

*Studies in Material Thinking*, <http://www.materialthinking.org>  
Vol. 3 (November 2009), ISSN 1177-6234, AUT University  
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**Abstract:** This article discusses some of the challenges and key learnings identified by Yoko Akama in the course of her doctoral research in the field of communication design. In particular the text reflects on the challenges of undertaking practice based research within and through the practice of design, rather than as an exploration about design. A number of tools and methods were used within the study, many of which can be clustered under the heading of visualisation. Through a series of visual mappings, including the arrangement of three dimensional artefacts, Yoko was able to undergo the critical process of sense mapping that is essential within the research process.

**Key words:** visualisation, communication design, reflection, critical practice

## Visualisation as a method for knowledge discovery

### Introduction

Over the past 12 years I have supervised many practiced based research submissions. These have spanned across the fields of art, communication design, fashion, land management, adult education, farm management, health and public hospitals, library management, and the challenges of engaging disenfranchised youth in education. The reader may wonder how such diverse areas of investigation relate to this journal's discourse on the nature of material thinking and practice-orientated research. Yet, consistent across these investigations has been the literacy of practice that includes methods for making and communicating new knowledge, which is pertinent to a particular field of professional activity. Literacy is often understood in relation to a 'type' of knowing such as text or numerical literacies. Gardner (1993) builds on this idea of clustering knowledge and knowing by arguing for multiple forms of intelligence. There are various ways for clustering knowledge and different individuals have strengths in different clusters. In addition to this there is also the phenomenon of professional literacies, as understood by a domain of professional practice that may be aligned to a particular discipline or a clustering of activities within a professional field. Design is one such clustering. To my mind it is essential that, when we explore, review or examine practice-based research that this be framed within the language and actions of the practice of the practitioner.

Yoko Akama's doctorate was submitted within the context of communication design, a design field that is in a state of flux. Also known as graphic design, this field of professional practice has been seeking to find its place to position its professional and scholarly contribution within broader design discourses. PhDs in design are still relatively nascent, PhDs in communication design are even more so. This is particularly true with regard to doctorates undertaken *through*, rather than *about*, the practice of design. PhDs *about* communication design are more common where it examines, contextualises or historicizes design. In contrast, a doctoral research *through* practice explores the experience and the actual practice of design as an epistemological act that forms and transforms the known world: whether this is the external material world, or the lived world of the practitioner. This I believe is one of the key contributions of Yoko's research and her exegesis, which she presented in a language that addressed both the expectations of the Academy whilst still being accessible to practitioners.

Although many design colleagues are still caught in a battle for the recognition of practice based research degrees, RMIT University has a relatively long history in the submission of higher degrees through practice or 'by project'. Such forms of submission are possible for candidates from all disciplines and are not limited to design or the arts (evident in the breadth of projects I have supervised under the clustering of Education within the University.) Assessment for a PhD is based on three integrated and unweighted components. This includes an exegesis (20,000 – 40,000 words), which some disciplines name the 'Durable Record of the Project'; an exhibition of the project work, and an oral presentation to a panel of external examiners. For PhDs all examiners must be external to the University and they typically receive the text 6 weeks prior to the presentation and exhibition viewing. Even though the assessment requires the combination and integration of all three components, the traditions of the Academy are hard to overcome. Many examiners still continue to privilege the text and treat the oral presentation and exhibition as secondary. This is an ongoing challenge that hopefully, with time, can be overcome through greater familiarity with this form of assessment and with the validity of the literacies of practice as scholarly texts.

