here and you are like trying to change our communication processes". ...To have the time that, "Just take your time to think. I know that you have, might have a problem to-to get your ideas out, so it doesn't matter."

	Interacting: User and designer (cont.)		Having a discussion where we don't speak the same language. Nicky wants something, and the engineer wants something else, and how they address the situation so I was that link, pulling the whole thing together... ...So, they need concrete examples to understand what is my role.
19	Lack of understanding of empathy 18	Does empathy depend on the scale of the project? Empathy - devaluing empathy by quantifying it? Empathy - question motives Empathy - undefined Empathy - what are the power dynamics? Empathy - what is the motivation? Empathy = a lost skill? Empathy = is it even unpackable? Empathy = is it necessary to understand it? Empathy = where does it begin? Empathy is abstract Empathy is different to sympathy Empathy is not discussed How much empathy is enough? Is empathy a process? Is empathy quantifiable? Is empathy useful in a corporation vs individual? Sympathy = empathy without understanding	Even thinking about themselves, most of the students and definitely lots of the clients are more sym... ...which I realised in hindsight is: in the beginning, I thought empathy was touchy-feely, I need to give this guy a hug... I do find it interesting because nobody talks about it at all Q: Who is going to decide on that line? At what point is enough? Is there an enough? Yes, but it's almost going to take away from what it is by quantifying it. Q: that before you can learn to engage with people you need to reflect quite honestly on who you are in... Are you going to come across as, "what does this person want" (too much, too intense)? Which takes me back to my initial point, at what point does it become too much? Q: What are the boundaries within which you operate? Because we can't all be those kinds of "empaths", where it becomes totally self-destructive... It feels weird because we're almost unpacking something that is not necessarily unpackable
20	Living as a user 7	Empathizing with the people you're designing for is the best route to truly grasping the context and complexities of their lives (<i>in vivo</i>) Empathy - invited into their world Empathy is based on the user's lived experience I have personal experience of their issues (<i>in vivo</i>) imagining myself as user (<i>in vivo</i>)	Empathizing with the people you're designing for is the best route to truly grasping the context and complexities of their lives... "Hm that could be me one day." ...They've got to go and BE that person. I need to be able to put myself in that situation without stepping on toes.

	Living as a user (cont.)	User experiences - can expose strong emotions Users can have heavy stories (<i>in vivo</i>)	... You need to have empathy in the sense that if I'm able to put myself ... Not lose myself necessarily in the situation... ... Empathy is the capacity to step into other people's shoes, to understand their lives, and start to solve problems from their perspective. So, persons with disabilities, they often have very emotional and very heavy stories. ... And that's empathy. Go stay with those people for a night. However unsafe it may be, and see how they live...
21	Negative effects of empathy 17	Clients - should be setting boundaries on communication Designers - boundaries on empathy are protecting us Empathy - may be "expensive" in dealing with people (<i>in vivo</i>) Empathy - you need to protect yourself Empathy = challenging Empathy = emotional labour Empathy = self-destructive Empathy = taking on emotional baggage Empathy = work Empathy can be scary Empathy can create negative impression - too intense Empathy dilemma Empathy fatigue Empathy may cost you negatively (<i>in vivo</i>) Needing boundaries Protecting clients by putting boundaries on empathy Too much care can be unhealthy (<i>in vivo</i>)	Q: Where is the line then between something that is self-destructive and killing, as opposed to something that becomes proactive and helpful? ... Because otherwise, at the end of the day... It may be self-destructive and killing to you You invest herself completely with the client and take on the emotional baggage, in order to understand. When I used to go up to the ward it used to make me cry, I used to get really emotional. I'm not saying you get desensitized but what I'm saying is you realize that there are only certain a... Emotional labour gets too much because I have to deal with these people's issues and I start thinking... ... it's not bad to care. But why do you care to a point where you don't think that you have an impact -... And then I don't lose my own inner energy so much. I think that was really kind of ... Ja, expensive in dealing with people at times ... Like completely drained So, you can't be desensitized because you're still working in a very specific field that needs empathy...

22	Physical signs to recognise empathy 9	empathy - having physical clues empathy - including body language Empathy = investing energy in interaction Empathy = needing to be able to read personal clues empathy seen in behaviour? Eye contact = a challenge to authority Perceptions of others rely on physical clues (<i>in vivo</i>) Physical clues vary according to culture Some cultures you need to be submissive (<i>in vivo</i>)	If you want to be in empathetic you need to invest a lot of yourself and your energy into the interaction... ...maybe we had like a really good conversation, and... maybe it was like the way how I listened her..... I think with that (physical cues), you need to be culturally sensitive Eye contact, personal cues, those kinds of things, that one would not necessarily do overtly... I spend a lot of time observing, um, and you can get a lot from an observation level of people The first thing could be, oh, body language.
23	Practice vs educational environment 9	Educators are sympathetic (<i>in vivo</i>) Empathy difficult to manage in professional context Empathy easier in educational environment Empathy in professional context different to educational context Empathy not included Not considering empathy Not teaching empathy skills Reflection - could be a learning tool to understand designer empathy Reflection - how to make space for more empathy in practice?	It's a flexible environment ...there should be more empathy course or lectures in the schools, Then imagine that kind of situation in a professional level. That's like a bazillion times worse I think... ...Remember that your client is also going to determine the space within which you and they operate, in terms of what the relationship is going to be. the client says "No, come meet me at coffee shop". You either go yes or no, and that will determine... who do I need to have empathy with in that sense? And beyond that, who can I actually be empathetic...?
24	Recognising little/no empathy 9	Designer could be faking empathy because of expectation designer view - is missing perspective-taking Empathy - other party is unhappy if it's missing Empathy - you can tell when it's missing (<i>in vivo</i>) False empathy - bigger causes False empathy - reason to be emotional No empathy = creating a barrier	He basically manages the relationship in terms of deliverables. That's what the relationship is. ...Because if you come in closed off then it's not going to work. ...they said it all started with (the death of Princess) Diana and-and they called it "false empathy". .. Then I went back and spent time living there for a whole week, and I got to know them, I ate with them. And everything changed. The way they interacted with me, they opened up more. And it was that that was missing before, and I didn't realise it the first time I went.

	Recognising little/ no empathy (cont.)	No empathy = managing relationship in terms of deliverables No empathy if you appear closed (<i>in vivo</i>)	...I realised in hindsight: in the beginning, I thought empathy was touchy-feely, I need to give that person a hug, kind of. It's not, it's not, it's not <i>at all</i> . The one thing that was missing for me, is trying to imagine that you're the other person – so perspective-taking...
25	Technology and empathy 2	Empathy = can't be translated via digital means Technology contributing to lost empathy	I think the immediacy of the personal connection can't be translated via/ through by anything digital... ...Well it is lost skill, because now if you don't like somebody, you swipe left. ...I don't see any joy in that. Use the bendable screen technology for something, figuratively speaking, use what is developed now. Yes, push the boundaries on certain things - but also use the technology that certain people have now and help them grow in, where they are at.
26	User contributing to interaction/ process 15	Collective problem solving Design process itself can be really empowering for the users, when they can say what they have carried. How do you assess quality in participatory design? Personal user stories So you need to kind of have empathy for every situation User experiences matter User feels heard User perceptions are not researched Users - always needing to be part of the design process Users - can be keen to know about design Users - can be resistant Users - can come up new ideas Users - knowing what they need Users can identify problems Users testing product/ system	And then they tell me all their stories and that becomes part of my report Those are long and very detailed but they often give very specific bits on information that you won't... They can share their knowledge inside there Start your interview or workshop from the perspective of the person, the family and other supporters... ...involving users is necessary. It's like a... You always need to have a real user there If it's not about the physical form, it's about the emotion, emotional divine associated with that... Let's just make it better. And I can't worry about how to make it better, let's just do it ... this allows all the voices in the room to be heard and reinforces that everyone is equally important...