The selection of Yoko's PhD submission in this journal conveys some of the challenges of undertaking practice-based research. To critically reflect on practice is a challenging activity. The researcher/candidate is required to adopt the perspective of the third person and to view themselves and their peers as research subjects. Furthermore, they must also expose themselves as the researched without the protection of anonymity that a typical research subject has. Yoko's research investigation began by attempting to reveal embedded values in design projects. However, through a process of peer critique and critical reflection, she realised that it revealed more about her own assumptions and values she was attempting to bring to the design project. This process also enabled her to re-evaluate her earlier disappointments of a project, which she saw as a 'failure'. This conception of failure reflected her professional expectation as a designer, as well as the assumptions she brought to the project. However, as a researcher investigating the complexity of design practice, confronting 'failure' was the first step in realising that the project was rich with possibility and potential insights. This contradiction between the desired, professional outcome and the potential knowledge discoveries is not unique to design or practice-based research (practice can include all professionally contextualised research). However, a unique aspect of practice-based research is the professional nature of the research activity that provides the means for the exploration. When the researcher is a professional practitioner within their local community, then their performance and the perception of them as a practitioner is

present in the researcher's experience, even if it does not get recorded in the project account. To her commendation, Yoko embraced the challenge and used it as a means to critique her assumptions and expectations, to discover what it meant for bigger issues in her research and the professional practice of design. Through critical reflection she was able to make insights that integrated the theory with the everyday practice of design. The visualisation process presented in the exegesis was the means for communicating this, and more importantly it was an example of the literacy of communication design being used as a scholarly reflective tool of research.

This process of visualising the relationship between, and the meaning within, the various elements of the research became an integral part of Yoko's final submission. This process included a performative methodology for the oral presentation to the examiners. The drawing of the threads of the research through the interweaving of themes, actions and discoveries, was an articulation of the lived nature of practice-based research and the materiality of knowing through design. The integration of graphic representation, with scholarly reflection and discussion with the examiners, is essential to the RMIT model of PhD's through practice, and in this case communicating the complexities of design as research.

It is essential that as we continue to explore, argue for and critique the material practices of research within the fields of art and design. It is also significant that we do so through recognition of the literacies of the fields, disciplines or professions that our research is undertaken within. If these practices and their artefacts have meaning and implications for the lived world, then they must also be recognised as an authentic literacy of scholarship within the Academy. One vital step in achieving this will be for us to shift from focusing on a persistent discourse of legitimisation of the scholarship of the non-textual practices, and instead focus on the scholarship and contribution of the research that is being undertaken and presented for peer recognition and review. It is from this perspective that the reader should engage with young scholars such as Yoko Akama and the others in this journal.

### **PhD Candidate Reflection**

In this writing, I will present three different styles of 'material thinking' that had assisted my research. These activities were essentially visualisations – one through diagrams, another using objects called Playful Triggers (Akama et al. 2007; Loi 2005), and thirdly through a performative presentation during the doctoral examination. The use of visualisations, such as sketching and drawing are common activities in communication design. Using the language, practice and process of my discipline, I have attempted to communicate the research findings to fellow communication design researchers and practitioners.

Visualisation was a tool that had revealed key concepts of the research. Visual disclosure can allow the discovery of new meaning and engender possibility. In the context of discussing the process and outcomes of mapping, Corner (1999) explains how mappings can be agents in uncovering realities that could not previously be seen or imagined. He states, 'there are some phenomena that can *only* achieve visibility through representation [rather] than through direct experience ... mapping engenders new and meaningful relationships among otherwise disparate parts' (p. 229).

In my doctoral study, I undertook several design projects. Critically reflecting on them enabled the significance of the role of values in design practice to emerge in the research. I believe the importance of values had always been an implicit

understanding in this research but I was unaware of how significant it was to design projects and why. Exploration of the design projects alongside critique, literature reading, peer-reviews and reflection enabled this understanding to become clearer and more explicit.

One of the critical incidents in revealing the values embedded in projects happened when I encountered a project which I saw as a ‘failure’. I undertook a project called *Management vs Community* at the beginning of my research. It involved a consultative process in designing a visual identity for a socially-based association. A design company was commissioned by the association to undertake this project. I was invited by the design company to facilitate a consultative process between the association’s community members and the design team. Throughout the project’s duration several consultative workshops were undertaken with community members. These workshops proved productive and were effective in generating shared values of the association. The key objective of this project was to empower the community in consolidating the ‘values’ of the association that could subsequently be translated into an identity system. However, as the project progressed the management intervened and revealed their ‘hidden agenda’ that affected the outcome of the visual identity. The management committee explained that the association was undergoing a difficult transitional period where stability and security was of greater importance than radical change. For them conveying stability was the greatest priority and this resulted in the management committee overruling the workshop participants’ preference for the proposed visual identity. The intervention by the management committee in the latter stages of the project resulted in the disempowerment of designers and workshop participants.