Appendix G: Empathy Definitions

Table G: List of Identified Empathy Definitions (Source: Cuff *et al.*, 2016: 146, 147)

Identified Empathy Definitions		
	Author(s)	Definition
1	Albiero et al. (2009, p. 393)	"The tendency to vicariously experience other individuals' emotional states ... an emotional response that is focused more on another person's situation or emotion than on one's own ... [which] can be either identical to or congruent with that of the other person involved."
2	Barker (2008, p. 141)	"The act of perceiving, understanding, experiencing, and responding to the emotional state and ideas of another person."
3	Barnett & Mann (2013, p. 230)	"A cognitive and emotional understanding of another's experience, resulting in an emotional response that is congruent with a view that others are worthy of compassion and respect and have intrinsic worth."
4	Baron-Cohen & Wheelwright (2004, p. 168)	"The drive or ability to attribute mental states to another person/animal, and entails an appropriate affective response in the observer to the other person's mental state."
5	Batson et al. (2005, p. 486)	"An other oriented emotional response elicited by and congruent with the perceived welfare of someone else."
6	Batson, Fultz, & Schoenrade (1987, p. 20)	"The other-focused, congruent emotion produced by witnessing another person's suffering involves such feelings as sympathy, compassion, softheartedness, and tenderness."
7	Clark (2010, p. 95)	"A way ... to grasp the feelings and meanings of the client."
8	Cohen & Strayer (1996, p. 988)	"The ability to understand and share in another's emotional state or context."
9	Colman (2009, p. 248)	"The capacity to understand and enter into another person's feelings and emotions or to experience something from the other person's point of view."
10	Coplan (2011, p. 40)	"A complex imaginative process through which an observer simulates another person's situated psychological states while maintaining clear self-other differentiation."
11	Davis (1983, p. 114)	"A reaction to the observed experiences of another."
12	Davis (1996, p. 12)	"A set of constructs having to do with the responses of one individual to the experiences of another. These constructs specifically include the processes taking place within the observer and the affective and non-affective outcomes which result from those processes."
13	Decety & Lamm (2006, p. 1146)	"A sense of similarity between the feelings one experiences and those expressed by others."
14	Decety & Lamm (2006, p. 1146)	"The ability to experience and understand what others feel without confusion between oneself and others."

15	Decety & Michalska (2010, p. 886)	"The ability to appreciate the emotions of others with a minimal distinction between self and other."
16	Decety & Moriguchi (2007, p. 22)	"The capacity to share and understand emotional states of others in reference to oneself."
17	Dymond (1949, p. 127)	"The imaginative transposing of oneself into the thinking, feeling and acting of another and so structuring the world as he does."
18	Eisenberg, Fabes, & Spinrad (2006, p. 647)	"An affective response that stems from the comprehension of another's emotional state or condition, which is identical or very similar to the other's emotion, or what would be expected to feel."
19	Feshbach (1975, p. 26)	"A match between the affective responses of a perceiver and that of a stimulus person.... [definitions] must take into account both cognitive and affective factors."
20	Geer, Estupinan, & Manguno-Mire (2000, p. 101)	"The ability to perceive another person's point-of-view, experience the emotions of another and behave compassionately."
21	Goldman (1993, p. 351)	"A sort of 'mimicking' of one person's affective state by that of another."
22	Hein & Singer (2008, p. 154)	"An affective state, caused by sharing of the emotions or sensory states of another person."
23	Hoffman (2000, p. 4)	"An affective response more appropriate to another's situation than one's own."
24	Hogan (1969, p. 308)	"The act of constructing for oneself another's mental state."
25	Ickes (1997, p. 2)	"A complex form of psychological inference in which observation, memory, knowledge, and reasoning are combined to yield insights into the thoughts and feelings of others."
26	Johnson, Cheek, & Smither (1983, p. 1299).	"The tendency to apprehend another person's condition or state of mind."
27	Lazarus (1994, p. 287)	"Sharing another's feelings by placing oneself psychologically in that person's circumstance."
28	Oliveira-Silva & Gonçalves (2011, p. 201)	"The capacities to resonate with another person's emotions, understand his/her thoughts and feelings, separate our own thoughts and emotions from those of the observed and responding with the appropriate prosocial and helpful behaviour."
29	Pavey, Greitemeyer, & Sparks (2012, p. 681)	"The experience of sympathetic emotions and concern for another person in distress."
30	Pease (1995, p. 202)	"The action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts and experience of another of either the past or present without having the feelings, thoughts and experience fully communicated in an objectively explicit manner."
31	Pelligra (2011, p. 170)	"The ability to anticipate and share others' emotional states."
32	Preston (2007, p. 428)	"A shared emotional experience occurring when one person (the subject) comes to feel a similar emotion to another (the object) as a result of perceiving the other's state."
33	Preston & de Waal (2002, p. 4)	"Subject's state results from the attended perception of the object's state"