The outcome of the project was disappointing. I had anticipated that the inclusive and consultative design process would result in an outcome where all stakeholders were valued and empowered. However, the workshop participants and designers were marginalized and disenfranchised due to the politics that surfaced during the project. This research was informed by literature on human-centred design and participatory design. Both emphasised that empowerment of people is a significant social value that design can bring about. That this project did not achieve this made me perceive it as a failure until I began to reflect upon it again from a position of time and distance. Critical reflection revealed how I had idealistic expectations of its process of mutual stakeholder input leading to a better outcome for all concerned. The ‘failure’ of realising this idealism enabled valuable lessons to be learnt about the gap between ‘ideal’ and ‘reality’ within design practice. This process of reflection is captured in the text from my exegesis. The text also explains how the visual diagrams enabled a clearer understanding of values to emerge through this process.

The section below has been pieced together from my doctoral exegesis to provide the context in which the critical reflection and visualisations took place. A sans-serif typeface has been used for the exegetical text to distinguish it from the contextual writing. To piece together the journey of discovery, I have chosen two parts from the exegesis. It begins with the reflective writing about the ‘failed’ project, *Management vs Community* and the diagram that assisted critical reflection. Next, a section from a project called *Practitioner Conversations* is discussed. This was an interview conducted with a variety of communication design practitioners to understand how designers build human-centred considerations into their practice. Two photographs from the interview are shown here that used Playful Triggers. Playful Triggers is a method that I developed for the interview to accelerate communication through visualisations. The photograph captures a conversation that deepened my understanding of the complexity of ‘agendas’ that I initially discovered through

reflecting on *Management vs Community*. Lastly, photographs from the doctoral examination are presented. The performative visualisations I undertook played a critical role in presenting the knowledge that was revealed through the research. Its intention was to ‘walk through’ the reflective process by connecting key concepts and revelations together with thread, and thereby visualising the knowledge discovered.

The discussion here stresses the importance of the journey in which the values in this research were discovered through reflection. Through critical reflection, assisted by visualisations, I gained an understanding of how values can create a designer’s practice. Without this narrative, the values illuminated lose their meaning, connection and context. It is the story of discovery, the twists and turns, the excitements and disappointments of specific design project contexts that bring these values to life. Only then could they have any value and meaning to me or anybody else.

***The following exegetical text is from ‘The tao of communication design practice: manifesting implicit values through human-centred design.’***