34	Rogers (1975, p. 2)	"To perceive the internal frame of reference of another with accuracy and with the emotional components and meanings which pertain thereto as if one were the person, but without ever losing the 'as if' condition."
35	Singer & Lamm (2009, p. 82)	"An affective response to the directly perceived, imagined, or inferred feeling state of another being."
36	Singer & Steinbeis (2009, p. 43)	"A distinction between oneself and others and an awareness that one is vicariously feeling with someone but that this is not one's own emotion."
37	Smith (1759, cited by Marshall et al., 1995, p. 100)	"An ability to understand another person's perspective plus a visceral or emotional reaction."
38	Stocks et al. (2011, p. 3)	"A category of emotional responses that are felt on behalf of others."
39	Stotland et al. (1978, p. 12)	"An observer reacting emotionally because he perceives that another is experiencing or about to experience an emotion."
40	Titchener (1909, cited by Duan & Hill, 1996, p. 261)	"A process of humanizing objects, of reading or feeling ourselves into them."
41	Van der Weele (2011, p. 586)	"A basically passive process of information gathering."
42	Wispé (1986, p. 318)	"The attempt by one self-aware self to comprehend unjudgmentally the positive and negative experiences of another self."
43	Zahavi (2008, p. 517)	"A basic, irreducible, form of intentionality that is directed towards the experiences of others."

Appendix H: Complete codes for each Core Category

Table H1: Designers' perceptions of Empathy as part of *Being* - empathy as part of/ inside myself (from data collection)

BEING – empathy as part of/ inside myself		
Codes developed from workshop/ interviews of participants (80 codes)		
• To be an EMPATH • (Empathy) It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are, so by observing their practice, in a way you are observing them as a person • But those kind of emotions are always part of that kind of design process, when you are designing healthcare services • Designers may not even be thinking about empathy • Designers unaware of own behaviour • Emotional investment varies according to type of project • Empathizing with the people you're designing for is the best route to truly grasping the context and complexities of their lives • Empathy - need to be in the moment • Empathy - always positive? • Empathy - being human? • Empathy - can be a decision • Empathy = relying heavily on EQ • Empathy = self-destructive • Empathy = sharing • Empathy = taking on emotional baggage • Empathy = values the person • Empathy can be scary • Empathy can create negative impression - too intense • Empathy can make designer vulnerable • Empathy dilemma	• Empathy - can be healing • Empathy - designers needing to be open • Empathy - informal manner • Empathy - may be "expensive" in dealing with people • Empathy - needing to be a reason to understand • Empathy - not processing consciously • Empathy - part of who you are? • Empathy - people needing to know who THEY are in relation to others • Empathy - prioritising other's comfort • Empathy - question motives • Empathy = is it necessary to understand it? • Empathy = listening to understand • Empathy = mutual respect • Empathy = need to be emotionally vulnerable • Empathy = needing to be able to read personal clues • Empathy = needing to be able to read the situation • Empathy = ongoing relationship • Empathy = personal connection • Empathy = personal decision? • Empathy = personal ethos • Empathy is abstract • Empathy is different to sympathy • Empathy is valuable • Empathy may cost you negatively • Empathy needing investment • Empathy not conscious decision in design	• Empathy - understanding leads to insights • Empathy - what are the power dynamics? • Empathy - what is the motivation? • Empathy - you can tell when it's missing • Empathy - you need to protect yourself • Empathy = a kind of connection • Empathy = Being born with it • Empathy = being honest/ brutal • Empathy = being inclusive • Empathy = challenging • Empathy = complex • Empathy = culturally sensitive • Empathy = do not make assumptions • Empathy = emotional labour • Empathy = engage holistically • Empathy = full understanding • Empathy = full understanding a journey that you walk together • Empathy = having no agenda • Empathy = investing energy in interaction • Empathy = investment of self • It's always fun and it's always nice. • It's what I'm meant to do. • I'm passionate about people's experiences • Not everyone has EQ • Passionate about people's experiences • So you need to kind of have empathy for every situation • Sympathy = empathy without understanding • Too much care can be unhealthy

• Empathy fatigue • Eye contact = a challenge to authority • having a generous spirit	• False empathy - reason to be emotional • greater understanding = more empathy	• Your response to my empathy doesn't matter • Expectation that designer needs empathy
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Table H2: Designers' perceptions of Empathy as part of *Doing* – empathy as outside myself/ empathy actions (from data collection)

DOING – empathy as outside myself/ empathy actions		
Codes developed from workshop/ interviews of participants (97 codes)		
• Clients - should be setting boundaries on communication • Designer - being IN the users' environment • Designers - is every client wanting empathy? • Does empathy depend on the scale of the project? • Empathy - person needs to be responding • Empathy - client is in control of situation • Empathy - devaluing empathy by quantifying it? • Empathy - engaging in activities to build bridges • Empathy - giving the other person choices • empathy - having physical clues • Empathy = appropriate response • Empathy = being proactive and helpful • Empathy = can't be translated via digital means • Empathy = co created? • Empathy = communicating beyond the job • Empathy = difficult for unknown person? • empathy = don't be pushy • empathy = eye contact • empathy = getting to know person/s • Empathy = is it even unpackable?	• empathy - relaxed environment • Empathy - small talk • Empathy - undefined • Empathy - works better on a smaller scale • Empathy - you can't be an outsider • Empathy -investing time "outside the project" • Empathy = a lost skill? • Empathy = a skill • empathy = active listening • Empathy = an experience • empathy = is location important? • Empathy = listening to understand • empathy = more diverse outcome • empathy = positive outcome • Empathy = storytelling • Empathy = where does it begin? • Empathy = work • Empathy = you being flexible • Empathy can't be rushed • Empathy difficult to manage in professional context • Empathy showing in the outcome of interaction • Empathy taking time • Empathy transforming relationship • Eye contact = a challenge to authority • False empathy - bigger causes	• Empathy - important in interviews • empathy - including body language • empathy - invited into their world • Empathy - is it a tool? • Empathy - needing a no pressure environment • Empathy - one action can determine relationship • Empathy - other party is unhappy if it's missing • Empathy - part of Design Thinking • empathy - people will open up • Empathy - physical environment is important • Empathy easier in educational environment • Empathy experience is separate to the project • Empathy for known person • Empathy in design only happens now and then • Empathy in practice is negotiated • Empathy in professional context different to educational context • Empathy interactions will change • Empathy is a drawback for a project • Empathy is based on the users lived experience • Empathy is different to sympathy • it's weird to talk about something like empathy in terms of a tool,