***Chapter 3: Illuminating the politics in design practice (pp. 143-149)***

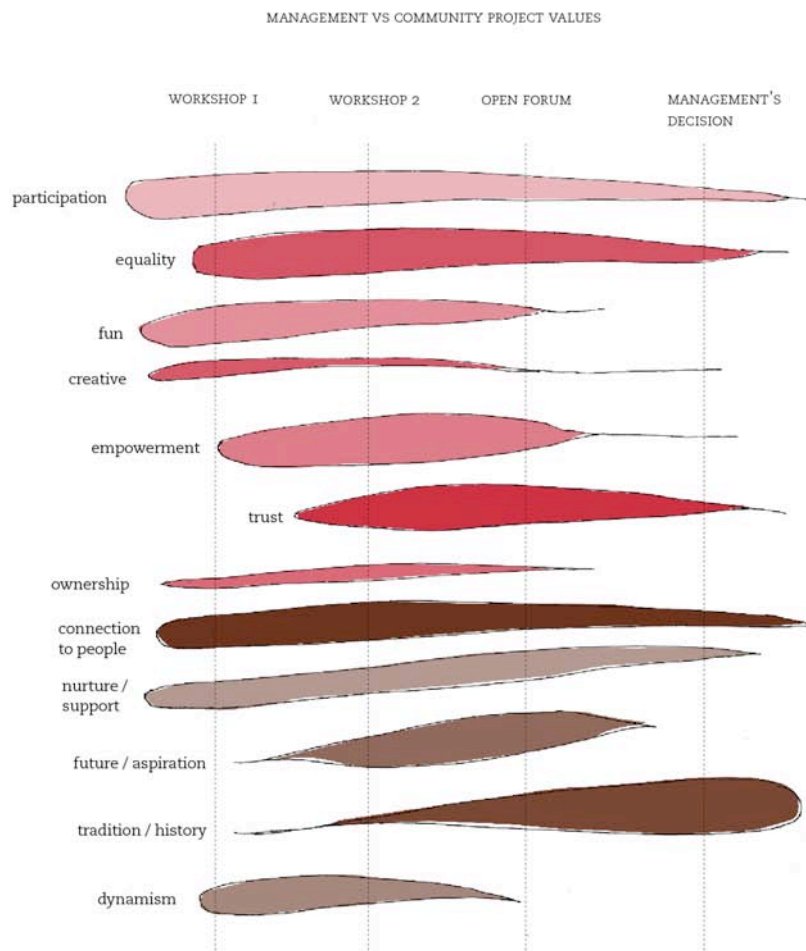
After completing *Management vs Community*, I considered it a failure for not achieving what I had expected. I had expected an inclusive consultative process of designing to lead to an empowerment of all stakeholders and to deliver a model of social practice in communication design. That the project failed to deliver and confirm my expectations was disappointing. I could not see whether there was any intervention on my part that could have been done differently. The disappointment caused by the project to deliver what I had expected prevented valuable knowledge from being discovered.

The intention of the *Management vs Community* project was to explore a somewhat ‘literal’ application of a consultative process in the evolution of the visual identity. Undertaking a consultative process, which was intended to be a straightforward and democratic way of enabling input, became far more complex than initially expected. On reflection, this project revealed how politics and empowerment play significant roles in the design process. ... I observed that there was a ‘delicate power balance between people’ that became an important factor in the outcome of the project.

Respecting and valuing the input and contribution that all stakeholders can have in the process is not as straightforward as I had initially imagined. This project experience reveals how there were complex, ‘messy’ and embedded power dynamics in this community that surfaced abruptly through this project. I was unaware of such politics because I was not part of this community. As an outsider brought into this project, I had

assumed that the relationship amongst them was equitable, and they insisted that equity was indeed valued in the association.

Fig A. Management vs Community project values



In order to make sense of the values that emerged through the project, several visualisations were attempted. This 'mapping' activity identified different kinds of values – ones that were important in engaging people in a design project and ones that became central to each project. As a result, values such as fun, trust, respect, equality, empathy, diversity, participation and empowerment emerged as significant ones in engaging people in projects. These values were identified as significant for enabling and deepening the exchange between people in the projects, which in turn enabled each stakeholder's values to manifest. These values were discovered to be significant to my design practice in my conducting of projects.

The diagram [fig. A] illustrates how some values were instrumentally applied from a project's inception and how others emerged as a project progressed. These values were significant in enabling and engaging people in the process of design. For example, in *Management vs Community*, values such as

equality were important in designing the scaffolds of the workshop forums, but the importance of trust was only revealed later when the management intervened in the design process. The different colours indicate the difference between project values and the values that were considered for the visual identity. The visualisation attempts to capture how I observed certain values emerging and trailing off at certain points of the project.