• Empathy is not discussed • Empathy may cost you negatively • Empathy needed to deal with diverse users • Empathy needing a neutral meeting space? • Empathy needing boundaries • Empathy needing to be constant • Empathy needing to be planned • Empathy not included • Empathy process can have a life of its own • Empathy seen in behaviour? • Who do I need to show empathy to? Client or user? • You can't make empathy, you can train it	• Hope other next gen have empathy in process • How much empathy is enough? • Is empathy a process? • Is empathy quantifiable? • Is empathy useful in a corporation vs individual? • Protecting clients by putting boundaries on empathy • Some cultures you need to be submissive • Sympathy = empathy without understanding • Technology contributing to lost empathy • Using empathy to facilitate communication	• Listening to gather rich detailed data • Negative environment = negative outcome • Next gen don't have empathy • No empathy = creating a barrier • No empathy = managing relationship in terms of deliverables • No empathy if you appear closed • Older people show more empathy • Perceptions of others rely on physical clues • Physical clues vary according to culture
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Table H3: Perspectives of Designer Identity (from data collection)

Perspectives of Designer Identity		
Codes developed from workshop/ interviews of participants (84 codes)		
• Community - needing to honour "client/s" • Community - understanding what power relations exist here • Community = designers supporting • Connecting takes time • design - collaborating with users • Design - client is not always the user • Design - client is the user • Design - researching to identify principle criteria • Design - responding to unmet emotional needs • Design - top-down approach • Designer - exposing people's emotions • Designer - identifying issues • Designer - listening to understand needs • Designer - need to consider client's time	• But, like I said that, it's complicated. It's really complicated • Community - designer considering the history of the context • Community - designers bringing fantastic skills • Community - designers need to acknowledge responsibility for impact • Community - designers needing experience of providing support • Community - designers needing political understanding • Community - designers needing progressive attitude • Community - designers needing to be humble • Community - designers probably bringing little to context • Community - needing to be aware of privilege	• Empathy • design immaturity = being selfish/ self-absorbed • Design maturity = being empathic? • Design needing empathy • design practice = personal identity? • Design transforming communities • Designer -experience makes it easier • Designer = being an integrator • Designer - being IN the users' environment • Designer - building relationships & trust • Designer - communicating with client/user • Designer = enables innovation • Designer could be faking empathy because of expectation • Designer drawing lines of responsibility with user/ client

• Designer - needing more emotional preparation • Designer - needing to communicate carefully • Designer - observing people to understand • Designer - putting skills at service of client • Designer - putting user needs first • Designer - sharing experience not related to work/ project • Designers - should they be limiting empathy? • Designers create personas • Designers may not even be thinking about empathy • designers moving between stakeholders • designers should be comfortable with their role • Designers unaware of own behaviour • Designers use tools to understand • Discussion takes time • Empathy - may be "expensive" in dealing with people • Face to face better than google forms	• Designer view will depend on job level/ position • Designer view will depend on personality • Designer's job is listening • Designers - needing to help users understand THEIR role • designers - anticipating impact of outcome • Designers - boundaries on empathy are protecting us • designers - having a responsibility • Designers - need to think differently • Designers - needing to be honest with Client • Designers - not necessarily having the answer • Product design = unexpected emotional labour • Questionnaires - not good reflection of user views • Someone that's prepared to shift and move around problem space without judgement • Stakeholder groups give users a voice	• Designer empathy = more than just delivering a service • Designer is bringing tools and methods • Designer is listening to innovate appropriately • designer spends time thinking • designer spends time thinking about the interactions • designer view - is missing perspective-taking • Familiar design process • Groups of users discussion forum • Handling negative users • Hope other next gen have empathy in process • Interviews give users a voice • Lots of people are suggesting what the problems are, without the evidence • Navigating design is challenging • Observation takes time • User needing to feel the designer is interested in their challenges • You're not just being there to provide a service
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Table H4: Self-awareness of Designer (from data collection)

Self-awareness of Designer		
Codes developed from workshop/ interviews of participants (54 codes)		
• Design is my calling • Designer - building relationships & trust • Designer - exposing people's emotions • Designer - listening to understand needs • Designer - needing more emotional preparation • Designer - needing to know themselves • Designer - putting skills at service of client	• (Empathy) It isn't something that is so external and easy to adapt, it's a bit more personal and linked to who you are, so by observing their practice, in a way you are observing them as a person • As designers it shouldn't be that difficult for us to do that. • Awareness of lack of empathy practice • Community - designer considering the history of the context	• designer spends time thinking about the interactions • Designer view will depend on personality • Designers - needing to understand THEIR role in interaction • designers - having a responsibility • designers - needing to acknowledge own prejudices • Designers - needing to be honest with Self

• Designer - should be showing empathy to him/ herself • Designer = being a facilitator • designer spends time thinking • Empathy - people needing to know who THEY are in relation to others • Empathy - understanding leads to insights • Empathy - you can tell when it's missing • Empathy = Being born with it • Empathy = investment of self • Empathy = needing to be able to read the situation • Empathy = personal connection • Your response to my empathy doesn't matter • You're not just being there to provide a service • It's what I'm meant to do.	• Community - designers needing political understanding • Community - designers needing progressive attitude • Community - designers needing to be humble • Community - needing to be aware of privilege • Community - understanding what power relations exist here • Design - responding to unmet emotional needs • I'm passionate about people's experiences • No empathy if you appear closed • Passionate about people's experiences • Personality will initially set the tone of interaction • Product design = unexpected emotional labour	• Designers - needing to read the situation • designers should be comfortable with their role • Designers unaware of own behaviour • Empathy - part of who you are? • Empathy = personal ethos • Empathy = relying heavily on EQ • Empathy can make designer vulnerable • Empathy not conscious decision in design • greater understanding = more empathy • having a generous spirit • I have personal experience of their issues • imagining myself as user • So you need to kind of have empathy for every situation
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Table H5: Perceived Value of the User in Design (from data collection)

Perceived Value of the User in Design		
Codes developed from workshop/ interviews of participants (36 codes)		
• Collective problem solving • Community - designer NEEDS client • community - needing to honour "client/s" • Community = designers supporting • design - collaborating with users • Design - client is not always the user • Design - client is the user • Design process itself can be really empowering for the users, when they can say what they have carried. • Designer = being a facilitator • Designer drawing lines of responsibility with user/ client	• Designers - needing to help users understand THEIR role • Groups of users discussion forum • Handling negative users • How do you assess quality in participatory design? • Interviews give users a voice • involving users is necessary. It's like a... You always need to have a real users there. • Personal user stories • Questionnaires - not good reflection of user views • Sometimes the client doesn't want to face the user. • Stakeholder groups give users a voice	• Empathy • User experiences - can expose strong emotions • User experiences matter • User feels heard • User needing to feel the designer is interested in their challenges • User perceptions are not researched • Users - always needing to be part of the design process • Users - can be keen to know about design • Users - can be resistant • Users - can come up new ideas • Users - knowing what they need • Users sharing can make them more open to designer

• Who determines interactions between client and designer?	• Users - needing to understand designer's role • Users can have heavy stories • Users can identify problems	• Users testing product/ system
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Table H6: Motivation to become Self-aware (from data collection)

Motivation to become Self-aware		
Codes developed from workshop/ interviews of participants (7 codes)		
• Educators are sympathetic • Empathy easier in educational environment • Not considering empathy	• Reflection - how to make space for more empathy in practice? • Time constraints limiting teaching empathy	• Not teaching empathy skills • Reflection - could be a learning tool to understand designer empathy