After critically reflecting on several design projects conducted through the doctoral research, I realised that any design intervention or scaffolds will not enable values to manifest without the designer's consciousness that they can be 'sensed' in the first place. This illuminates that the designer firstly need to be sensitive to values in order to know how they can be manifested and negotiated amongst project stakeholders. It highlighted a paradoxical situation echoed by Heidegger. In Winograd and Flores' interpretation of Heidegger's text, *Being and Time*, they explain how 'our implicit beliefs and assumptions cannot all be made explicit' (1986, p. 32). This is because there is no neutral viewpoint to objectively view our values as 'things' because 'we always operate within the framework they provide'. This then poses the question of how does one become aware of and sensitive to values?

However, undertaking several mapping and visualisation processes illuminated how the diagram ... flattened values into singular, reductive terms. How the values are linked, how they emerged, how they were abled and disabled and the rich context that surrounded them have been lost through this visualisation. Despite this critique, the diagram has been included in this section to illustrate how I became aware of the danger of abstraction and what I have learnt from this mapping exercise. The diagram was used as a tool to critique what the research had discovered. It illuminated the danger in abstracting values or dictating and prescribing them to others.

[end of exegetical text]

*Management vs Community* project revealed the 'messy' realities of applying a theoretical human-centred design approach. Through this project, I discovered that power and politics are a constant component of every design project. Valuing input from various stakeholders in a design process is not a 'default' setting that can be expected to develop automatically.

This realisation was significant for me to move on to the next design project, which was a series of interviews with a diverse range of communication design practitioners to understand the contexts of how they work. This project, called *Practitioner Conversations* used a variety of artefacts called Playful Triggers (Akama et al. 2007; Loi 2005) as a method of accelerating, capturing and visualizing the conversation. This ethnomethodological approach was developed through my doctoral study and

builds on the work of Loi, who initially coined the term for artefacts that could trigger playful, participatory dialogue. The conversations were led by open-ended questions addressing the interactions that took place within the designers' respective practices. Through narratives and storytelling, the participants shared their design experiences and articulated complex processes and interactions that occurred among stakeholders in a project. The understanding gained through the interviews was significant to my awareness of the tacit and complex inter-relationships between people as a consistent 'human' context for communication design practice. The text below is a section from the exegesis that reflects on how I became aware of these understanding.

***The 'messy' human realities of practice (pp. 152-163)***

In design case studies involving a client and a designer, the financial authority of the client often grants them ultimate power in decision-making processes. Some clients can use this authority to push certain agendas, whether personal or business-driven.

In the *Practitioner Conversations* project, one designer shared an experience where the designer was not given an opportunity to discuss how the client's agenda could impact on the communication objective. *'I have some clients that are so tough, they're like, "its red, that's it. It's all about red. I don't want to hear anything else, there's no other colour. I don't even want to know about what other colours are"'* (Interviewee B). This is illustrated by the way the kolala bear (client) is sitting with the red coloured mints with its back to everyone else [fig B].

Fig B.



The client's authority in this project context restricted the designer from proposing any other potential direction. This reveals that the client did not value the designer's input and contribution to the project, apart from carrying out his or her



demand. As a result, this designer gave in to the client's demand, even if the aesthetic specification imposed by the client was potentially unsuitable for the communication objective.

Similarly, in the *Management vs Community* project, the management committee's agenda was deliberately disguised from other stakeholders. This revelation was even more pronounced since they espoused that a 'democratic' consultative process would be undertaken in designing the visual identity. ...

Whether agendas are disguised, mystified or openly shared they can have a significant impact on design processes and outcomes. Many design practitioners interviewed attested to the value of discussing these issues with project stakeholders. Discussions can help to determine whether a stakeholder's opinion is a reasoned input or one based on personal preference. Discussions can illuminate the complex context informing the communication objective. It can further the understanding between stakeholders in co-creating design outcomes. In *Practitioner Conversations*, one designer explained the value of understanding the complex context under which the clients operates ) [Fig c]:

*'We don't know the pressure the client [frill-necked lizard] feels. What we see is this [the design job and the client]. What we don't know is, back here, he's got a boss [fish] that he answers to, and he's got a boss [galah] that he answers to. And at the end of the day they're all accountable. We just see this [the client], but we do have to understand that 'red' [design concept] has to carry through and work here [fish], and here [galah].'*  
(Interviewee B)

Fig C.



[end of exegetical text]

Project experiences from *Management vs Community* made me understand how to curb my idealistic tendencies and not to impose unrealistic expectations upon people or projects. Through my doctoral research I have learnt how values cannot be prescribed or imposed. Thus, in order to accommodate the ‘realities’ in design practice, I learnt that one must have the willingness to acknowledge and discuss the variety of stakeholder values and concerns in a project.

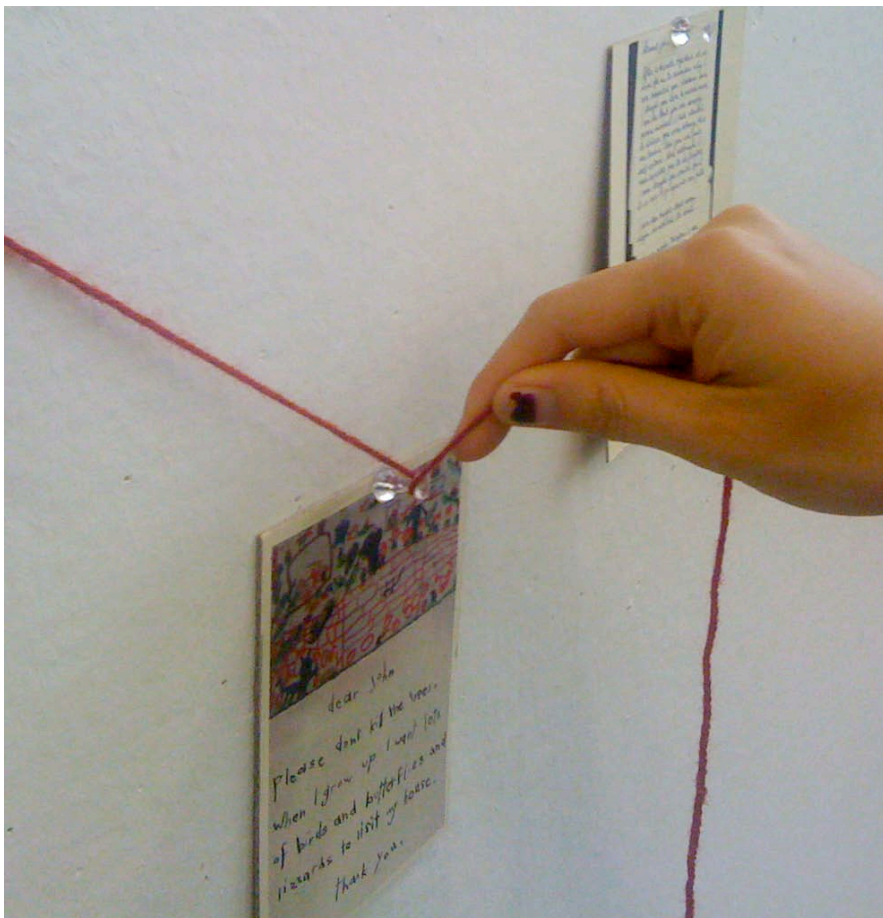
There is a large body of discourse on ethics and design responsibility that I have drawn from for this study. Prominent critics like Fry (2004, 2006; Fry & Willis 2007) and Margolin (2002, 2006) make valid arguments in criticizing that the discourse on design ethics are not being addressed daily within designers’ practices. However, it became clear through *Practitioner Conversations*, that there are obstacles in translating the academic argument into design practice. My research addressed the theory and practice gap. The research was continually provoked and informed by discussion and critique from academics. In turn, their writings led to a different approach to understanding and manifesting ethics and design. The research sought to gain understanding from the day-to-day practices, encounters and challenges of designing with people, and from reflecting on the designed outcomes of the projects. The research explored design and the role of designers to discover how values become an integral part of a project and designer’s practice through designing. It used design as a way to think about values and used the language of design as a vehicle and a catalyst to discuss and illuminate them. As practice-led research, the knowledge from the research had been created through the process of designing. To use Heidegger’s term, it is a way of understanding the ‘world through the practical involvement with the ready-to-hand’ (quoted in Winograd & Flores 1986, p. 32), not through a detached contemplation of the relationship of values and design. It is knowledge generated from exploring how values are illuminated, negotiated and manifested through designing with others in communication design contexts.

Reflective practice enables self-reflection and evaluation. Tonkinwise (2007) claims that to be able to step aside and view oneself as a subject is the true value of reflective practice. Furthermore, he argues that the aid of others, such as fellow research peers and academic and design practitioners can assist the reflective practitioner to be more critical of one’s own blindness to one’s ego. Through this process, this community can aid the reflective practitioner to question ‘how reflective and honest have you really been?’ This criticality demands the reflective practitioner and the community of peers to take the risk of confessing all and not hold back for the sake of politics or politeness. For the doctoral examination, I chose to ‘walk through’ the journey of reflective practice as the key method of revealing the knowledge from each design project. The photographs on the next page (Fig D - G) capture this performance.

*Fig. D: Photograph taken at the beginning of the doctoral examination and presentation. Postcards from three projects have been arranged chronologically on the wall.*



*Fig. E: Looping the 'values' thread around the postcard during the presentation.*



Postcards representing various elements of the design projects were arranged chronologically on the wall. Three coloured threads, representing politics, design scaffolds and values were used to 'draw' connections between certain postcards. 'Drawing' with thread looped forwards and backwards, upwards and downwards as the discussion of each theme unfolded. This performative visualisation enabled a communication of the journey of discovery and the evolution of my practice. As practice-led research it was a continual process of action and reflection, proposition and critique that had led me to discover the findings from the research.

*Fig. F: A close-up shot of one of the design project, Practitioner Conversations, the photographs from the interview, quotes and the Playful Triggers used.*



Through this visualisation, I was able to communicate the knowledge discovered through the research. I have discovered that values can become embedded in the politics and power dynamics of stakeholder relationship. Designing is political because the values of the individual, organisation, community or the society surfaces through designing. These politics in the design process can be obstacles and challenges in valuing mutual input. Human-centred design, is then about how people are valued in projects, but also understanding how values can be collectively negotiated through the design process. Various design 'scaffolds', such as the ones I have explored through my research, can accelerate and trigger the values of the project and stakeholders to manifest – friction, generation, conversation and discussion can provide constant evaluation of what the project's values might be and how significant they are to each person, and as a collective group of people. The

scaffolds explored through this research demonstrate how it can enrich the experience of dialogue and exchange amongst project stakeholders.

In revealing the threads of this research, I realised that these threads are the *Tao* of my practice, it is a path, a way to know what is involved in creating a human-centred design practice in communication design. This path, as the visualisations represent, can only be created, understood and ‘made’ by walking. This path is unique to ourselves, to the contexts in which we find ourselves. One can only understand and connect to the world by the way we carve our path. It is not about a doctrine, nor about telling others to follow the path that has been created.

Fig. G: Discussion and questions during the examination



Undertaking my doctoral research has been one of the most rewarding experiences personally and professionally. My design practice has evolved significantly through exploring how values become an integral part of a project and a designer’s practice through the process of designing. The practice-led research has transformed my understanding of what human-centred design could be in the day-to-day practice of communication design. This experience has made me aware of my values and ways to create a human-centred design practice that considers the values of others. The journey of becoming aware of my own values has been extremely significant. It has enabled an understanding of who I am and what I can bring to every project. I have discovered that the value I bring to design projects lies in facilitating ways for each participant to engage and express their views, voice their concerns and to share excitements and wonderments with others regarding what this world could be. I believe that the social contribution I make is through my practice in creating a human-to-human connection through design. Through design, I am able to forge a strong connection to society and the environment. This connection is the path I carve by the way I practice. This ‘*tao*’ or a ‘*way of being*’ is the practice of practicing design that I still continue today.

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